

This file contains the parameter estimates of all linear and non-linear models, fitted to each response variable in turn. Only models that converged are shown.

The models are grouped by

- (i) response variable
- (ii) type of model (both separated by dollar signs).

Models per type are numbered consecutively.

Abbreviated model types:

L.....Linear  
 M.....Michaelis-Menten models  
 E.....Exponential models  
 P.....Power models  
 AS.....Self-starting asymptotic models  
 BIEXP...Self-starting biexponential models  
 LG.....Self-starting logistic models

Models contained blocks (B1-B4), grass presence, legume presence and number of plant functional groups in addition to the main explanatory variable (sowndiv, plant species richness).

For a ranking of models, see Table S2.

####

```
$`Microbial biomass`$L01
Generalized least squares fit by maximum likelihood
  Model: response ~ block + (sowndiv + funcgr + grass + leg)^2
  Data: DF
  Log-likelihood: 61.26038
```

```
Coefficients:
  (Intercept)          blockB2          blockB3          blockB4
sowndiv
  1.166613956    0.185699231    0.217197034    0.157708731
0.033482250
  funcgr          grass          leg sowndiv:funcgr
sowndiv:grass
  -0.288413458   -0.541249029   -0.528399323   -0.005446655
0.005421499
  sowndiv:leg   funcgr:grass   funcgr:leg     grass:leg
  -0.013746113   0.113116715   0.145606663   0.220482784
```

```
Variance function:
  Structure: Power of variance covariate
  Formula: ~fitted(.)
  Parameter estimates:
    power
  0.655927
```

Degrees of freedom: 82 total; 68 residual  
Residual standard error: 0.2281479

\$`Microbial biomass`\$L02  
Generalized least squares fit by maximum likelihood  
Model: response ~ block + (sowndiv + funcgr + grass + leg)^2  
Data: DF  
Log-likelihood: 61.9346

Coefficients:

(Intercept)	blockB2	blockB3	blockB4
sowndiv			
1.076203913	0.180388317	0.217389470	0.158597014
0.033698018			
funcgr	grass	leg	sowndiv:funcgr
sowndiv:grass			
-0.267735228	-0.477924193	-0.481581418	-0.005632530
0.007267982			
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg
-0.014876138	0.097714359	0.142691024	0.189994151

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~fitted(.)  
Parameter estimates:  
expon  
2.038393

Degrees of freedom: 82 total; 68 residual  
Residual standard error: 0.05295806

\$`Microbial biomass`\$L011  
Generalized least squares fit by maximum likelihood  
Model: response ~ block + (sowndiv + funcgr + grass + leg)^2  
Data: DF  
Log-likelihood: 57.84676

Coefficients:

(Intercept)	blockB2	blockB3	blockB4
sowndiv			
1.291682412	0.182847550	0.199292019	0.140312999
0.018740795			
funcgr	grass	leg	sowndiv:funcgr
sowndiv:grass			
-0.293453870	-0.535141839	-0.563782438	-0.003333745
0.004909450			
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg
-0.007305964	0.109432669	0.137695814	0.209942310

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
0.04494402

Degrees of freedom: 82 total; 68 residual  
Residual standard error: 0.1117926

\$`Microbial biomass`\$L021  
Generalized least squares fit by maximum likelihood  
Model: response ~ block + (sowndiv + funcgr + grass + leg)^2  
Data: DF  
Log-likelihood: 57.76887

Coefficients:

(Intercept)	blockB2	blockB3	blockB4
sowndiv			
1.407071420	0.180799812	0.195369582	0.134301219
0.015543597			
funcgr	grass	leg	sowndiv:funcgr
sowndiv:grass			
-0.314183436	-0.590966569	-0.610526591	-0.002842570
0.004666344			
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg
-0.005909582	0.121337183	0.138905351	0.232584327

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.002285044

Degrees of freedom: 82 total; 68 residual  
Residual standard error: 0.1219897

\$`Microbial biomass`\$L2

Call:  
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:

(Intercept)	sowndiv	funcgr	leg
0.383907	0.002804	0.016636	-0.048376

\$`Microbial biomass`\$L21  
Generalized least squares fit by maximum likelihood  
Model: response ~ sowndiv + funcgr + leg  
Data: DF  
Log-likelihood: 39.31563

Coefficients:

(Intercept)	sowndiv	funcgr	leg
0.372506932	0.003088426	0.018528600	-0.045070543

Variance function:  
Structure: Power of variance covariate  
Formula: ~fitted(.)  
Parameter estimates:

```

    power
0.3925366
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2221355

$`Microbial biomass`$L22
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 39.21234

Coefficients:
(Intercept)      sowndiv      funcgr      leg
0.37581178  0.00305587  0.01786584 -0.04602664

Variance function:
Structure: Exponential of variance covariate
Formula: ~fitted(.)
Parameter estimates:
  expon
0.7428834
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1137764

$`Microbial biomass`$L211
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 39.16279

Coefficients:
(Intercept)      sowndiv      funcgr      leg
0.374469011  0.002931848  0.018037502 -0.045684910

Variance function:
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
  power
0.03070032
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1434010

$`Microbial biomass`$L222
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 39.57724

Coefficients:
(Intercept)      sowndiv      funcgr      leg
0.395044418  0.002279406  0.016064979 -0.051553441

Variance function:

```

Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.00784338  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1597333

\$`Microbial biomass`\$M1  
 Nonlinear regression model  
 model: response ~ a \* sowndiv/(b + sowndiv)  
 data: DF  
     a    b  
 0.4732 0.8767  
 residual sum-of-squares: 1.760

Number of iterations to convergence: 4  
 Achieved convergence tolerance: 4.649e-07

\$`Microbial biomass`\$M1a  
 Nonlinear regression model  
 model: response ~ SSmicmen(sowndiv, Vm, k)  
 data: DF  
     Vm    k  
 0.4732 0.8767  
 residual sum-of-squares: 1.760

Number of iterations to convergence: 3  
 Achieved convergence tolerance: 1.335e-06

\$`Microbial biomass`\$M2  
 Nonlinear regression model  
 model: response ~ d + a \* sowndiv/(b + sowndiv)  
 data: DF  
     a    b    d  
 0.3463 1.9691 0.1466  
 residual sum-of-squares: 1.755

Number of iterations to convergence: 7  
 Achieved convergence tolerance: 5.819e-06

\$`Microbial biomass`\$M211  
 Generalized nonlinear least squares fit  
 Model: response ~ d + a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 41.48849

Coefficients:  
     a    b    d  
 0.3595576 1.6806960 0.1273808

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv

Parameter estimates:  
 power  
 0.058389  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.1362937

\$`Microbial biomass`\$M222  
 Generalized nonlinear least squares fit  
 Model: response ~ d + a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 41.56385

Coefficients:  
 a b d  
 0.3313970 2.6705047 0.1761445

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.006281512  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.1567270

\$`Microbial biomass`\$M3  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 42.87916

Coefficients:  
 a.(Intercept) a.leg b.(Intercept) b.leg  
 0.6333594 -0.1177495 1.7604516 -0.6276455

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1470695

\$`Microbial biomass`\$M311  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 42.93783

Coefficients:  
 a.(Intercept) a.leg b.(Intercept) b.leg  
 0.6291894 -0.1150229 1.7156729 -0.6009236

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 0.02917223

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1407354

\$`Microbial biomass`\$M321  
Generalized nonlinear least squares fit  
Model: response ~ a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 43.37478

Coefficients:

a.(Intercept)	a.leg	b.(Intercept)	b.leg
0.6425148	-0.1228591	1.8456693	-0.6730959

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.007472615

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1558691

\$`Microbial biomass`\$M4  
Generalized nonlinear least squares fit  
Model: response ~ a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 41.48285

Coefficients:

a.(Intercept)	a.grass	b.(Intercept)	b.grass
0.40790291	0.05179107	0.63962616	0.20621206

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1495953

\$`Microbial biomass`\$M411  
Generalized nonlinear least squares fit  
Model: response ~ a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 41.76829

Coefficients:

a.(Intercept)	a.grass	b.(Intercept)	b.grass
0.39566014	0.05794642	0.51247693	0.26924749

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
0.06290398  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1357841

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$`Microbial biomass`$M422
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 41.6134

Coefficients:
a.(Intercept)      a.grass b.(Intercept)      b.grass
  0.42948921      0.04021002      0.84128192      0.10048097

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
-0.004117594
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1547317

```

```

$`Microbial biomass`$M5
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 41.51328

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
  0.41291925      0.02488170      0.45059642      0.22252802

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1495398

```

```

$`Microbial biomass`$M511
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 41.6941

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
  0.41639747      0.02303531      0.48508055      0.19884014

```

```

Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
0.05142434
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1382431

```

```

$`Microbial biomass`$M522
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)

```



Data: DF  
Log-likelihood: 41.92676

Coefficients:  
a.(Intercept)      a.funcgr    b.(Intercept)      b.funcgr  
0.40691037      0.02833383      0.39736464      0.26139975

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.007048674  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1580696

\$`Microbial biomass`\$M6  
Generalized nonlinear least squares fit  
Model: response ~ a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 43.17232

Coefficients:  
a.(Intercept)      a.funcgr      a.leg    b.(Intercept)      b.funcgr  
0.77557872      -0.02632395      -0.16609042      2.49196149      -0.09117077  
    b.leg  
-0.91014333

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1484604

\$`Microbial biomass`\$M611  
Generalized nonlinear least squares fit  
Model: response ~ a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 43.22154

Coefficients:  
a.(Intercept)      a.funcgr      a.leg    b.(Intercept)      b.funcgr  
0.77312414      -0.02681783      -0.16403091      2.46379225      -0.09803511  
    b.leg  
-0.88862338

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
0.02654467  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.142638

\$`Microbial biomass`\$M622  
Generalized nonlinear least squares fit

Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 43.63443

Coefficients:

a.(Intercept)	a.funcgr	a.leg	b.(Intercept)	b.funcgr
0.76222586	-0.02083043	-0.16367523	2.36417645	-0.02997730
	b.leg			
	-0.88461424			

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.007277595  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1571441

\$`Microbial biomass`\$M7  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 42.4971

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
0.2167675	0.0460553	0.1061114	-0.4412272	0.3005945
	b.grass			
	0.5006104			

Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1496879

\$`Microbial biomass`\$M711  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 42.62053

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
0.21998083	0.04430573	0.10616151	-0.41550221	0.27965590
	b.grass			
	0.50357884			

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 0.04184964  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1404593

\$`Microbial biomass `M722  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 42.87197

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
0.21788866	0.04921181	0.10175733	-0.44729198	0.34037629
	b.grass			
	0.46980628			

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.006690928  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1578152

\$`Microbial biomass `M81  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 43.19536

Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
0.57101657	0.05231126	-0.12013190	1.55935750	0.25339056
	b.leg			
	-0.69594933			

Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1484187

\$`Microbial biomass `M821  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 43.25356

Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
0.56389921	0.05369995	-0.11693862	1.47992196	0.26671081
	b.leg			
	-0.66199293			

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power

0.02880191  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1421053

\$`Microbial biomass`\$M832  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 43.62374

Coefficients:  
 a.(Intercept)          a.grass                  a.leg b.(Intercept)          b.grass  
                   0.59547052    0.04402642    -0.12731519    1.77186657    0.19313709  
                   b.leg  
                   -0.76154671

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
                   expon  
 -0.007035876  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1568388

\$`Microbial biomass`\$M91  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 43.24014

Coefficients:  
 a.(Intercept)          a.funcgr                  a.grass                  a.leg b.(Intercept)  
                   0.656871962    -0.011760065    0.035153055    -0.141493922    1.793927603  
                   b.funcgr                  b.grass                  b.leg  
                   -0.007281231    0.207308545    -0.766211143

Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.1503288

\$`Microbial biomass`\$M921  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 43.29431

Coefficients:  
 a.(Intercept)          a.funcgr                  a.grass                  a.leg b.(Intercept)  
                   0.64930098    -0.01171344    0.03674372    -0.13832938    1.73299414  
                   b.funcgr                  b.grass                  b.leg  
                   -0.01138088    0.21833340    -0.73791883

Variance function:  
 Structure: Power of variance covariate

Formula: ~sowndiv  
 Parameter estimates:  
     power  
 0.02780186  
 Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.1441552

\$`Microbial biomass `M932  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 43.68027

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
0.666487281	-0.009098335	0.028501484	-0.143955056	1.800321906
	b.funcgr	b.grass	b.leg	
0.037522135	0.169539328	-0.770210989		

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.007136876  
 Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.1589724

\$`Microbial biomass `M111  
 Generalized nonlinear least squares fit  
 Model: response ~ d + a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 42.02787

Coefficients:

a.(Intercept)	a.grass	b.(Intercept)	b.grass	d.(Intercept)
0.1366246	0.1492708	25.3762544	-11.8437813	0.4785390
	d.grass			
-0.1925723				

Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1505469

\$`Microbial biomass `M1132  
 Generalized nonlinear least squares fit  
 Model: response ~ d + a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 42.43559

Coefficients:

a.(Intercept)	a.grass	b.(Intercept)	b.grass	d.(Intercept)
0.1317396	0.1553871	26.0499692	-12.2713542	0.4946508
	d.grass			
-0.2081471				

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.006937727  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1589938

\$`Microbial biomass`\$M131  
 Generalized nonlinear least squares fit  
 Model: response ~ d + a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 44.33896

Coefficients:

a.(Intercept)	a.funcgr	a.leg	b.(Intercept)	b.funcgr
0.12270701	0.05776488	0.04584730	-93.06234456	27.75784481
b.leg	d.(Intercept)	d.funcgr	d.leg	
41.06748999	0.31711072	0.01684919	-0.02846671	

Degrees of freedom: 82 total; 73 residual  
 Residual standard error: 0.1493403

\$`Microbial biomass`\$M1332  
 Generalized nonlinear least squares fit  
 Model: response ~ d + a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 43.22579

Coefficients:

a.(Intercept)	a.funcgr	a.leg	b.(Intercept)	b.funcgr
-0.1901386	0.1008317	0.1237712	-20.7500219	5.5736804
b.leg	d.(Intercept)	d.funcgr	d.leg	
10.2600737	0.4245506	-0.0216960	-0.0668219	

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.006965124  
 Degrees of freedom: 82 total; 73 residual  
 Residual standard error: 0.1607099

\$`Microbial biomass`\$M141  
 Generalized nonlinear least squares fit  
 Model: response ~ d + a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 48.04177

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr

0.429753841	0.008390143	-0.219201503	47.900679823	0.213349629
b.grass	d.(Intercept)	d.funcgr	d.grass	
-28.084795424	0.236290151	0.021407537	0.025934334	

Degrees of freedom: 82 total; 73 residual  
Residual standard error: 0.1427467

\$`Microbial biomass`\$M1621  
Generalized nonlinear least squares fit  
Model: response ~ d + a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 43.82867

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
1.33504316	-0.09457035	-0.18670183	-0.42626870	36.94835850
b.funcgr	b.grass	b.leg	d.(Intercept)	d.funcgr
-2.21002466	-8.72463308	-12.01205779	-0.09245285	0.03928225
d.grass	d.leg			
0.07375816	0.09791911			

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
0.02574381  
Degrees of freedom: 82 total; 70 residual  
Residual standard error: 0.1477045

\$`Microbial biomass`\$E2  
Nonlinear regression model  
model: response ~ a + b \* exp(sowndiv)  
data: DF  
a b  
3.643e-01 1.360e-27  
residual sum-of-squares: 2.084

Number of iterations to convergence: 4  
Achieved convergence tolerance: 3.222e-08

\$`Microbial biomass`\$E4  
Nonlinear regression model  
model: response ~ a + exp(sowndiv)  
data: DF  
a  
1  
residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0  
Achieved convergence tolerance: 6.17e-20

\$`Microbial biomass`\$E5  
Nonlinear regression model

```
model: response ~ b * exp(sowndiv)
data: DF
      b
4.55e-27
residual sum-of-squares: 12.44
```

```
Number of iterations to convergence: 4
Achieved convergence tolerance: 1.650e-08
```

```
`${Microbial biomass}`$E21
Generalized nonlinear least squares fit
Model: response ~ a + b * exp(sowndiv)
Data: DF
Log-likelihood: 34.22429
```

```
Coefficients:
           a           b
3.635465e-01 1.366553e-27
```

```
Variance function:
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
      power
0.00613502
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1599219
```

```
`${Microbial biomass}`$E22
Generalized nonlinear least squares fit
Model: response ~ a + b * exp(sowndiv)
Data: DF
Log-likelihood: 34.84026
```

```
Coefficients:
           a           b
3.696510e-01 1.313098e-27
```

```
Variance function:
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
      expon
-0.008872625
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1728556
```

```
`${Microbial biomass}`$E31
Generalized nonlinear least squares fit
Model: response ~ a + exp(c * sowndiv)
Data: DF
Log-likelihood: 36.78189
```

```
Coefficients:
```



a                  c  
-0.66341259  0.00369182

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
0.02756984  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.1501559

\$`Microbial biomass `E32  
Generalized nonlinear least squares fit  
  Model: response ~ a + exp(c \* sowndiv)  
  Data: DF  
  Log-likelihood: 37.16667

Coefficients:  
                  a                  c  
-0.654360178  0.003070372

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.007778773  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.1664499

\$`Microbial biomass `E41  
Generalized nonlinear least squares fit  
  Model: response ~ a + exp(sowndiv)  
  Data: DF  
  Log-likelihood: -1729.079

Coefficients:  
                  a  
-2.462211

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
15.07020  
Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.06724473

\$`Microbial biomass `E42  
Generalized nonlinear least squares fit  
  Model: response ~ a + exp(sowndiv)  
  Data: DF

Log-likelihood: -800.9884

Coefficients:

    a  
-3.099336

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

    expon  
1.014765

Degrees of freedom: 82 total; 81 residual

Residual standard error: 0.6999242

\$`Microbial biomass `E51

Generalized nonlinear least squares fit

Model: response ~ b \* exp(sowndiv)

Data: DF

Log-likelihood: -1656.492

Coefficients:

    b  
0.07776686

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

    power  
14.43074

Degrees of freedom: 82 total; 81 residual

Residual standard error: 0.07169706

\$`Microbial biomass `E52

Generalized nonlinear least squares fit

Model: response ~ b \* exp(sowndiv)

Data: DF

Log-likelihood: -38.41257

Coefficients:

    b  
4.549951e-27

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

    expon  
-0.01258417

Degrees of freedom: 82 total; 81 residual

Residual standard error: 0.4333031

\$`Microbial biomass `E61

Generalized nonlinear least squares fit  
 Model: response ~ exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: -25.83710

Coefficients:

    c  
 -0.9774835

Variance function:

Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 0.3505123  
 Degrees of freedom: 82 total; 81 residual  
 Residual standard error: 0.1982788

\$`Microbial biomass`\$E62

Generalized nonlinear least squares fit  
 Model: response ~ exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: -31.04317

Coefficients:

    c  
 -0.6919993

Variance function:

Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 0.01705533  
 Degrees of freedom: 82 total; 81 residual  
 Residual standard error: 0.3070777

\$`Microbial biomass`\$Ea10

Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -4912.516

Coefficients:

a.(Intercept)	a.leg
-2963126	911706

Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 2.553606e+25

\$`Microbial biomass`\$Ea12

Generalized nonlinear least squares fit  
 Model: response ~ exp(c \* sowndiv)  
 Data: DF

Log-likelihood: -29.32285

Coefficients:

c.(Intercept)	c.leg
0.5483713	-0.7065756

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.3502891

\$`Microbial biomass `Ea911

Generalized nonlinear least squares fit

Model: response ~ a + exp(c \* sowndiv)

Data: DF

Log-likelihood: 38.94326

Coefficients:

a.(Intercept)	a.leg	c.(Intercept)	c.leg
-0.5325662079	-0.0877833815	-0.0009775838	0.0037441116

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

0.01055477

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1519019

\$`Microbial biomass `Ea921

Generalized nonlinear least squares fit

Model: response ~ a + exp(c \* sowndiv)

Data: DF

Log-likelihood: 39.53611

Coefficients:

a.(Intercept)	a.leg	c.(Intercept)	c.leg
-0.517567126	-0.094386991	-0.001603329	0.003912477

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.008542137

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.164846

\$`Microbial biomass `Ea1011

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF

Log-likelihood: -1728.390

Coefficients:

```
a.(Intercept)      a.leg
-2.38346200      -0.04499927
```

```
Variance function:
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
  power
15.07342
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.06677758
```

```
$`Microbial biomass `Ea1021
Generalized nonlinear least squares fit
Model: response ~ a + exp(sowndiv)
Data: DF
Log-likelihood: -800.886
```

```
Coefficients:
a.(Intercept)      a.leg
-3.9000608         0.4616403
```

```
Variance function:
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
  expon
1.014838
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.7029687
```

```
$`Microbial biomass `Ea121
Generalized nonlinear least squares fit
Model: response ~ exp(c * sowndiv)
Data: DF
Log-likelihood: -24.80916
```

```
Coefficients:
c.(Intercept)      c.leg
-0.2173166         -0.4285978
```

```
Variance function:
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
  power
0.3322020
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2024580
```

```
$`Microbial biomass `Ea1221
Generalized nonlinear least squares fit
Model: response ~ exp(c * sowndiv)
Data: DF
```

Log-likelihood: -27.4095

Coefficients:

c.(Intercept)	c.leg
0.4437789	-0.6635958

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

0.01308981

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.3058346

\$`Microbial biomass `Eb16

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF

Log-likelihood: -4912.516

Coefficients:

a.(Intercept)	a.grass
-3508713	1286426

Degrees of freedom: 82 total; 80 residual

Residual standard error: 2.553606e+25

\$`Microbial biomass `Eb18

Generalized nonlinear least squares fit

Model: response ~ exp(c \* sowndiv)

Data: DF

Log-likelihood: -30.73342

Coefficients:

c.(Intercept)	c.grass
0.4277878	-0.6521125

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.3563669

\$`Microbial biomass `Eb1511

Generalized nonlinear least squares fit

Model: response ~ a + exp(c \* sowndiv)

Data: DF

Log-likelihood: 38.74081

Coefficients:

a.(Intercept)	a.grass	c.(Intercept)	c.grass
-0.598645888	-0.055059506	-0.006526529	0.009641372

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:  
 power  
 0.04625037  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1444178

\$`Microbial biomass `Eb1521  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 38.96318

Coefficients:  
 a.(Intercept)            a.grass   c.(Intercept)            c.grass  
 -0.592388690   -0.053945553   -0.005974365   0.008737063

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.006920597  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1637068

\$`Microbial biomass `Eb1611  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -1729.038

Coefficients:  
 a.(Intercept)            a.grass  
 -2.48151154   0.01102905

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 15.07039  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.0676108

\$`Microbial biomass `Eb1621  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -800.8691

Coefficients:  
 a.(Intercept)            a.grass  
 -3.9630805   0.4979842

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
  expon  
1.014856  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.7027132

\$`Microbial biomass `Eb1811  
Generalized nonlinear least squares fit  
  Model: response ~ exp(c \* sowndiv)  
  Data: DF  
  Log-likelihood: -24.8741

Coefficients:  
c.(Intercept)           c.grass  
  -0.2044469       -0.4273689

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
  power  
0.3214632  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.2058746

\$`Microbial biomass `Eb1821  
Generalized nonlinear least squares fit  
  Model: response ~ exp(c \* sowndiv)  
  Data: DF  
  Log-likelihood: -28.06223

Coefficients:  
c.(Intercept)           c.grass  
  0.3087346       -0.6034059

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
  expon  
0.01603783  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.3005742

\$`Microbial biomass `Ec22  
Generalized nonlinear least squares fit  
  Model: response ~ a + exp(sowndiv)  
  Data: DF  
  Log-likelihood: -4912.516

Coefficients:



```
a.(Intercept)      a.funcgr
      252095.8      -912137.5
```

```
Degrees of freedom: 82 total; 80 residual
Residual standard error: 2.553606e+25
```

```
$`Microbial biomass `Ec24
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -25.82217
```

```
Coefficients:
c.(Intercept)      c.funcgr
   -0.9396606      0.2096280
```

```
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.3356496
```

```
$`Microbial biomass `Ec1921
Generalized nonlinear least squares fit
  Model: response ~ a + b * exp(c * sowndiv)
  Data: DF
  Log-likelihood: -2877.534
```

```
Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr c.(Intercept)
  0.4481109050 -0.2042303971  0.0025138369 -0.0006284561  0.9998429581
      c.funcgr
  1.0000392604
```

```
Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
  4.81646
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.0004807627
```

```
$`Microbial biomass `Ec2121
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 40.37348
```

```
Coefficients:
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
 -0.757878116      0.042592404  0.012514505  -0.002690194
```

```
Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
```

```
      expon
-0.007441648
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1616368
```

```
$`Microbial biomass `Ec2211
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1729.079
```

```
Coefficients:
a.(Intercept)      a.funcgr
      2.107968      -4.570178
```

```
Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
15.07020
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.06766368
```

```
$`Microbial biomass `Ec2221
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -794.3282
```

```
Coefficients:
a.(Intercept)      a.funcgr
      3.506409      -6.220623
```

```
Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
1.022193
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.6092293
```

```
$`Microbial biomass `Ec2411
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -16.77887
```

```
Coefficients:
c.(Intercept)      c.funcgr
      -1.2873857      0.2861425
```

```
Variance function:
```

Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 0.3588624  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.1764474

\$`Microbial biomass `Ec2421  
 Generalized nonlinear least squares fit  
 Model: response ~ exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: -22.01001

Coefficients:  
 c.(Intercept)      c.funcgr  
     -1.0072283      0.2213265

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 0.0195956  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.2707897

\$`Microbial biomass `Ed28  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -4912.516

Coefficients:  
 a.(Intercept)      a.funcgr      a.leg  
     872779.2      -990730.5      -307654.7

Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 2.569717e+25

\$`Microbial biomass `Ed2811  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -1728.390

Coefficients:  
 a.(Intercept)      a.funcgr      a.leg  
     2.19796605      -4.58142803      -0.04499927

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:

```

power
15.07342
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.06719888

```

```

$`Microbial biomass `Ed2821
Generalized nonlinear least squares fit
Model: response ~ a + exp(sowndiv)
Data: DF
Log-likelihood: -794.3276

```

```

Coefficients:
a.(Intercept)      a.funcgr      a.leg
3.56986977      -6.22854831      -0.03173434

```

```

Variance function:
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
expon
1.022194
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.6130616

```

```

$`Microbial biomass `Ed3021
Generalized nonlinear least squares fit
Model: response ~ exp(c * sowndiv)
Data: DF
Log-likelihood: -21.87297

```

```

Coefficients:
c.(Intercept)      c.funcgr      c.leg
-0.6762935      0.1809676      -0.1678372

```

```

Variance function:
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
expon
0.01923615
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.2728840

```

```

$`Microbial biomass `Ee40
Generalized nonlinear least squares fit
Model: response ~ a + exp(sowndiv)
Data: DF
Log-likelihood: -4912.516

```

```

Coefficients:
a.(Intercept)      a.funcgr      a.grass
-335850.6      -839615.5      296563.3

```

```

Degrees of freedom: 82 total; 79 residual

```

Residual standard error: 2.569717e+25

\$`Microbial biomass `Ee341  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -1729.038

Coefficients:  
 a.(Intercept)      a.funcgr      a.grass  
                   2.08590943    -4.56742096    0.01102904

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 15.07039  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.06803735

\$`Microbial biomass `Ee342  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -794.3282

Coefficients:  
 a.(Intercept)      a.funcgr      a.grass  
                   3.495194768    -6.219221340    0.005607121

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 1.022193  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.6130727

\$`Microbial biomass `Ef40  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -4912.516

Coefficients:  
 a.(Intercept)      a.grass      a.leg  
                   -5251826      1394676      1054750

Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 2.569717e+25

\$`Microbial biomass `Ef3721

Generalized nonlinear least squares fit  
 Model: response ~ a + b \* exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: -2719.873

Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
3.386504e-01	-1.611308e-03	-4.623395e-02	1.801116e-04	-7.609184e-05
b.leg	c.(Intercept)	c.grass	c.leg	
-1.260945e-05	9.999884e-01	1.000005e+00	1.000001e+00	

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 4.527347  
 Degrees of freedom: 82 total; 73 residual  
 Residual standard error: 0.0008582994

\$`Microbial biomass`\$Ef3921  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 40.85162

Coefficients:

a.(Intercept)	a.grass	a.leg	c.(Intercept)	c.grass
-0.471064993	-0.056608918	-0.075798403	-0.006928818	0.007711895
c.leg				
0.001292316				

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.007490311  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1628658

\$`Microbial biomass`\$Ef4011  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -1728.384

Coefficients:

a.(Intercept)	a.grass	a.leg
-2.373038886	-0.004467048	-0.046488281

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv

Parameter estimates:  
 power  
 15.07344  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.06719103

\$`Microbial biomass`\$Ef4021  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -800.6425

Coefficients:  
 a.(Intercept)          a.grass          a.leg  
                   -5.6870078        0.7593425        0.7325372

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 1.015019  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.7042094

\$`Microbial biomass`\$Ef4211  
 Generalized nonlinear least squares fit  
 Model: response ~ exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: -18.45191

Coefficients:  
 c.(Intercept)          c.grass          c.leg  
                   1.0150746        -0.5875177        -0.5877623

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 0.3077127  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.1955177

\$`Microbial biomass`\$Ef4221  
 Generalized nonlinear least squares fit  
 Model: response ~ exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: -22.29754

Coefficients:  
 c.(Intercept)          c.grass          c.leg  
                   0.8367020        -0.4877268        -0.4777367

```

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
0.0171708
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.2792077

$`Microbial biomass `Eg46
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr      a.grass      a.leg
      292091.8      -918391.4      183181.3      -199834.2

Degrees of freedom: 82 total; 78 residual
Residual standard error: 2.586137e+25

$`Microbial biomass `Eg4611
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1728.384

Coefficients:
a.(Intercept)      a.funcgr      a.grass      a.leg
      2.209878210      -4.582917053      -0.004467059      -0.046488292

Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
15.07344
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.06762035

$`Microbial biomass `Eg4621
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -794.3276

Coefficients:
a.(Intercept)      a.funcgr      a.grass      a.leg
      3.591182637      -6.231212076      -0.007701756      -0.034689198

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv

```



Parameter estimates:  
expon  
1.022194  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.6169784

\$`Microbial biomass`\$Pa2  
Nonlinear regression model  
model: response ~ a + b \* sowndiv  
data: DF  
a b  
0.336476 0.004126  
residual sum-of-squares: 1.949

Number of iterations to convergence: 1  
Achieved convergence tolerance: 2.776e-10

\$`Microbial biomass`\$Pa3  
Nonlinear regression model  
model: response ~ a + sowndiv^c  
data: DF  
a c  
-0.71888 0.05716  
residual sum-of-squares: 1.765

Number of iterations to convergence: 8  
Achieved convergence tolerance: 1.625e-07

\$`Microbial biomass`\$Pa4  
Nonlinear regression model  
model: response ~ b \* sowndiv^c  
data: DF  
b c  
0.2898 0.1580  
residual sum-of-squares: 1.778

Number of iterations to convergence: 8  
Achieved convergence tolerance: 5.803e-07

\$`Microbial biomass`\$Pa5  
Nonlinear regression model  
model: response ~ sowndiv^c  
data: DF  
c  
-0.5422  
residual sum-of-squares: 14.22

Number of iterations to convergence: 14  
Achieved convergence tolerance: 7.2e-06

\$`Microbial biomass`\$Pb21  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF

Log-likelihood: 36.96076

Coefficients:

          a          b  
0.336476164 0.004125718

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.1560883

\$`Microbial biomass`\$Pb31  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 41.02073

Coefficients:

          a          c  
-0.71888046 0.05715492

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.1485483

\$`Microbial biomass`\$Pb41  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 40.73806

Coefficients:

          b          c  
0.2897725 0.1580283

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.1490613

\$`Microbial biomass`\$Pb51  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -44.52038

Coefficients:

          c  
-0.5422031

Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.4190052

\$`Microbial biomass`\$Pc221  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 37.02406

Coefficients:

a	b
0.332444210	0.004359331

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

0.032711

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.1485747

\$`Microbial biomass`\$Pc231

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv

Data: DF

Log-likelihood: 37.34375

Coefficients:

a	b
0.342814527	0.003487978

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.007503355

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.1656986

\$`Microbial biomass`\$Pc321

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv^c

Data: DF

Log-likelihood: 41.21007

Coefficients:

a	c
-0.7211767	0.0585016

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

0.05264561

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.1370635

\$`Microbial biomass`\$Pc331

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv^c

Data: DF  
Log-likelihood: 41.40456

Coefficients:

	a	c
	-0.71618166	0.05507333

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon
-0.006869461

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.1568369

\$`Microbial biomass`\$Pc421

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 40.91377

Coefficients:

b	c
0.2870557	0.1631600

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power
0.0509429

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.1379078

\$`Microbial biomass`\$Pc431

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 41.11141

Coefficients:

b	c
0.2930870	0.1499929

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon
-0.006844048

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.1573642

\$`Microbial biomass`\$Pc521  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -31.05171

Coefficients:

          c  
 -0.3141903

Variance function:

Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
       power  
 -0.3696795  
 Degrees of freedom: 82 total; 81 residual  
 Residual standard error: 0.6155098

\$`Microbial biomass`\$Pc531  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -43.2067

Coefficients:

          c  
 -0.431136

Variance function:

Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
       expon  
 -0.01015067  
 Degrees of freedom: 82 total; 81 residual  
 Residual standard error: 0.4498931

\$`Microbial biomass`\$Pd61  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 43.04026

Coefficients:

a.(Intercept)	a.funcgr	b.(Intercept)	b.funcgr	c.(Intercept)
-2.56016479	0.60779410	2.83080359	-0.60253586	-0.01139930
	c.funcgr			
	0.02824325			

Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1486996

\$`Microbial biomass`\$Pd71

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv

Data: DF

Log-likelihood: 40.03284

Coefficients:

a.(Intercept)	a.funcgr	b.(Intercept)	b.funcgr
0.237093292	0.042712670	0.014651932	-0.003169064

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1522641

\$`Microbial biomass`\$Pd81

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv^c

Data: DF

Log-likelihood: 41.28237

Coefficients:

a.(Intercept)	a.funcgr	c.(Intercept)	c.funcgr
-0.748641079	0.019907020	0.063995466	-0.005284921

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1499615

\$`Microbial biomass`\$Pd91

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv^c

Data: DF

Log-likelihood: 41.27506

Coefficients:

b.(Intercept)	b.funcgr	c.(Intercept)	c.funcgr
0.24411294	0.02709654	0.21193026	-0.02991555

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1499748

\$`Microbial biomass`\$Pd101

Generalized nonlinear least squares fit

Model: response ~ sowndiv^c

Data: DF

Log-likelihood: -42.13097

Coefficients:

c.(Intercept)	c.funcgr
-1.0099876	0.1726411

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.4095076

\$`Microbial biomass`\$Pe721

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv

Data: DF  
Log-likelihood: 40.20746

Coefficients:  
a.(Intercept)      a.funcgr   b.(Intercept)      b.funcgr  
0.233130958    0.043369891    0.015394330    -0.003345766

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
0.05118879  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1408215

\$`Microbial biomass `Pe731  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 40.48165

Coefficients:  
a.(Intercept)      a.funcgr   b.(Intercept)      b.funcgr  
0.238640497    0.042978491    0.014021152    -0.003036082

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.007389384  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1613513

\$`Microbial biomass `Pe821  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 41.47642

Coefficients:  
a.(Intercept)      a.funcgr   c.(Intercept)      c.funcgr  
-0.750757579    0.020444507    0.066071133    -0.005839522

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
0.05329022  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1382271

\$`Microbial biomass `Pe831  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 41.69914

Coefficients:

a.(Intercept)	a.funcgr	c.(Intercept)	c.funcgr
-0.748159839	0.020260379	0.062507185	-0.005063292

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.007073773  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1585432

\$`Microbial biomass `Pe921  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 41.4661

Coefficients:

b.(Intercept)	b.funcgr	c.(Intercept)	c.funcgr
0.24214943	0.02772196	0.21863072	-0.03194872

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 0.05292123  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1383203

\$`Microbial biomass `Pe931  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 41.69461

Coefficients:

b.(Intercept)	b.funcgr	c.(Intercept)	c.funcgr
0.24523734	0.02676648	0.20583548	-0.02803624

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.007100683



Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1585886

\$`Microbial biomass`\$Pe1021  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -23.00411

Coefficients:  
c.(Intercept)      c.funcgr  
-0.6273438      0.1062891

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
-0.4753241  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.6567864

\$`Microbial biomass`\$Pe1031  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -33.60828

Coefficients:  
c.(Intercept)      c.funcgr  
-0.8666610      0.1739901

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.03261438  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.4883471

\$`Microbial biomass`\$Pf121  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 38.854

Coefficients:  
a.(Intercept)      a.grass    b.(Intercept)      b.grass  
0.403745475    -0.056539696    -0.007394764    0.010755847

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1544689

\$`Microbial biomass`\$Pf131  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 41.72147

Coefficients:

a.(Intercept)	a.grass	c.(Intercept)	c.grass
-0.69642385	-0.01770846	0.02449197	0.02635335

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1491606

\$`Microbial biomass`\$Pf141  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 41.48720

Coefficients:

b.(Intercept)	b.grass	c.(Intercept)	c.grass
0.31111204	-0.01743101	0.06293662	0.07865262

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1495874

\$`Microbial biomass`\$Pf151  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -44.03444

Coefficients:

c.(Intercept)	c.grass
-0.2523209	-0.2201906

Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.4191247

\$`Microbial biomass`\$Pg171  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 39.03842

Coefficients:

a.(Intercept)	a.leg	b.(Intercept)	b.leg
0.4653169804	-0.0869936693	-0.0007470766	0.0038195204

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1541219

\$`Microbial biomass`\$Pg181  
 Generalized nonlinear least squares fit

Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 42.12215

Coefficients:  
a.(Intercept)            a.leg c.(Intercept)            c.leg  
-0.67294907    -0.02470195    0.07132477    -0.01486690

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1484335

\$`Microbial biomass `Pg191  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 41.85989

Coefficients:  
b.(Intercept)            b.leg c.(Intercept)            c.leg  
0.34900711    -0.03409829    0.15802005    -0.01552544

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.148909

\$`Microbial biomass `Pg201  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -43.04784

Coefficients:  
c.(Intercept)            c.leg  
-0.03783580    -0.38355360

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.4141121

\$`Microbial biomass `Ph221  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 41.69544

Coefficients:  
a.(Intercept)            a.funcgr            a.leg b.(Intercept)            b.funcgr  
0.231109492    0.043224533    0.001701334    0.037000878    -0.006146820  
                 b.leg  
-0.010415420

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1511585

\$`Microbial biomass `Ph231  
Generalized nonlinear least squares fit

Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 43.00363

Coefficients:

a.(Intercept)	a.funcgr	a.leg	c.(Intercept)	c.funcgr
-0.77437683	0.02211231	0.01289246	0.16273666	-0.01776095
	c.leg			
	-0.04797342			

Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1487661

\$`Microbial biomass `Ph241  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 43.11686

Coefficients:

b.(Intercept)	b.funcgr	b.leg	c.(Intercept)	c.funcgr
0.20043676	0.03385176	0.01984171	0.51634235	-0.07014217
	c.leg			
	-0.14761289			

Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1485608

\$`Microbial biomass `Ph251  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -41.96952

Coefficients:

c.(Intercept)	c.funcgr	c.leg
-0.6908294	0.1345153	-0.1653919

Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.4112807

\$`Microbial biomass `Pi271  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 40.78295

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
0.215032512	0.045333997	0.010285549	0.004914165	-0.002058117
	b.grass			
	0.005306966			

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.1528499

\$`Microbial biomass`\$Pi281  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 42.35526

Coefficients:  
a.(Intercept)      a.funcgr      a.grass    c.(Intercept)      c.funcgr  
-0.720812817    0.016024023    -0.014074953    -0.009087851    0.003644050  
                  c.grass  
0.037599247

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1499470

\$`Microbial biomass`\$Pi291  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 42.35735

Coefficients:  
b.(Intercept)      b.funcgr      b.grass    c.(Intercept)      c.funcgr  
0.254792448    0.026342524    -0.006103272    0.028461943    -0.008164079  
                  c.grass  
0.094039450

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1499432

\$`Microbial biomass`\$Pi301  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -42.00313

Coefficients:  
c.(Intercept)      c.funcgr      c.grass  
-1.3130587    0.2114817    0.1474538

Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.4114493

\$`Microbial biomass`\$Pj321  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 40.56554

Coefficients:  
a.(Intercept)      a.grass      a.leg    b.(Intercept)      b.grass  
0.519974491    -0.060795213    -0.069706221    -0.008224235    0.009724642

b.leg  
0.001010692

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1532557

\$`Microbial biomass`\$Pj331  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 42.93356

Coefficients:

a.(Intercept)	a.grass	a.leg	c.(Intercept)	c.grass
-0.63617578	-0.03449706	-0.01638429	0.03704288	0.03227001
	c.leg			
	-0.02045317			

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1488933

\$`Microbial biomass`\$Pj341  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 42.74853

Coefficients:

b.(Intercept)	b.grass	b.leg	c.(Intercept)	c.grass
0.38735537	-0.03378377	-0.02794488	0.05498936	0.09739673
	c.leg			
	-0.03181284			

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1492296

\$`Microbial biomass`\$Pj351  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -42.41599

Coefficients:

c.(Intercept)	c.grass	c.leg
0.2478340	-0.2209077	-0.3803795

Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.4135261

\$`Microbial biomass`\$Pk371  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 41.72244

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
0.1861338394	0.0488467826	0.0146439813	0.0095467830	0.0394972558
b.funcgr	b.grass	b.leg		
-0.0064586381	-0.0008434272	-0.0108211248		

Degrees of freedom: 82 total; 74 residual  
Residual standard error: 0.1531371

\$`Microbial biomass`\$Pk381  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 43.08294

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	c.(Intercept)
-0.740556181	0.017917230	-0.011056430	0.006998392	0.114107912
c.funcgr	c.grass	c.leg		
-0.011722228	0.014951569	-0.038518987		

Degrees of freedom: 82 total; 74 residual  
Residual standard error: 0.1506173

\$`Microbial biomass`\$Pk391  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 43.1627

Coefficients:

b.(Intercept)	b.funcgr	b.grass	b.leg	c.(Intercept)
0.197777752	0.03413374	0.00174404	0.01953692	0.44409223
c.funcgr	c.grass	c.leg		
-0.06106459	0.01979614	-0.13141387		

Degrees of freedom: 82 total; 74 residual  
Residual standard error: 0.1504709

\$`Microbial biomass`\$Pk401  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -41.9481

Coefficients:

c.(Intercept)	c.funcgr	c.grass	c.leg
-0.93046600	0.16467446	0.07506066	-0.12162601

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.4138006

\$`Microbial biomass`\$Pm1221

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv

Data: DF

Log-likelihood: 39.01313

Coefficients:

a.(Intercept)	a.grass	b.(Intercept)	b.grass
0.40146045	-0.05807734	-0.00788716	0.01141821

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

0.04895204

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1433628

\$`Microbial biomass`\$Pm1231

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv

Data: DF

Log-likelihood: 39.19321

Coefficients:

a.(Intercept)	a.grass	b.(Intercept)	b.grass
0.40820907	-0.05695188	-0.00717501	0.01024767

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.006722681

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1629711

\$`Microbial biomass`\$Pm1321

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv^c

Data: DF

Log-likelihood: 41.9164

Coefficients:

a.(Intercept)	a.grass	c.(Intercept)	c.grass
-0.69474233	-0.01950539	0.02301555	0.02788350

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

0.05246447

Degrees of freedom: 82 total; 78 residual



Residual standard error: 0.1376561

\$`Microbial biomass`\$Pm1331  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 42.06854

Coefficients:  
 a.(Intercept)            a.grass c.(Intercept)            c.grass  
 -0.69942850    -0.01535618    0.02713550    0.02407854

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.006512847  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1570723

\$`Microbial biomass`\$Pm1421  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 41.67821

Coefficients:  
 b.(Intercept)            b.grass c.(Intercept)            c.grass  
 0.31228180    -0.01927817    0.05847143    0.08418369

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 0.05213795  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1381235

\$`Microbial biomass`\$Pm1431  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 41.83636

Coefficients:  
 b.(Intercept)            b.grass c.(Intercept)            c.grass  
 0.31035532    -0.01610096    0.06739311    0.07313190

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:

```

      expon
-0.006547681
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1575648

```

```

$`Microbial biomass`$Pm1521
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -29.44967

```

```

Coefficients:
c.(Intercept)      c.grass
-0.1248195        -0.1470732

```

```

Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
      power
-0.3996867
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.6350306

```

```

$`Microbial biomass`$Pm1531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -40.7658

```

```

Coefficients:
c.(Intercept)      c.grass
 0.1345091         -0.3296981

```

```

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
      expon
-0.03044903
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.523074

```

```

$`Microbial biomass`$Pn1721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 39.04898

```

```

Coefficients:
a.(Intercept)      a.leg b.(Intercept)      b.leg
0.4625749331 -0.0860090871 -0.0006997079 0.0038467139

```

```

Variance function:

```

Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 0.01316943  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1511184

\$`Microbial biomass`\$Pn1731  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 39.61339

Coefficients:  
 a.(Intercept)           a.leg b.(Intercept)           b.leg  
     0.479431671   -0.093436642   -0.001555517   0.004099001

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.00843563  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1645402

\$`Microbial biomass`\$Pn1821  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 42.20786

Coefficients:  
 a.(Intercept)           a.leg c.(Intercept)           c.leg  
     -0.67763884   -0.02307313   0.07289764   -0.01503849

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 0.03566375  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1406319

\$`Microbial biomass`\$Pn1831  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 42.52942

Coefficients:  
 a.(Intercept)           a.leg c.(Intercept)           c.leg

-0.65737150   -0.03214449   0.06289819   -0.01111236

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.007055654

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1569215

\$`Microbial biomass`\$Pn1921

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 41.93729

Coefficients:

b.(Intercept)	b.leg	c.(Intercept)	c.leg
0.34408340	-0.03229861	0.16346815	-0.01640692

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

0.03410354

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1414239

\$`Microbial biomass`\$Pn1931

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 42.27679

Coefficients:

b.(Intercept)	b.leg	c.(Intercept)	c.leg
0.363627161	-0.041082811	0.133337142	-0.004564306

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.007178055

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1575712

\$`Microbial biomass`\$Pn2021

Generalized nonlinear least squares fit

Model: response ~ sowndiv<sup>c</sup>

Data: DF

Log-likelihood: -25.44735

## Coefficients:

```
c.(Intercept)      c.leg
    0.02439203     -0.26065920
```

## Variance function:

```
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
    power
-0.4481359
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.6498823
```

\$`Microbial biomass`\$Pn2031

```
Generalized nonlinear least squares fit
Model: response ~ sowndiv^c
Data: DF
Log-likelihood: -37.75472
```

## Coefficients:

```
c.(Intercept)      c.leg
    0.2486636       -0.4335888
```

## Variance function:

```
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
    expon
-0.03196687
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.5108284
```

\$`Microbial biomass`\$Pp2221

```
Generalized nonlinear least squares fit
Model: response ~ a + b * sowndiv
Data: DF
Log-likelihood: 41.779
```

## Coefficients:

```
a.(Intercept)      a.funcgr      a.leg b.(Intercept)      b.funcgr
    0.225269184    0.044072903    0.003287601    0.038052206    -0.006335945
      b.leg
-0.010688302
```

## Variance function:

```
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
    power
0.03517119
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1433222
```

\$`Microbial biomass`\$Pp2231  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 42.17617

Coefficients:  
 a.(Intercept)      a.funcgr              a.leg    b.(Intercept)      b.funcgr  
   0.238803278    0.042676037    -0.001350002    0.035127811    -0.005853422  
                   b.leg  
 -0.009805219

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
   expon  
 -0.007494411  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1602618

\$`Microbial biomass`\$Pp2321  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 43.06334

Coefficients:  
 a.(Intercept)      a.funcgr              a.leg    c.(Intercept)      c.funcgr  
 -0.77372462    0.02218492    0.01201465    0.16236615    -0.01785417  
                   c.leg  
 -0.04728633

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
   power  
 0.02925296  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.14234

\$`Microbial biomass`\$Pp2331  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 43.48732

Coefficients:  
 a.(Intercept)      a.funcgr              a.leg    c.(Intercept)      c.funcgr  
 -0.77247286    0.02227757    0.01215010    0.16046633    -0.01747570  
                   c.leg  
 -0.04747493

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.007395065  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1575851

\$`Microbial biomass`\$Pp2421  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 43.18075

Coefficients:

b.(Intercept)	b.funcgr	b.leg	c.(Intercept)	c.funcgr
0.20107203	0.03400912	0.01899989	0.51701315	-0.07091827
	c.leg			
	-0.14615421			

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 0.03019153  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1419384

\$`Microbial biomass`\$Pp2431  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 43.584

Coefficients:

b.(Intercept)	b.funcgr	b.leg	c.(Intercept)	c.funcgr
0.20498604	0.03259207	0.01851749	0.50162072	-0.06655219
	c.leg			
	-0.14374157			

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.007298736  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1572693

\$`Microbial biomass`\$Pp2521  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c

Data: DF  
Log-likelihood: -22.31842

Coefficients:  
c.(Intercept)      c.funcgr      c.leg  
-0.40072821      0.07843802      -0.11445421

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
-0.4810318  
Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.6610038

\$`Microbial biomass`\$Pp2531  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -33.35057

Coefficients:  
c.(Intercept)      c.funcgr      c.leg  
-0.6101750      0.1431063      -0.1328996

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.03263521  
Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.4899738

\$`Microbial biomass`\$Pq2631  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv^c  
Data: DF  
Log-likelihood: 45.38668

Coefficients:  
a.(Intercept)      a.funcgr      a.grass      b.(Intercept)      b.funcgr  
-1.01282003      0.14209722      0.62913268      1.35045417      -0.14234013  
    b.grass      c.(Intercept)      c.funcgr      c.grass  
-0.67066334      0.83878558      0.07806126      -0.87776507

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.006764649  
Degrees of freedom: 82 total; 73 residual



Residual standard error: 0.1562610

\$`Microbial biomass`\$Pq2721  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 40.935

Coefficients:  
 a.(Intercept)      a.funcgr      a.grass    b.(Intercept)      b.funcgr  
 0.221738698    0.044645721    0.005092552    0.004179533    -0.002048883  
                   b.grass  
 0.006035999

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           power  
 0.04773811  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1421285

\$`Microbial biomass`\$Pq2731  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 41.18965

Coefficients:  
 a.(Intercept)      a.funcgr      a.grass    b.(Intercept)      b.funcgr  
 0.206352158    0.046841297    0.015418021    0.006097190    -0.002145218  
                   b.grass  
 0.004381853

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           expon  
 -0.007064159  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1616034

\$`Microbial biomass`\$Pq2821  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 42.50516

Coefficients:  
 a.(Intercept)      a.funcgr      a.grass    c.(Intercept)      c.funcgr  
 -0.719567523    0.016080309    -0.015554378    -0.009699953    0.003490436  
                   c.grass

0.038727143

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 0.04592993  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1398076

\$`Microbial biomass`\$Pq2831  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 42.71661

Coefficients:

a.(Intercept)	a.funcgr	a.grass	c.(Intercept)	c.funcgr
-0.726718447	0.017117787	-0.010904120	-0.004657297	0.003128925
	c.grass			
	0.034734502			

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.006585009  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1579708

\$`Microbial biomass`\$Pq2921  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 42.5143

Coefficients:

b.(Intercept)	b.funcgr	b.grass	c.(Intercept)	c.funcgr
0.257384236	0.026525808	-0.008393974	0.023921829	-0.008847298
	c.grass			
	0.099362226			

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 0.04717589  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1395337

\$`Microbial biomass`\$Pq2931

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 42.71182

Coefficients:

b.(Intercept)	b.funcgr	b.grass	c.(Intercept)	c.funcgr
0.250244301	0.026356937	-0.003016204	0.040766269	-0.008234453
	c.grass			
	0.084869176			

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.00655037

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.1579330

\$`Microbial biomass`\$Pq3021

Generalized nonlinear least squares fit

Model: response ~ sowndiv<sup>c</sup>

Data: DF

Log-likelihood: -22.75071

Coefficients:

c.(Intercept)	c.funcgr	c.grass
-0.76248625	0.12322157	0.06720479

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.4749447

Degrees of freedom: 82 total; 79 residual

Residual standard error: 0.6585198

\$`Microbial biomass`\$Pq3031

Generalized nonlinear least squares fit

Model: response ~ sowndiv<sup>c</sup>

Data: DF

Log-likelihood: -33.50686

Coefficients:

c.(Intercept)	c.funcgr	c.grass
-1.02988611	0.19479893	0.07991391

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.03256152  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.4905981

\$`Microbial biomass`\$Pr3221  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 40.65128

Coefficients:  
 a.(Intercept)            a.grass            a.leg b.(Intercept)            b.grass  
 0.5168612613 -0.0625377335 -0.0677386764 -0.0086045264 0.0102274546  
                   b.leg  
 0.0009871547

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           power  
 0.03605914  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1451155

\$`Microbial biomass`\$Pr3231  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 41.00305

Coefficients:  
 a.(Intercept)            a.grass            a.leg b.(Intercept)            b.grass  
 0.528073139 -0.059714719 -0.074030635 -0.008020193 0.009011539  
                   b.leg  
 0.001270468

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           expon  
 -0.007342647  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1623593

\$`Microbial biomass`\$Pr3321  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 43.01911

Coefficients:  
 a.(Intercept)            a.grass            a.leg c.(Intercept)            c.grass

-0.63754499   -0.03461126   -0.01620579   0.03656193   0.03282452  
                   c.leg  
 -0.02008047

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           power  
 0.03477835  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1412533

\$`Microbial biomass`\$Pr3331  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 43.34004

Coefficients:  
 a.(Intercept)            a.grass            a.leg c.(Intercept)            c.grass  
   -0.62789496    -0.03501659    -0.01984176    0.03466192    0.03130126  
                   c.leg  
           -0.01900136

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           expon  
 -0.00689536  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1571926

\$`Microbial biomass`\$Pr3421  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 42.83898

Coefficients:  
 b.(Intercept)            b.grass            b.leg c.(Intercept)            c.grass  
   0.38565454    -0.03432817    -0.02724757    0.05328494    0.10033143  
                   c.leg  
           -0.03135258

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           power  
 0.03594588  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1413188

\$`Microbial biomass`\$Pr3431  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 43.15433

Coefficients:

b.(Intercept)	b.grass	b.leg	c.(Intercept)	c.grass
0.39461733	-0.03399994	-0.03113385	0.04939747	0.09349555
	c.leg			
	-0.02757952			

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.006914078  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1575743

\$`Microbial biomass`\$Pr3521  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -23.32972

Coefficients:

c.(Intercept)	c.grass	c.leg
0.1696281	-0.1318883	-0.2480324

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.4767493  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.6649652

\$`Microbial biomass`\$Pr3531  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -34.58352

Coefficients:

c.(Intercept)	c.grass	c.leg
0.4646305	-0.2561756	-0.3824112

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv

Parameter estimates:  
 expon  
 -0.03274933  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.4978843

\$`Microbial biomass`\$Ps3721  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 41.79784

Coefficients:  

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
0.1936962863	0.0480115407	0.0104766644	0.0086542858	0.0386663089
b.funcgr	b.grass	b.leg		
-0.0064112141	-0.0002788291	-0.0107234248		

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 0.03381456  
 Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.1455055

\$`Microbial biomass`\$Ps3731  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 42.2173

Coefficients:  

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
0.176120253	0.050523945	0.020253493	0.009778975	0.040923822
b.funcgr	b.grass	b.leg		
-0.006573030	-0.001855361	-0.010869356		

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.007618332  
 Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.1625044

\$`Microbial biomass`\$Ps3821  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 43.15511

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	c.(Intercept)
-0.733578776	0.017216942	-0.013254450	0.005105006	0.108156571
c.funcgr	c.grass	c.leg		
-0.011133934	0.016776387	-0.036820287		

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 0.03215278  
 Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.1434704

\$`Microbial biomass`\$Ps3831  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 43.5326

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	c.(Intercept)
-0.751120541	0.019615046	-0.006825007	0.008272530	0.125225482
c.funcgr	c.grass	c.leg		
-0.013096155	0.010701009	-0.040470763		

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.007197967  
 Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.1593425

\$`Microbial biomass`\$Ps3921  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 43.23408

Coefficients:

b.(Intercept)	b.funcgr	b.grass	b.leg	c.(Intercept)
0.207653644	0.033167299	-0.001115847	0.016900738	0.421924819
c.funcgr	c.grass	c.leg		
-0.059052672	0.026722767	-0.125349574		

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 0.03212689



Degrees of freedom: 82 total; 74 residual  
Residual standard error: 0.1433378

\$`Microbial biomass `Ps3931  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 43.60998

Coefficients:

b.(Intercept)	b.funcgr	b.grass	b.leg	c.(Intercept)
0.188467028	0.034604517	0.005811227	0.021019747	0.474973713
c.funcgr	c.grass	c.leg		
-0.063207629	0.006548958	-0.136916708		

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.007201753  
Degrees of freedom: 82 total; 74 residual  
Residual standard error: 0.1591973

\$`Microbial biomass `Ps4021  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -22.31840

Coefficients:

c.(Intercept)	c.funcgr	c.grass	c.leg
-0.4032618087	0.0787560188	0.0007762873	-0.1139730226

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
-0.4809996  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.6651956

\$`Microbial biomass `Ps4031  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -33.34910

Coefficients:

c.(Intercept)	c.funcgr	c.grass	c.leg
-0.64678069	0.14772337	0.01152149	-0.12629269

Variance function:

```
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
  expon
-0.03262592
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.4930565
```

```
$`Microbial biomass`$AS1
Nonlinear regression model
  model: response ~ SSasym(sowndiv, Asym, R0, lrc)
  data: DF
  Asym      R0      lrc
0.4592  0.2098 -1.2930
residual sum-of-squares: 1.77
```

```
Number of iterations to convergence: 10
Achieved convergence tolerance: 8.682e-06
```

```
$`Microbial biomass`$AS2
Nonlinear regression model
  model: response ~ SSasymOff(sowndiv, Asym, lrc, c0)
  data: DF
  Asym      lrc      c0
0.4592 -1.2931 -2.2241
residual sum-of-squares: 1.77
```

```
Number of iterations to convergence: 10
Achieved convergence tolerance: 9.487e-06
```

```
$`Microbial biomass`$AS3
Nonlinear regression model
  model: response ~ SSasymOrig(sowndiv, Asym, lrc)
  data: DF
  Asym      lrc
0.4281 -0.2150
residual sum-of-squares: 1.811
```

```
Number of iterations to convergence: 6
Achieved convergence tolerance: 6.154e-06
```

```
$`Microbial biomass`$LG2
Nonlinear regression model
  model: response ~ SSlogis(sowndiv, Asym, xmid, scal)
  data: DF
  Asym      xmid      scal
0.45479 -0.08847  2.64378
residual sum-of-squares: 1.775
```

```
Number of iterations to convergence: 9
Achieved convergence tolerance: 5.392e-06
```

```
$`Microbial respiration`$L01
Generalized least squares fit by maximum likelihood
```

Model: response ~ block + (sowndiv + funcgr + grass + leg)^2  
 Data: DF  
 Log-likelihood: 66.29191

Coefficients:

(Intercept)	blockB2	blockB3	blockB4
sowndiv			
0.0971726254	0.0523450999	0.0796403354	0.0629400645
0.0249253472			
funcgr	grass	leg	sowndiv:funcgr
sowndiv:grass			
-0.0081160347	-0.0499426079	0.0460419844	-0.0051481232
0.0011418402			
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg
-0.0021583241	0.0396741576	-0.0001113372	-0.0257695886

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~fitted(.)  
 Parameter estimates:  
 power  
 0.6649813  
 Degrees of freedom: 82 total; 68 residual  
 Residual standard error: 0.3048384

\$`Microbial respiration`\$L02  
 Generalized least squares fit by maximum likelihood  
 Model: response ~ block + (sowndiv + funcgr + grass + leg)^2  
 Data: DF  
 Log-likelihood: 67.29897

Coefficients:

(Intercept)	blockB2	blockB3	blockB4
sowndiv			
-0.117696265	0.045130996	0.084416647	0.067752814
0.0399111176			
funcgr	grass	leg	sowndiv:funcgr
sowndiv:grass			
0.036124557	0.041696967	0.141733792	-0.007603072
0.002710302			
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg
-0.005643991	0.024931403	-0.014500042	-0.063829707

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~fitted(.)  
 Parameter estimates:  
 expon  
 3.952133  
 Degrees of freedom: 82 total; 68 residual  
 Residual standard error: 0.04342441

\$`Microbial respiration`\$L011  
 Generalized least squares fit by maximum likelihood

Model: response ~ block + (sowndiv + funcgr + grass + leg)^2  
 Data: DF  
 Log-likelihood: 63.31731

Coefficients:

(Intercept)	blockB2	blockB3	blockB4
sowndiv			
0.1902255247	0.0593659978	0.0789638219	0.0725917514
0.0160002508			
funcgr	grass	leg	sowndiv:funcgr
sowndiv:grass			
-0.0180771558	-0.0765763704	0.0016587666	-0.0039677303
0.0007775239			
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg
0.0002668673	0.0353954059	0.0051592991	-0.0152206304

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 0.1848720  
 Degrees of freedom: 82 total; 68 residual  
 Residual standard error: 0.08496138

\$`Microbial respiration`\$L021  
 Generalized least squares fit by maximum likelihood  
 Model: response ~ block + (sowndiv + funcgr + grass + leg)^2  
 Data: DF  
 Log-likelihood: 62.58916

Coefficients:

(Intercept)	blockB2	blockB3	blockB4
sowndiv			
0.4306075623	0.0859601636	0.0978973953	0.0640848631
0.0036979432			
funcgr	grass	leg	sowndiv:funcgr
sowndiv:grass			
-0.0767083561	-0.1562591317	-0.1071816341	-0.0009412327
0.0027273171			
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg
0.0054695031	0.0505530302	0.0283747042	0.0137328054

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.01142284  
 Degrees of freedom: 82 total; 68 residual  
 Residual standard error: 0.1244126

\$`Microbial respiration`\$L2

Call:

```
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)
```

Coefficients:

(Intercept)	sowndiv	funcgr	leg
0.140284	0.001500	0.029908	0.004830

\$`Microbial respiration`\$L21

Generalized least squares fit by maximum likelihood

Model: response ~ sowndiv + funcgr + leg

Data: DF

Log-likelihood: 52.79872

Coefficients:

(Intercept)	sowndiv	funcgr	leg
0.143902019	0.001335543	0.029251588	0.004486356

Variance function:

Structure: Power of variance covariate

Formula: ~fitted(.)

Parameter estimates:

power
-0.2067939

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.09294533

\$`Microbial respiration`\$L22

Generalized least squares fit by maximum likelihood

Model: response ~ sowndiv + funcgr + leg

Data: DF

Log-likelihood: 52.93664

Coefficients:

(Intercept)	sowndiv	funcgr	leg
0.145929326	0.001190281	0.028903010	0.004444837

Variance function:

Structure: Exponential of variance covariate

Formula: ~fitted(.)

Parameter estimates:

expon
-1.633253

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1829401

\$`Microbial respiration`\$L211

Generalized least squares fit by maximum likelihood

Model: response ~ sowndiv + funcgr + leg

Data: DF

Log-likelihood: 54.15545

Coefficients:

(Intercept)	sowndiv	funcgr	leg
-------------	---------	--------	-----

0.116591541 0.002712024 0.032938150 0.004464579

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

0.1748227

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.09643274

\$`Microbial respiration`\$L222

Generalized least squares fit by maximum likelihood

Model: response ~ sowndiv + funcgr + leg

Data: DF

Log-likelihood: 52.83896

Coefficients:

(Intercept) sowndiv funcgr leg

0.141246787 0.001076389 0.030578405 0.005890471

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.004416224

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1319409

\$`Microbial respiration`\$M1

Nonlinear regression model

model: response ~ a \* sowndiv / (b + sowndiv)

data: DF

a b

0.3299 1.6653

residual sum-of-squares: 1.119

Number of iterations to convergence: 5

Achieved convergence tolerance: 9.095e-06

\$`Microbial respiration`\$M1a

Nonlinear regression model

model: response ~ SSmicmen(sowndiv, Vm, k)

data: DF

Vm k

0.3299 1.6652

residual sum-of-squares: 1.119

Number of iterations to convergence: 4

Achieved convergence tolerance: 3.314e-06

\$`Microbial respiration`\$M2

Nonlinear regression model

```
model: response ~ d + a * sowndiv/(b + sowndiv)
data: DF
      a      b      d
0.6982 0.4204 -0.3874
residual sum-of-squares: 1.107
```

Number of iterations to convergence: 4  
Achieved convergence tolerance: 1.358e-06

```
$`Microbial respiration`$M211
Generalized nonlinear least squares fit
Model: response ~ d + a * sowndiv/(b + sowndiv)
Data: DF
Log-likelihood: 62.40936
```

Coefficients:

a	b	d
0.6982302	0.4213176	-0.3871629

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
0.1968301  
Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.08598322

```
$`Microbial respiration`$M222
Generalized nonlinear least squares fit
Model: response ~ d + a * sowndiv/(b + sowndiv)
Data: DF
Log-likelihood: 60.22406
```

Coefficients:

a	b	d
0.7365635	0.3867678	-0.4271569

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.003411667  
Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.1217906

```
$`Microbial respiration`$M3
Generalized nonlinear least squares fit
Model: response ~ a * sowndiv/(b + sowndiv)
Data: DF
Log-likelihood: 59.73087
```

Coefficients:

a.(Intercept)	a.leg	b.(Intercept)	b.leg
0.326857306	0.002134018	1.580649196	0.055836495

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1197489

\$`Microbial respiration`\$M311  
Generalized nonlinear least squares fit  
Model: response ~ a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 61.88362

a.(Intercept)	a.leg	b.(Intercept)	b.leg
0.350182583	-0.006611364	2.086126769	-0.149449496

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
0.1914648  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.08778568

\$`Microbial respiration`\$M321  
Generalized nonlinear least squares fit  
Model: response ~ a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 59.79978

a.(Intercept)	a.leg	b.(Intercept)	b.leg
0.318884361	0.006170269	1.445764619	0.123928778

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.003098961  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1228743

\$`Microbial respiration`\$M4  
Generalized nonlinear least squares fit  
Model: response ~ a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 60.32581

a.(Intercept)	a.grass	b.(Intercept)	b.grass
0.30852874	0.01107377	0.25432498	0.87657993



Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1188832

\$`Microbial respiration`\$M411  
Generalized nonlinear least squares fit  
Model: response ~ a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 62.78314

Coefficients:  
a.(Intercept)            a.grass b.(Intercept)            b.grass  
0.29748555            0.02550948            0.07653057            1.11295941

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
0.2053818

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.08505241

\$`Microbial respiration`\$M422  
Generalized nonlinear least squares fit  
Model: response ~ a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 60.38679

Coefficients:  
a.(Intercept)            a.grass b.(Intercept)            b.grass  
0.30765905            0.01031516            0.23997157            0.86679435

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.002894638

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1217840

\$`Microbial respiration`\$M5  
Generalized nonlinear least squares fit  
Model: response ~ a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 59.76359

Coefficients:  
a.(Intercept)            a.funcgr b.(Intercept)            b.funcgr  
0.341962837            -0.005576186            1.947615931            -0.156629792

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1197011

```

$`Microbial respiration`$M511
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 61.90018

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
  0.357479510  -0.007701292   2.119998278  -0.145758240

```

```

Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
  0.1905368
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.08788896

```

```

$`Microbial respiration`$M522
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 59.84582

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
  0.342099584  -0.006588195   1.969395994  -0.185622278

```

```

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
  -0.003361687
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1230827

```

```

$`Microbial respiration`$M6
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 59.76729

```

```

Coefficients:
a.(Intercept)      a.funcgr      a.leg b.(Intercept)      b.funcgr
  0.356797882  -0.007476935  -0.007273931   2.178676081  -0.185088294
      b.leg
  -0.115659288

```

```

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1212604

```

```

$`Microbial respiration`$M611

```

Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 61.94042

Coefficients:

a.(Intercept)	a.funcgr	a.leg	b.(Intercept)	b.funcgr
0.41212059	-0.01489927	-0.02623709	2.96425571	-0.25368091
	b.leg			
	-0.41162572			

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 0.1924045  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.08874778

\$`Microbial respiration`\$M622  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 59.84676

Coefficients:

a.(Intercept)	a.funcgr	a.leg	b.(Intercept)	b.funcgr
0.348854101	-0.007428589	-0.003346935	2.088197741	-0.199585643
	b.leg			
	-0.060346018			

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.003327552  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1246537

\$`Microbial respiration`\$M7  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 60.42249

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
0.330218449	-0.002816289	0.005040695	0.010246555	0.135937683
	b.grass			
	0.954642430			

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.1202954

\$`Microbial respiration`\$M711  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 62.96

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
0.330496980	-0.002702145	0.015185593	-0.171520726	0.208918092
	b.grass			
	1.167337593			

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 0.2090193  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.08551557

\$`Microbial respiration`\$M722  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 60.47483

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
0.333460840	-0.004137084	0.003323164	0.081568402	0.102649347
	b.grass			
	0.925372082			

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.002732781  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1230725

\$`Microbial respiration`\$M81  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 60.3689

Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
0.292826611	0.013941225	0.006823199	-0.384575772	0.972583546
	b.leg			

0.299422049

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.120374

\$`Microbial respiration`\$M821  
Generalized nonlinear least squares fit  
Model: response ~ a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 62.82142

Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
0.281162809	0.029396713	0.005355821	-0.543957271	1.222374072
	b.leg			
	0.261221620			

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
0.2054305  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.08611782

\$`Microbial respiration`\$M832  
Generalized nonlinear least squares fit  
Model: response ~ a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 60.43926

Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
0.28821010	0.01329618	0.00965758	-0.48335725	0.97179928
	b.leg			
	0.35047670			

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.003128149  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1235446

\$`Microbial respiration`\$M91  
Generalized nonlinear least squares fit  
Model: response ~ a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 60.71974

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
0.361065077	-0.008769352	0.001860795	-0.007798666	-1.981339707
b.funcgr	b.grass	b.leg		
0.325212120	1.382203125	0.673986917		

Degrees of freedom: 82 total; 74 residual  
Residual standard error: 0.121469

\$`Microbial respiration`\$M921  
Generalized nonlinear least squares fit  
Model: response ~ a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 63.32324

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
0.443380448	-0.019535072	-0.003904994	-0.032708805	-1.059270648
b.funcgr	b.grass	b.leg		
0.251000536	1.361808883	0.343654253		

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
0.2113500  
Degrees of freedom: 82 total; 74 residual  
Residual standard error: 0.08598242

\$`Microbial respiration`\$M932  
Generalized nonlinear least squares fit  
Model: response ~ a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 60.76561

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
0.352695795	-0.008450712	0.002447687	-0.004328447	-2.075788816
b.funcgr	b.grass	b.leg		
0.316448356	1.388942036	0.721717945		

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.002567479  
Degrees of freedom: 82 total; 74 residual  
Residual standard error: 0.1241068

\$`Microbial respiration`\$M1221  
Generalized nonlinear least squares fit  
Model: response ~ d + a \* sowndiv/(b + sowndiv)  
Data: DF

Log-likelihood: 61.63093

Coefficients:

a.(Intercept)	a.funcgr	b.(Intercept)	b.funcgr	d.(Intercept)
-0.07777128	0.09703965	-6.28270783	5.05122860	0.19983042
	d.funcgr			
	-0.01357152			

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

0.2199258

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.08551698

\$`Microbial respiration`\$M1421

Generalized nonlinear least squares fit

Model: response ~ d + a \* sowndiv/(b + sowndiv)

Data: DF

Log-likelihood: 63.11021

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
-0.041726774	0.095817035	-0.024516224	-8.375442872	6.592756538
	b.grass	d.(Intercept)	d.funcgr	d.grass
	0.367180114	0.227690151	-0.015220441	-0.008020673

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

0.2331689

Degrees of freedom: 82 total; 73 residual

Residual standard error: 0.08402812

\$`Microbial respiration`\$M1432

Generalized nonlinear least squares fit

Model: response ~ d + a \* sowndiv/(b + sowndiv)

Data: DF

Log-likelihood: 59.11157

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
-2.110903e-01	1.785503e-01	6.264926e-02	-8.136022e+00	1.085236e+02
	b.grass	d.(Intercept)	d.funcgr	d.grass
	-1.016819e+02	3.185106e-01	3.741374e-03	-8.633738e-02

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

```

      expon
-0.001468909
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.1263031

```

```

$`Microbial respiration`$M1521
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 63.31914

```

```

Coefficients:
a.(Intercept)      a.grass      a.leg b.(Intercept)      b.grass
  1.3835343      0.7580737     -0.7275315     0.4253561     -0.1805788
      b.leg d.(Intercept)      d.grass      d.leg
  0.0388338     -0.9912137     -0.7944077     0.7028837

```

```

Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
0.2052779
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.0873576

```

```

$`Microbial respiration`$M161
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 59.88302

```

```

Coefficients:
a.(Intercept)      a.funcgr      a.grass      a.leg b.(Intercept)
-0.896803384     0.111343830     0.190501991     0.427096788    -56.440350555
      b.funcgr      b.grass      b.leg d.(Intercept)      d.funcgr
  7.855060479    11.994529357    19.329392532     0.314998580    -0.004740474
      d.grass      d.leg
-0.030622876    -0.085686439

```

```

Degrees of freedom: 82 total; 70 residual
Residual standard error: 0.1261723

```

```

$`Microbial respiration`$M1621
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 61.22538

```

```

Coefficients:
a.(Intercept)      a.funcgr      a.grass      a.leg b.(Intercept)
-1.473633339     0.14957965     0.37653744     0.65176733    -208.44454855
      b.funcgr      b.grass      b.leg d.(Intercept)      d.funcgr
  29.20168083    41.97985415    71.49079035     0.24507155     0.01725007

```



```

      d.grass      d.leg
-0.03914873    -0.04338803

```

```

Variance function:
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
  power
0.1646066
Degrees of freedom: 82 total; 70 residual
Residual standard error: 0.09721314

```

```

$`Microbial respiration`$M1632
Generalized nonlinear least squares fit
Model: response ~ d + a * sowndiv/(b + sowndiv)
Data: DF
Log-likelihood: 59.48186

```

```

Coefficients:
a.(Intercept)      a.funcgr      a.grass      a.leg b.(Intercept)
-6.057880111      0.008080652      0.066059944      5.925489542      -5.116725821
      b.funcgr      b.grass      b.leg d.(Intercept)      d.funcgr
      0.032634639      0.005487238      2.552560880      6.273034052      0.010288494
      d.grass      d.leg
-0.108064491      -5.864548469

```

```

Variance function:
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
  expon
-0.004594324
Degrees of freedom: 82 total; 70 residual
Residual standard error: 0.1318921

```

```

$`Microbial respiration`$E2
Nonlinear regression model
model: response ~ a + b * exp(sowndiv)
data: DF
      a      b
2.203e-01 6.220e-28
residual sum-of-squares: 1.480

```

```

Number of iterations to convergence: 4
Achieved convergence tolerance: 6.857e-08

```

```

$`Microbial respiration`$E4
Nonlinear regression model
model: response ~ a + exp(sowndiv)
data: DF
a
1
residual sum-of-squares: 5.217e+52

```

Number of iterations to convergence: 0  
 Achieved convergence tolerance: 6.17e-20

\$`Microbial respiration`\$E5  
 Nonlinear regression model  
 model: response ~ b \* exp(sowndiv)  
 data: DF  
       b  
 2.551e-27  
 residual sum-of-squares: 5.265

Number of iterations to convergence: 4  
 Achieved convergence tolerance: 1.079e-08

\$`Microbial respiration`\$E22  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* exp(sowndiv)  
 Data: DF  
 Log-likelihood: 48.70784

Coefficients:  
           a                  b  
 2.250835e-01 5.800307e-28

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
       expon  
 -0.007947522  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.1448064

\$`Microbial respiration`\$E31  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 51.40519

Coefficients:  
           a                  c  
 -0.817961541 0.003531556

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
       power  
 0.1417875  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.1060356

\$`Microbial respiration`\$E32  
 Generalized nonlinear least squares fit

Model: response ~ a + exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 50.66772

Coefficients:

	a	c
	-0.794014932	0.002078811

Variance function:

Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.004647726  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.1374371

\$`Microbial respiration`\$E41  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -1705.469

Coefficients:

	a
	-2.615066

Variance function:

Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 15.18052  
 Degrees of freedom: 82 total; 81 residual  
 Residual standard error: 0.0428033

\$`Microbial respiration`\$E42  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -800.9376

Coefficients:

	a
	-3.250971

Variance function:

Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 1.014825  
 Degrees of freedom: 82 total; 81 residual  
 Residual standard error: 0.6991326

\$`Microbial respiration`\$E51  
Generalized nonlinear least squares fit  
Model: response ~ b \* exp(sowndiv)  
Data: DF  
Log-likelihood: -0.1826411

Coefficients:  
b  
2.550977e-27

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
0.2473099  
Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.1690217

\$`Microbial respiration`\$E52  
Generalized nonlinear least squares fit  
Model: response ~ b \* exp(sowndiv)  
Data: DF  
Log-likelihood: -3.732239

Coefficients:  
b  
2.550977e-27

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.003886036  
Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.2634411

\$`Microbial respiration`\$E61  
Generalized nonlinear least squares fit  
Model: response ~ exp(c \* sowndiv)  
Data: DF  
Log-likelihood: 4.333655

Coefficients:  
c  
-2.028304

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power

0.3818898  
 Degrees of freedom: 82 total; 81 residual  
 Residual standard error: 0.1309945

\$`Microbial respiration`\$E62  
 Generalized nonlinear least squares fit  
 Model: response ~ exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: -2.728685

Coefficients:

c  
 -1.836439

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:

expon  
 0.01390992  
 Degrees of freedom: 82 total; 81 residual  
 Residual standard error: 0.2233649

\$`Microbial respiration`\$Ea10  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -4912.516

Coefficients:

a.(Intercept)	a.leg
-2963126	911706

Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 2.553606e+25

\$`Microbial respiration`\$Ea12  
 Generalized nonlinear least squares fit  
 Model: response ~ exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: -4.268699

Coefficients:

c.(Intercept)	c.leg
-1.3624178	-0.2566368

Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.2580673

\$`Microbial respiration`\$Ea911  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 54.45759

Coefficients:  
a.(Intercept)                    a.leg c.(Intercept)                    c.leg  
-0.717243363   -0.071810143   -0.007058127   0.009266933

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
0.1164607  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1074268

\$`Microbial respiration`\$Ea921  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(c \* sowndiv)  
Data: DF  
Log-likelihood: 54.09506

Coefficients:  
a.(Intercept)                    a.leg c.(Intercept)                    c.leg  
-0.685245234   -0.083555175   -0.007859084   0.009126230

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.006524177  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1356582

\$`Microbial respiration`\$Ea1011  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -1705.442

Coefficients:  
a.(Intercept)                    a.leg  
-2.625047071   0.005703349

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
15.18065  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.04304777

\$`Microbial respiration`\$Ea1021  
Generalized nonlinear least squares fit

```
Model: response ~ a + exp(sowndiv)
Data: DF
Log-likelihood: -800.816
```

```
Coefficients:
a.(Intercept)      a.leg
-4.1222359         0.5023206
```

```
Variance function:
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
  expon
1.014918
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.7018862
```

```
$`Microbial respiration`$Ea121
Generalized nonlinear least squares fit
Model: response ~ exp(c * sowndiv)
Data: DF
Log-likelihood: 4.3412
```

```
Coefficients:
c.(Intercept)      c.leg
-1.88896853        -0.07879736
```

```
Variance function:
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
  power
0.3816182
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1318517
```

```
$`Microbial respiration`$Ea1221
Generalized nonlinear least squares fit
Model: response ~ exp(c * sowndiv)
Data: DF
Log-likelihood: -2.699643
```

```
Coefficients:
c.(Intercept)      c.leg
-1.4148567         -0.2366533
```

```
Variance function:
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
  expon
0.01391670
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2246639
```

\$`Microbial respiration `\$\$Eb16  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -4912.516

Coefficients:  
 a.(Intercept)            a.grass  
                   -3508713            1286426

Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 2.553606e+25

\$`Microbial respiration `\$\$Eb18  
 Generalized nonlinear least squares fit  
 Model: response ~ exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: -3.830379

Coefficients:  
 c.(Intercept)            c.grass  
                   -0.2058422            -0.9182494

Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.2566915

\$`Microbial respiration `\$\$Eb1511  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 56.1161

Coefficients:  
 a.(Intercept)            a.grass    c.(Intercept)            c.grass  
                   -0.679921503    -0.098689090    -0.007494082            0.009754511

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 0.1787663  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.09597483

\$`Microbial respiration `\$\$Eb1521  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 54.59126

Coefficients:  
 a.(Intercept)            a.grass    c.(Intercept)            c.grass



-0.654465384 -0.101965262 -0.006881406 0.008066124

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.004111777

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1320758

\$`Microbial respiration `Eb1611

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF

Log-likelihood: -1703.664

Coefficients:

a.(Intercept) a.grass

-2.53478386 -0.04587563

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

15.18896

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.04160783

\$`Microbial respiration `Eb1621

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF

Log-likelihood: -800.8393

Coefficients:

a.(Intercept) a.grass

-4.0341765 0.4515378

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

1.014894

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.7022306

\$`Microbial respiration `Eb1811

Generalized nonlinear least squares fit

Model: response ~ exp(c \* sowndiv)

Data: DF

Log-likelihood: 4.923836

## Coefficients:

```
c.(Intercept)      c.grass
-0.9781530        -0.6100284
```

## Variance function:

```
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
  power
0.3879937
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1296849
```

## \$`Microbial respiration`\$Eb1821

```
Generalized nonlinear least squares fit
Model: response ~ exp(c * sowndiv)
Data: DF
Log-likelihood: -2.195488
```

## Coefficients:

```
c.(Intercept)      c.grass
-0.3066110        -0.8735264
```

## Variance function:

```
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
  expon
0.01426320
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2226236
```

## \$`Microbial respiration`\$Ec22

```
Generalized nonlinear least squares fit
Model: response ~ a + exp(sowndiv)
Data: DF
Log-likelihood: -4912.516
```

## Coefficients:

```
a.(Intercept)      a.funcgr
252095.7           -912137.5
```

```
Degrees of freedom: 82 total; 80 residual
Residual standard error: 2.553606e+25
```

## \$`Microbial respiration`\$Ec24

```
Generalized nonlinear least squares fit
Model: response ~ exp(c * sowndiv)
Data: DF
Log-likelihood: 0.6148857
```

## Coefficients:

```
c.(Intercept)      c.funcgr
```

-2.1229396      0.4730984

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.2431466

\$`Microbial respiration`\$Ec1921  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* exp(c \* sowndiv)  
Data: DF  
Log-likelihood: -2845.25

Coefficients:  
a.(Intercept)      a.funcgr    b.(Intercept)      b.funcgr    c.(Intercept)  
0.640058154    -0.561425071    0.005069170    -0.001267290    0.999683335  
c.funcgr  
1.000079166

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:

expon  
4.823858  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.0003043408

\$`Microbial respiration`\$Ec2121  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(c \* sowndiv)  
Data: DF  
Log-likelihood: 56.30016

Coefficients:  
a.(Intercept)      a.funcgr    c.(Intercept)      c.funcgr  
-0.905521178    0.045086157    0.013966989    -0.003392665

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:

expon  
-0.004824038  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1301452

\$`Microbial respiration`\$Ec2211  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -1705.469

Coefficients:  
a.(Intercept)      a.funcgr  
2.002441      -4.617507

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
15.18053  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.04306996

\$`Microbial respiration`\$Ec2221  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -794.1537

Coefficients:  
a.(Intercept) a.funcgr  
3.399746 -6.262941

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
1.022475  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.6064625

\$`Microbial respiration`\$Ec2411  
Generalized nonlinear least squares fit  
Model: response ~ exp(c \* sowndiv)  
Data: DF  
Log-likelihood: 10.15619

Coefficients:  
c.(Intercept) c.funcgr  
-2.4843649 0.5531454

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
0.3884654  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.1215831

\$`Microbial respiration`\$Ec2421  
Generalized nonlinear least squares fit  
Model: response ~ exp(c \* sowndiv)  
Data: DF  
Log-likelihood: 2.869752

## Coefficients:

c.(Intercept)	c.funcgr
-2.1625707	0.4786686

## Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

0.01714776

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.2041686

\$`Microbial respiration`\$Ed28

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF

Log-likelihood: -4912.516

## Coefficients:

a.(Intercept)	a.funcgr	a.leg
872779.0	-990730.5	-307654.7

Degrees of freedom: 82 total; 79 residual

Residual standard error: 2.569717e+25

\$`Microbial respiration`\$Ed2811

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF

Log-likelihood: -1705.442

## Coefficients:

a.(Intercept)	a.funcgr	a.leg
1.991033965	-4.616081018	0.005703342

## Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

15.18065

Degrees of freedom: 82 total; 79 residual

Residual standard error: 0.04331934

\$`Microbial respiration`\$Ed2821

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF

Log-likelihood: -794.1537

## Coefficients:

a.(Intercept)	a.funcgr	a.leg
3.386720391	-6.261312260	0.006512855

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 1.022475  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.6102883

\$`Microbial respiration`\$Ed3021  
 Generalized nonlinear least squares fit  
 Model: response ~ exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 2.872662

Coefficients:  
 c.(Intercept)      c.funcgr      c.leg  
 -2.01162275      0.46019826      -0.07678796

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 0.01713342  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.2054748

\$`Microbial respiration`\$Ee40  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -4912.516

Coefficients:  
 a.(Intercept)      a.funcgr      a.grass  
 -335850.5      -839615.5      296563.2

Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 2.569717e+25

\$`Microbial respiration`\$Ee341  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -1703.664

Coefficients:  
 a.(Intercept)      a.funcgr      a.grass  
 2.09419192      -4.62897576      -0.04587563

Variance function:  
 Structure: Power of variance covariate

Formula: ~sowndiv  
 Parameter estimates:  
 power  
 15.18896  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.04187031

\$`Microbial respiration`\$Ee342  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -794.1525

Coefficients:  
 a.(Intercept)      a.funcgr      a.grass  
                   3.49036542    -6.27425360    -0.04531730

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 1.022477  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.6102664

\$`Microbial respiration`\$Ef40  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -4912.516

Coefficients:  
 a.(Intercept)      a.grass      a.leg  
                   -5251826      1394676      1054750

Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 2.569717e+25

\$`Microbial respiration`\$Ef3721  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: -2708.06

Coefficients:  
 a.(Intercept)      a.grass      a.leg    b.(Intercept)      b.grass  
                   2.017897e-01    -4.797664e-02    -9.065392e-03    1.908278e-04    -4.412649e-05  
                   b.leg    c.(Intercept)      c.grass      c.leg  
 -4.966808e-05    9.999876e-01    1.000003e+00    1.000003e+00

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv

Parameter estimates:  
expon  
4.570895  
Degrees of freedom: 82 total; 73 residual  
Residual standard error: 0.000511331

\$`Microbial respiration `E3911  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(c \* sowndiv)  
Data: DF  
Log-likelihood: 58.20031

Coefficients:  
a.(Intercept) a.grass a.leg c.(Intercept) c.grass  
-0.591295723 -0.092825407 -0.064825592 -0.012796461 0.007336161  
c.leg  
0.006692929

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
0.1721915  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.09571905

\$`Microbial respiration `E3921  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(c \* sowndiv)  
Data: DF  
Log-likelihood: 56.7808

Coefficients:  
a.(Intercept) a.grass a.leg c.(Intercept) c.grass  
-0.570247554 -0.087149727 -0.074904836 -0.011533213 0.005258353  
c.leg  
0.006846085

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.00495024  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1312181

\$`Microbial respiration `E4011  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -1703.572



Coefficients:  
a.(Intercept)            a.grass            a.leg  
-2.50961398    -0.04947132    -0.01078709

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
  power  
15.18939  
Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.04179669

\$`Microbial respiration`\$Ef4021  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -800.5948

Coefficients:  
a.(Intercept)            a.grass            a.leg  
-5.8230982        0.7227343        0.7601809

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
  expon  
1.015076  
Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.7034557

\$`Microbial respiration`\$Ef4211  
Generalized nonlinear least squares fit  
Model: response ~ exp(c \* sowndiv)  
Data: DF  
Log-likelihood: 10.03772

Coefficients:  
c.(Intercept)            c.grass            c.leg  
2.380080            -1.470691            -1.198116

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
  power  
0.3573199  
Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.1283256

\$`Microbial respiration`\$Ef4221  
Generalized nonlinear least squares fit  
Model: response ~ exp(c \* sowndiv)

Data: DF  
Log-likelihood: 3.631886

Coefficients:  
c.(Intercept)            c.grass            c.leg  
                  2.083739        -1.323845        -1.019870

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
0.01679461  
Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.2041741

\$`Microbial respiration`\$Eg46  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -4912.516

Coefficients:  
a.(Intercept)            a.funcgr            a.grass            a.leg  
                  292091.7        -918391.4        183181.2        -199834.1

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 2.586137e+25

\$`Microbial respiration`\$Eg4611  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -1703.572

Coefficients:  
a.(Intercept)            a.funcgr            a.grass            a.leg  
                  2.12295753        -4.63257146        -0.04947134        -0.01078710

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
15.18939  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.04206374

\$`Microbial respiration`\$Eg4621  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -794.1524

Coefficients:  
a.(Intercept)      a.funcgr      a.grass      a.leg  
3.52564380      -6.27866244      -0.05020820      -0.01274880

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
1.022478  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.6141644

\$`Microbial respiration`\$Pa2  
Nonlinear regression model  
model: response ~ a + b \* sowndiv  
data: DF  
a      b  
0.199411 0.002836  
residual sum-of-squares: 1.392

Number of iterations to convergence: 1  
Achieved convergence tolerance: 6.81e-09

\$`Microbial respiration`\$Pa3  
Nonlinear regression model  
model: response ~ a + sowndiv^c  
data: DF  
a      c  
-0.85616 0.05071  
residual sum-of-squares: 1.179

Number of iterations to convergence: 8  
Achieved convergence tolerance: 5.37e-07

\$`Microbial respiration`\$Pa4  
Nonlinear regression model  
model: response ~ b \* sowndiv^c  
data: DF  
b      c  
0.1610 0.2069  
residual sum-of-squares: 1.215

Number of iterations to convergence: 10  
Achieved convergence tolerance: 2.37e-06

\$`Microbial respiration`\$Pa5  
Nonlinear regression model  
model: response ~ sowndiv^c  
data: DF  
c  
-1.221  
residual sum-of-squares: 16.84

Number of iterations to convergence: 23  
Achieved convergence tolerance: 7.941e-06

\$`Microbial respiration`\$Pb21  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 50.74906

Coefficients:  
          a                  b  
0.199411228 0.002835612

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.1319301

\$`Microbial respiration`\$Pb31  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 57.57778

Coefficients:  
          a                  c  
-0.85616771 0.05071204

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.1213884

\$`Microbial respiration`\$Pb41  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 56.34837

Coefficients:  
          b                  c  
0.1609923 0.2068689

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.1232220

\$`Microbial respiration`\$Pb51  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -51.46014

Coefficients:  
          c  
-1.221471

Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.4560099

```
$`Microbial respiration`$Pc221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 51.76933
```

Coefficients:

```
      a      b
0.176122796 0.004449545
```

Variance function:

```
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
  power
0.1598409
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1027740
```

```
$`Microbial respiration`$Pc231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 50.80191
```

Coefficients:

```
      a      b
0.203419164 0.002401077
```

Variance function:

```
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
  expon
-0.003726245
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1361311
```

```
$`Microbial respiration`$Pc321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 60.19028
```

Coefficients:

```
      a      c
-0.87266367 0.06186367
```

Variance function:

```
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
  power
```

0.2122137  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.08580579

\$`Microbial respiration`\$Pc331  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 57.62524

Coefficients:  
           a                  c  
 -0.85906395  0.05306823

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           expon  
 0.002781907  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.1184549

\$`Microbial respiration`\$Pc421  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 58.48574

Coefficients:  
           b                  c  
 0.1441568  0.2667658

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           power  
 0.1973600  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.08956147

\$`Microbial respiration`\$Pc431  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 56.37364

Coefficients:  
           b                  c  
 0.1588255  0.2164106

Variance function:  
 Structure: Exponential of variance covariate

Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 0.002226376  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.1208518

\$`Microbial respiration`\$Pc521  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -28.00235

Coefficients:  
     c  
 -0.4865414

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.5138108  
 Degrees of freedom: 82 total; 81 residual  
 Residual standard error: 0.7345355

\$`Microbial respiration`\$Pc531  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -47.5707

Coefficients:  
     c  
 -0.8054995

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.01712165  
 Degrees of freedom: 82 total; 81 residual  
 Residual standard error: 0.5037489

\$`Microbial respiration`\$Pd71  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 56.34964

Coefficients:  
 a.(Intercept)           a.funcgr   b.(Intercept)           b.funcgr  
 0.089005374    0.045479721    0.016267702    -0.003937681

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1247899

\$`Microbial respiration`\$Pd81  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 58.84096

Coefficients:  
a.(Intercept)      a.funcgr    c.(Intercept)      c.funcgr  
-0.90890345      0.03152540      0.07960637      -0.01397259

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1210555

\$`Microbial respiration`\$Pd91  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 58.71226

Coefficients:  
b.(Intercept)      b.funcgr    c.(Intercept)      c.funcgr  
0.08924556      0.03800721      0.41685004      -0.09023305

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1212457

\$`Microbial respiration`\$Pd101  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -49.73295

Coefficients:  
c.(Intercept)      c.funcgr  
-2.1793586      0.4005665

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.4492873

\$`Microbial respiration`\$Pe721  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 58.03166

Coefficients:  
a.(Intercept)      a.funcgr    b.(Intercept)      b.funcgr  
0.074833359      0.046971009      0.019509800      -0.004687325

Variance function:



Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 0.1738378  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.09444733

\$`Microbial respiration`\$Pe731  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 56.50564

Coefficients:  
 a.(Intercept)      a.funcgr    b.(Intercept)      b.funcgr  
     0.090101881    0.045817418    0.015758435    -0.003835515

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.004677084  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1296558

\$`Microbial respiration`\$Pe821  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 61.06714

Coefficients:  
 a.(Intercept)      a.funcgr    c.(Intercept)      c.funcgr  
     -0.90899239    0.02615204    0.08588779    -0.01349399

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 0.1961218  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.08805325

\$`Microbial respiration`\$Pe831  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 58.90381

Coefficients:  
 a.(Intercept)      a.funcgr    c.(Intercept)      c.funcgr

-0.91031811    0.03319336    0.07965289    -0.01456918

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

    expon

-0.003042928

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1241645

\$`Microbial respiration`\$Pe921

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 60.55484

Coefficients:

b.(Intercept)	b.funcgr	c.(Intercept)	c.funcgr
0.08992308	0.03373743	0.45053764	-0.09251206

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

    power

0.1785027

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.09095332

\$`Microbial respiration`\$Pe931

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 58.83183

Coefficients:

b.(Intercept)	b.funcgr	c.(Intercept)	c.funcgr
0.08811165	0.03926827	0.41338553	-0.09097455

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

    expon

-0.004053705

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1253567

\$`Microbial respiration`\$Pe1021

Generalized nonlinear least squares fit

Model: response ~ sowndiv<sup>c</sup>

Data: DF

Log-likelihood: -20.44073

## Coefficients:

c.(Intercept)	c.funcgr
-0.8995584	0.1377903

## Variance function:

Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.6034551  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.769945

## \$`Microbial respiration`\$Pe1031

Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -37.72982

## Coefficients:

c.(Intercept)	c.funcgr
-1.6624862	0.3372814

## Variance function:

Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.03728732  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.5345408

## \$`Microbial respiration`\$Pf121

Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 54.67367

## Coefficients:

a.(Intercept)	a.grass	b.(Intercept)	b.grass
0.342804281	-0.103452619	-0.007875516	0.009399906

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1273666

## \$`Microbial respiration`\$Pf131

Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 58.96102

## Coefficients:

a.(Intercept)	a.grass	c.(Intercept)	c.grass
---------------	---------	---------------	---------

-0.740478691 -0.072705341 0.007560598 0.028473321

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1208784

\$`Microbial respiration`\$Pf141  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 58.114

Coefficients:  
b.(Intercept)            b.grass c.(Intercept)            c.grass  
0.26731297    -0.06938620    -0.04463967    0.17995253

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1221335

\$`Microbial respiration`\$Pf151  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -50.45279

Coefficients:  
c.(Intercept)            c.grass  
0.2013782    -1.0406869

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.4532487

\$`Microbial respiration`\$Pg171  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 53.90424

Coefficients:  
a.(Intercept)            a.leg b.(Intercept)            b.leg  
0.306530535    -0.081493616    -0.008325645    0.010061339

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1285674

\$`Microbial respiration`\$Pg181  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 58.01112

Coefficients:  
a.(Intercept)            a.leg c.(Intercept)            c.leg  
-0.80398015    -0.03401755    0.02260682    0.02008364

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1222868

\$`Microbial respiration`\$Pg191  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 57.21511

Coefficients:  
b.(Intercept)                    b.leg c.(Intercept)                    c.leg  
0.22104356      -0.04140109      0.01933167                    0.14239006

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1234797

\$`Microbial respiration`\$Pg201  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -50.89915

Coefficients:  
c.(Intercept)                    c.leg  
-0.1344110                    -0.7676083

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.4557227

\$`Microbial respiration`\$Ph221  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 56.38684

Coefficients:  
a.(Intercept)                    a.funcgr                    a.leg b.(Intercept)                    b.funcgr  
0.108434913      0.043079504      -0.009559122      0.012403081      -0.003432396  
                  b.leg  
0.001840765

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1263638

\$`Microbial respiration`\$Ph231  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 58.84406

Coefficients:  
a.(Intercept)                    a.funcgr                    a.leg c.(Intercept)                    c.funcgr  
-0.916077711      0.032437210      0.003546758      0.084514066      -0.014610687  
                  c.leg

-0.002380419

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1226334

\$`Microbial respiration`\$Ph241  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 58.71253

Coefficients:

b.(Intercept)	b.funcgr	b.leg	c.(Intercept)	c.funcgr
0.091315785	0.037714760	-0.001011664	0.410692630	-0.089408648
	c.leg			
	0.003050268			

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1228302

\$`Microbial respiration`\$Ph251  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -49.73263

Coefficients:

c.(Intercept)	c.funcgr	c.leg
-2.13026461	0.39452657	-0.02489018

Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.4521201

\$`Microbial respiration`\$Pi271  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 56.83354

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
0.164114143	0.036121097	-0.037390560	0.014018455	-0.003633151
	b.grass			
	0.001028269			

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1256773

\$`Microbial respiration`\$Pi281  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 59.42453

Coefficients:

a.(Intercept)	a.funcgr	a.grass	c.(Intercept)	c.funcgr
-0.81355435	0.01956769	-0.04753213	0.05700612	-0.01107188
	c.grass			
	0.01104714			

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1217683

\$`Microbial respiration `SPi291  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 59.43959

Coefficients:

b.(Intercept)	b.funcgr	b.grass	c.(Intercept)	c.funcgr
0.17274103	0.02981441	-0.04389485	0.26157077	-0.07483255
	c.grass			
	0.08327039			

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1217460

\$`Microbial respiration `SPi301  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -49.71011

Coefficients:

c.(Intercept)	c.funcgr	c.grass
-1.6783664	0.3376907	-0.2532940

Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.451996

\$`Microbial respiration `SPj321  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 56.83865

Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
0.428509595	-0.090708333	-0.073733631	-0.013444124	0.006682023
	b.leg			
	0.007494271			

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1256695

\$`Microbial respiration `SPj331  
Generalized nonlinear least squares fit

Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 59.39385

Coefficients:

a.(Intercept)	a.grass	a.leg	c.(Intercept)	c.grass
-0.67259535	-0.07423296	-0.04087482	-0.01761855	0.02648239
	c.leg			
	0.01831340			

Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1218139

\$`Microbial respiration`\$Pj341  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 59.74379

Coefficients:

b.(Intercept)	b.grass	b.leg	c.(Intercept)	c.grass
0.38078733	-0.08266533	-0.06200165	-0.29109248	0.19339787
	c.leg			
	0.16369264			

Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1212952

\$`Microbial respiration`\$Pj351  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -49.75755

Coefficients:

c.(Intercept)	c.grass	c.leg
0.9884388	-0.9726134	-0.6577870

Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.4522576

\$`Microbial respiration`\$Pk371  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 57.12197

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
0.290592076	0.020315285	-0.059522146	-0.041085901	0.005558407
	b.funcgr	b.grass	b.leg	
	-0.002572580	0.002458855	0.002786805	

Degrees of freedom: 82 total; 74 residual



Residual standard error: 0.1269171

\$`Microbial respiration`\$Pk381  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 59.65819

Coefficients:  
a.(Intercept)      a.funcgr      a.grass      a.leg      c.(Intercept)  
-0.739079566    0.010267306    -0.060114104    -0.024745301    0.064888986  
c.funcgr      c.grass      c.leg  
-0.012111040    0.008998353    -0.001699999

Degrees of freedom: 82 total; 74 residual  
Residual standard error: 0.1230517

\$`Microbial respiration`\$Pk391  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 59.87273

Coefficients:  
b.(Intercept)      b.funcgr      b.grass      b.leg      c.(Intercept)  
0.307835649    0.012448046    -0.068152295    -0.043520614    -0.003802831  
c.funcgr      c.grass      c.leg  
-0.042168816    0.133055621    0.087844469

Degrees of freedom: 82 total; 74 residual  
Residual standard error: 0.1227302

\$`Microbial respiration`\$Pk401  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -49.67979

Coefficients:  
c.(Intercept)      c.funcgr      c.grass      c.leg  
-0.5905758    0.2043269    -0.5122727    -0.3026938

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.454716

\$`Microbial respiration`\$Pm1221  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 56.41545

Coefficients:  
a.(Intercept)      a.grass      b.(Intercept)      b.grass  
0.319843333    -0.100962367    -0.008821005    0.011419565

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 0.1853397  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.09469647

\$`Microbial respiration`\$Pm1231  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 54.75623

Coefficients:  
 a.(Intercept)           a.grass b.(Intercept)           b.grass  
     0.347353158   -0.104791454   -0.007946616   0.009227673

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.003772452  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1314269

\$`Microbial respiration`\$Pm1321  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 61.70902

Coefficients:  
 a.(Intercept)           a.grass c.(Intercept)           c.grass  
     -0.76962867   -0.06231396   0.01959712   0.02655313

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 0.2179149  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.08458529

\$`Microbial respiration`\$Pm1331  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 58.96118

Coefficients:  
a.(Intercept)            a.grass c.(Intercept)            c.grass  
-0.740138577   -0.072857030   0.007372384   0.028545543

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.0001538966  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.121038

\$`Microbial respiration`\$Pm1421  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 60.5516

Coefficients:  
b.(Intercept)            b.grass c.(Intercept)            c.grass  
0.242673999   -0.062243699   -0.009749694   0.190977629

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
0.2075967  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.0871119

\$`Microbial respiration`\$Pm1431  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 58.11922

Coefficients:  
b.(Intercept)            b.grass c.(Intercept)            c.grass  
0.26924398   -0.07021826   -0.04939153   0.18143481

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.0009405838  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1231159

\$`Microbial respiration`\$Pm1521  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c

Data: DF  
Log-likelihood: -24.07944

Coefficients:  
c.(Intercept)           c.grass  
-0.08600842    -0.31991853

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
-0.5649148  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.7601208

\$`Microbial respiration`\$Pm1531  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -42.13794

Coefficients:  
c.(Intercept)           c.grass  
0.7793182       -1.1156663

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.03692335  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.562303

\$`Microbial respiration`\$Pn1721  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 54.63644

Coefficients:  
a.(Intercept)           a.leg   b.(Intercept)           b.leg  
0.280537101   -0.072429139   -0.007868985   0.010407504

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
0.1231054  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1061405

\$`Microbial respiration`\$Pn1731  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 54.19172

Coefficients:  
 a.(Intercept)            a.leg b.(Intercept)            b.leg  
           0.31588282    -0.08555073    -0.00883490            0.01018897

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           expon  
 -0.006383408  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1353347

\$`Microbial respiration`\$Pn1821  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 60.32068

Coefficients:  
 a.(Intercept)            a.leg c.(Intercept)            c.leg  
           -0.85143636    -0.01308069    0.04531228            0.01137661

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           power  
 0.205258  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.08766138

\$`Microbial respiration`\$Pn1831  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 58.01642

Coefficients:  
 a.(Intercept)            a.leg c.(Intercept)            c.leg  
           -0.80081191    -0.03556859    0.02067441            0.02100772

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           expon  
 -0.0009696893

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1233012

\$`Microbial respiration`\$Pn1921  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 58.99839

Coefficients:  
b.(Intercept)            b.leg c.(Intercept)            c.leg  
0.18494488    -0.02620548    0.10868457    0.11169913

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
0.1821684  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.09219311

\$`Microbial respiration`\$Pn1931  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 57.25404

Coefficients:  
b.(Intercept)            b.leg c.(Intercept)            c.leg  
0.2272008733 -0.0443787169 -0.0003636652 0.1515924029

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.002580117  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1261855

\$`Microbial respiration`\$Pn2021  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -25.63431

Coefficients:  
c.(Intercept)            c.leg  
-0.1866333    -0.2331165

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv

Parameter estimates:  
 power  
 -0.5465825  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.7538726

\$`Microbial respiration`\$Pn2031  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -43.37593

Coefficients:  
 c.(Intercept)           c.leg  
           0.4677713       -0.8064268

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           expon  
 -0.03659326  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.5692412

\$`Microbial respiration`\$Pp2221  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 58.03278

Coefficients:  
 a.(Intercept)           a.funcgr           a.leg   b.(Intercept)           b.funcgr  
           0.0708151858   0.0474705905   0.0019834618   0.0199335013   -0.0047426105  
                           b.leg  
 -0.0002017624

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           power  
 0.1743157  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.09561281

\$`Microbial respiration`\$Pp2231  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 56.56855

Coefficients:  
 a.(Intercept)           a.funcgr           a.leg   b.(Intercept)           b.funcgr

0.114925412 0.042793434 -0.012161428 0.010734461 -0.003175198  
 b.leg  
 0.002371022

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.005045164  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1316654

\$`Microbial respiration`\$Pp2321  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 61.10396

Coefficients:  
 a.(Intercept) a.funcgr a.leg c.(Intercept) c.funcgr  
 -0.928187423 0.028518424 0.009537289 0.101834887 -0.015538869  
 c.leg  
 -0.007757288

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 0.1976249  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.08896553

\$`Microbial respiration`\$Pp2331  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 58.90488

Coefficients:  
 a.(Intercept) a.funcgr a.leg c.(Intercept) c.funcgr  
 -0.915255648 0.033801819 0.002458985 0.082228418 -0.014895019  
 c.leg  
 -0.001258016

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.003014016  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1257548



\$`Microbial respiration`\$Pp2421  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 60.5878

Coefficients:  
 b.(Intercept)      b.funcgr              b.leg    c.(Intercept)      c.funcgr  
   0.074587969    0.035768211    0.007533121    0.527114993    -0.102692959  
                   c.leg  
 -0.036980297

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
   power  
 0.1811066  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.0917499

\$`Microbial respiration`\$Pp2431  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 58.83594

Coefficients:  
 b.(Intercept)      b.funcgr              b.leg    c.(Intercept)      c.funcgr  
   0.094088937    0.038539424    -0.003010614    0.387361076    -0.087668822  
                   c.leg  
 0.012810419

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
   expon  
 -0.004152684  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.127097

\$`Microbial respiration`\$Pp2521  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -20.30973

Coefficients:  
 c.(Intercept)      c.funcgr              c.leg  
 -1.03978087    0.15557072    0.06967505

Variance function:

Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.606964  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.7776061

\$`Microbial respiration`\$Pp2531  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -37.71677

Coefficients:  
 c.(Intercept)    c.funcgr    c.leg  
     -1.81120608    0.35568831    0.07512042

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.03731561  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.5379584

\$`Microbial respiration`\$Pq2721  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 58.82828

Coefficients:  
 a.(Intercept)    a.funcgr    a.grass    b.(Intercept)    b.funcgr  
     0.166482251    0.035471373    -0.046446667    0.014630398    -0.004110641  
     b.grass  
     0.002599940

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 0.1918163  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.09226127

\$`Microbial respiration`\$Pq2731  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 56.97049

Coefficients:  
a.(Intercept)      a.funcgr      a.grass b.(Intercept)      b.funcgr  
0.1616475376    0.0368918998   -0.0356052719    0.0141863850   -0.0036133149  
    b.grass  
0.0006833155

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.00444112  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1303439

\$`Microbial respiration`\$Pq2821  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 62.03227

Coefficients:  
a.(Intercept)      a.funcgr      a.grass c.(Intercept)      c.funcgr  
-0.807336163    0.012813452   -0.050642093    0.058909235   -0.009908292  
    c.grass  
0.013607161

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
0.2137288  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.08588598

\$`Microbial respiration`\$Pq2831  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 59.46815

Coefficients:  
a.(Intercept)      a.funcgr      a.grass c.(Intercept)      c.funcgr  
-0.81616971    0.02117528   -0.04682785    0.05830373   -0.01173808  
    c.grass  
0.01040527

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.002575074

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1244242

\$`Microbial respiration`\$Pq2921  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 61.647

Coefficients:

b.(Intercept)	b.funcgr	b.grass	c.(Intercept)	c.funcgr
0.17905495	0.02514584	-0.04705315	0.25827849	-0.07483087
	c.grass			
	0.10662831			

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
0.1963893  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.08854057

\$`Microbial respiration`\$Pq2931  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 59.52951

Coefficients:

b.(Intercept)	b.funcgr	b.grass	c.(Intercept)	c.funcgr
0.17081032	0.03078489	-0.04322450	0.26647780	-0.07579589
	c.grass			
	0.07844493			

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.003563513  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1253907

\$`Microbial respiration`\$Pq3021  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -20.25239

Coefficients:

c.(Intercept)	c.funcgr	c.grass
-0.72432002	0.11605744	-0.08807366

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.6066679  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.776721

\$`Microbial respiration `Pq3031  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -37.69283

Coefficients:  
 c.(Intercept)    c.funcgr    c.grass  
     -1.3604017    0.2995533    -0.1512191

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.03732085  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.5378255

\$`Microbial respiration `Pr3221  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 58.5069

Coefficients:  
 a.(Intercept)    a.grass    a.leg    b.(Intercept)    b.grass  
     0.410330435    -0.095560108    -0.065425192    -0.015164510    0.008849700  
     b.leg  
     0.007609817

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 0.1759106  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.09483677

\$`Microbial respiration `Pr3231  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF

Log-likelihood: 56.99763

Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
0.432794042	-0.090157175	-0.075861050	-0.013286944	0.006284303
	b.leg			
	0.007589753			

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.004759752

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.1306577

\$`Microbial respiration`\$Pr3321

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 61.95734

Coefficients:

a.(Intercept)	a.grass	a.leg	c.(Intercept)	c.grass
-0.718090234	-0.067180237	-0.025961373	-0.001113989	0.026871466
	c.leg			
	0.012259491			

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

0.2124785

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.08612421

\$`Microbial respiration`\$Pr3331

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 59.42284

Coefficients:

a.(Intercept)	a.grass	a.leg	c.(Intercept)	c.grass
-0.66568108	-0.07555059	-0.04323089	-0.02111459	0.02687587
	c.leg			
	0.01966653			

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

```

      expon
-0.002138357
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1240270

```

```

$`Microbial respiration`$Pr3421
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 61.70068

```

```

Coefficients:
b.(Intercept)      b.grass      b.leg c.(Intercept)      c.grass
  0.33678999   -0.07513304   -0.04602501   -0.23474192   0.20305310
      c.leg
  0.13589119

```

```

Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
0.1876357
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.08964001

```

```

$`Microbial respiration`$Pr3431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 59.8464

```

```

Coefficients:
b.(Intercept)      b.grass      b.leg c.(Intercept)      c.grass
  0.3877102   -0.0839343   -0.0645233   -0.3017943   0.1920325
      c.leg
  0.1692223

```

```

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
-0.003789002
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1251491

```

```

$`Microbial respiration`$Pr3521
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -21.78842

```

```

Coefficients:

```

```

c.(Intercept)      c.grass      c.leg
      0.0983735      -0.2799979      -0.1852750

```

```

Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
-0.5901747
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.772265

```

```

$`Microbial respiration`$Pr3531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -38.99911

```

```

Coefficients:
c.(Intercept)      c.grass      c.leg
      0.9702269      -0.8046709      -0.4857232

```

```

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
-0.03712303
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.5455346

```

```

$`Microbial respiration`$Ps3721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 59.09674

```

```

Coefficients:
a.(Intercept)      a.funcgr      a.grass      a.leg b.(Intercept)
      0.2485291629      0.0252074108      -0.0602873059      -0.0272289890      0.0140241251
      b.funcgr      b.grass      b.leg
-0.0040424017      0.0025727222      0.0003609101

```

```

Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
0.1918945
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.09318331

```

```

$`Microbial respiration`$Ps3731
Generalized nonlinear least squares fit

```



Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 57.26071

## Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
0.294408348	0.020307259	-0.058853259	-0.043091603	0.004373144
	b.funcgr	b.grass	b.leg	
-0.002381111	0.002357349	0.003209017		

## Variance function:

Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.004471175  
 Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.1316608

\$`Microbial respiration`\$Ps3821  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 62.34296

## Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	c.(Intercept)
-0.758568128	0.006731880	-0.058804171	-0.016349344	0.093648241
	c.funcgr	c.grass	c.leg	
-0.014345080	0.006681259	-0.010132262		

## Variance function:

Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 0.2164253  
 Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.08636329

\$`Microbial respiration`\$Ps3831  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 59.69163

## Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	c.(Intercept)
-0.7392124007	0.0113955394	-0.0598669176	-0.0254448894	0.0633574748
	c.funcgr	c.grass	c.leg	
-0.0123546021	0.0089282053	-0.0008692602		

## Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.002270894  
 Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.1254232

\$`Microbial respiration`\$Ps3921  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 62.01715

Coefficients:

b.(Intercept)	b.funcgr	b.grass	b.leg	c.(Intercept)
0.25868127	0.01469318	-0.06080888	-0.02590398	0.19920389
c.funcgr	c.grass	c.leg		
-0.06727244	0.11605615	0.02217935		

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 0.1955927  
 Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.08943067

\$`Microbial respiration`\$Ps3931  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 59.96754

Coefficients:

b.(Intercept)	b.funcgr	b.grass	b.leg	c.(Intercept)
0.31237116	0.01264660	-0.06868913	-0.04559151	-0.02516167
c.funcgr	c.grass	c.leg		
-0.03997350	0.13319821	0.09620737		

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.003655054  
 Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.1264962

\$`Microbial respiration`\$Ps4021  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -20.2245

```

Coefficients:
c.(Intercept)      c.funcgr      c.grass      c.leg
-0.83751052      0.13043483     -0.06879915     0.03668404

```

```

Variance function:
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
  power
-0.6077387
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.7826615

```

```

$`Microbial respiration`$Ps4031
Generalized nonlinear least squares fit
Model: response ~ sowndiv^c
Data: DF
Log-likelihood: -37.69144

```

```

Coefficients:
c.(Intercept)      c.funcgr      c.grass      c.leg
-1.43726132      0.30919124     -0.13860272     0.02570969

```

```

Variance function:
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
  expon
-0.03732847
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.5412884

```

```

$`Microbial respiration`$AS1
Nonlinear regression model
model: response ~ SSasym(sowndiv, Asym, R0, lrc)
data: DF
  Asym      R0      lrc
0.291486  0.003924 -0.769550
residual sum-of-squares: 1.111

```

```

Number of iterations to convergence: 2
Achieved convergence tolerance: 8.271e-06

```

```

$`Microbial respiration`$AS2
Nonlinear regression model
model: response ~ SSasymOff(sowndiv, Asym, lrc, c0)
data: DF
  Asym      lrc      c0
0.29149 -0.76955 -0.02926
residual sum-of-squares: 1.111

```

```

Number of iterations to convergence: 2
Achieved convergence tolerance: 8.271e-06

```

```

$`Microbial respiration`$AS3
Nonlinear regression model
  model: response ~ SSasymOrig(sowndiv, Asym, lrc)
  data: DF
      Asym      lrc
0.2911 -0.7495
residual sum-of-squares: 1.111

```

```

Number of iterations to convergence: 2
Achieved convergence tolerance: 1.962e-06

```

```

$`Microbial respiration`$LG2
Nonlinear regression model
  model: response ~ SSlogis(sowndiv, Asym, xmid, scal)
  data: DF
      Asym  xmid  scal
0.2894 1.4920 1.4317
residual sum-of-squares: 1.12

```

```

Number of iterations to convergence: 5
Achieved convergence tolerance: 8.227e-06

```

```

$`Saprophagous macrofauna abundance`
$`Saprophagous macrofauna abundance`$L0

```

```

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
    data = DF)

```

```

Coefficients:
  (Intercept)      blockB2      blockB3      blockB4
sowndiv
-0.3072817    -0.0746838    -0.1098295    -0.1301468    -
0.0012881
      funcgr      grass      leg  sowndiv:funcgr
sowndiv:grass
 0.1023091    0.1380578    0.3071122    -0.0008684
0.0082285
sowndiv:leg  funcgr:grass  funcgr:leg  grass:leg
-0.0035285    0.0250139    -0.0582777    -0.1099047

```

```

$`Saprophagous macrofauna abundance`$L2

```

```

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

```

```

Coefficients:
  (Intercept)      sowndiv      funcgr      leg
 0.1648771    0.0003210    0.0232660    -0.0279574

```

```

$`Saprophagous macrofauna abundance`$M1

```

```
Nonlinear regression model
  model: response ~ a * sowndiv/(b + sowndiv)
  data: DF
      a      b
0.2393 1.2810
residual sum-of-squares: 1.615
```

```
Number of iterations to convergence: 6
Achieved convergence tolerance: 2.831e-06
```

```
$`Saprophagous macrofauna abundance`$M1a
Nonlinear regression model
  model: response ~ SSmicmen(sowndiv, Vm, k)
  data: DF
      Vm      k
0.2393 1.2810
residual sum-of-squares: 1.615
```

```
Number of iterations to convergence: 5
Achieved convergence tolerance: 3.082e-06
```

```
$`Saprophagous macrofauna abundance`$M2
Nonlinear regression model
  model: response ~ d + a * sowndiv/(b + sowndiv)
  data: DF
      a      b      d
0.18070 4.70228 0.08737
residual sum-of-squares: 1.605
```

```
Number of iterations to convergence: 14
Achieved convergence tolerance: 5.486e-06
```

```
$`Saprophagous macrofauna abundance`$E2
Nonlinear regression model
  model: response ~ a + b * exp(sowndiv)
  data: DF
      a      b
1.747e-01 1.017e-28
residual sum-of-squares: 1.744
```

```
Number of iterations to convergence: 4
Achieved convergence tolerance: 4.471e-09
```

```
$`Saprophagous macrofauna abundance`$E4
Nonlinear regression model
  model: response ~ a + exp(sowndiv)
  data: DF
a
1
residual sum-of-squares: 5.217e+52
```

```
Number of iterations to convergence: 0
Achieved convergence tolerance: 6.25e-20
```

\$`Saprophagous macrofauna abundance`\$E5

Nonlinear regression model

model: response ~ b \* exp(sowndiv)

data: DF

b

1.631e-27

residual sum-of-squares: 4.063

Number of iterations to convergence: 4

Achieved convergence tolerance: 3.273e-08

\$`Saprophagous macrofauna abundance`\$Pa2

Nonlinear regression model

model: response ~ a + b \* sowndiv

data: DF

a b

0.160034 0.001741

residual sum-of-squares: 1.705

Number of iterations to convergence: 1

Achieved convergence tolerance: 2.749e-09

\$`Saprophagous macrofauna abundance`\$Pa3

Nonlinear regression model

model: response ~ a + sowndiv<sup>c</sup>

data: DF

a c

-0.87704 0.03342

residual sum-of-squares: 1.619

Number of iterations to convergence: 8

Achieved convergence tolerance: 2.842e-07

\$`Saprophagous macrofauna abundance`\$Pa4

Nonlinear regression model

model: response ~ b \* sowndiv<sup>c</sup>

data: DF

b c

0.1316 0.1787

residual sum-of-squares: 1.628

Number of iterations to convergence: 8

Achieved convergence tolerance: 6.81e-06

\$`Saprophagous macrofauna abundance`\$Pa5

Nonlinear regression model

model: response ~ sowndiv<sup>c</sup>

data: DF

c

-2.084

residual sum-of-squares: 15.08

Number of iterations to convergence: 21

Achieved convergence tolerance: 8.678e-06

```

$`Saprophagous macrofauna abundance`$LG2
Nonlinear regression model
  model: response ~ SSlogis(sowndiv, Asym, xmid, scal)
  data: DF
    Asym  xmid  scal
0.2545 1.2717 5.2241
  residual sum-of-squares: 1.589

```

```

Number of iterations to convergence: 11
Achieved convergence tolerance: 4.895e-06

```

```

$`Saprophagous macrofauna species richness`
$`Saprophagous macrofauna species richness`$L0

```

```

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
    data = DF)

```

```

Coefficients:
  (Intercept)      blockB2      blockB3      blockB4
sowndiv
  0.46563      -0.09351      -0.15181      -0.17229
0.11004
  funcgr      grass      leg  sowndiv:funcgr
sowndiv:grass
  -0.15994      0.04545      -0.14398      -0.01321      -
0.01792
  sowndiv:leg  funcgr:grass  funcgr:leg  grass:leg
  -0.03125      0.05120      0.11829      0.02618

```

```

$`Saprophagous macrofauna species richness`$L2

```

```

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

```

```

Coefficients:
(Intercept)  sowndiv  funcgr  leg
  0.681633  0.007353  -0.045287  -0.111485

```

```

$`Saprophagous macrofauna species richness`$M1
Nonlinear regression model
  model: response ~ a * sowndiv/(b + sowndiv)
  data: DF
    a  b
0.5595 0.4718
  residual sum-of-squares: 4.651

```

```

Number of iterations to convergence: 4
Achieved convergence tolerance: 8.636e-06

```

```
$`Saprophagous macrofauna species richness`$M1a
Nonlinear regression model
  model: response ~ SSmicmen(sowndiv, Vm, k)
  data: DF
      Vm      k
0.5595 0.4718
residual sum-of-squares: 4.651
```

```
Number of iterations to convergence: 3
Achieved convergence tolerance: 5.575e-06
```

```
$`Saprophagous macrofauna species richness`$M2
Nonlinear regression model
  model: response ~ d + a * sowndiv/(b + sowndiv)
  data: DF
      a      b      d
2.9231 388.3379 0.4228
residual sum-of-squares: 4.349
```

```
Number of iterations to convergence: 9
Achieved convergence tolerance: 2.902e-07
```

```
$`Saprophagous macrofauna species richness`$E2
Nonlinear regression model
  model: response ~ a + b * exp(sowndiv)
  data: DF
      a      b
4.671e-01 3.024e-27
residual sum-of-squares: 4.465
```

```
Number of iterations to convergence: 4
Achieved convergence tolerance: 2.2e-08
```

```
$`Saprophagous macrofauna species richness`$E4
Nonlinear regression model
  model: response ~ a + exp(sowndiv)
  data: DF
a
1
residual sum-of-squares: 5.217e+52
```

```
Number of iterations to convergence: 0
Achieved convergence tolerance: 6.25e-20
```

```
$`Saprophagous macrofauna species richness`$E5
Nonlinear regression model
  model: response ~ b * exp(sowndiv)
  data: DF
      b
7.115e-27
residual sum-of-squares: 21.05
```

```
Number of iterations to convergence: 4
Achieved convergence tolerance: 2.535e-09
```



```
$`Saprophagous macrofauna species richness`$Pa1  
Nonlinear regression model  
  model: response ~ a + b * sowndiv^c  
  data:  DF  
          a          b          c  
0.418704 0.009942 0.898775  
residual sum-of-squares: 4.348
```

```
Number of iterations to convergence: 5  
Achieved convergence tolerance: 4.798e-06
```

```
$`Saprophagous macrofauna species richness`$Pa2  
Nonlinear regression model  
  model: response ~ a + b * sowndiv  
  data:  DF  
          a          b  
0.427089 0.006556  
residual sum-of-squares: 4.35
```

```
Number of iterations to convergence: 1  
Achieved convergence tolerance: 5.935e-10
```

```
$`Saprophagous macrofauna species richness`$Pa3  
Nonlinear regression model  
  model: response ~ a + sowndiv^c  
  data:  DF  
          a          c  
-0.6138  0.0607  
residual sum-of-squares: 4.48
```

```
Number of iterations to convergence: 8  
Achieved convergence tolerance: 5.294e-06
```

```
$`Saprophagous macrofauna species richness`$Pa4  
Nonlinear regression model  
  model: response ~ b * sowndiv^c  
  data:  DF  
          b          c  
0.3862 0.1415  
residual sum-of-squares: 4.459
```

```
Number of iterations to convergence: 7  
Achieved convergence tolerance: 4.413e-06
```

```
$`Saprophagous macrofauna species richness`$Pa5  
Nonlinear regression model  
  model: response ~ sowndiv^c  
  data:  DF  
          c  
-0.3557  
residual sum-of-squares: 13.42
```

```
Number of iterations to convergence: 12
```

Achieved convergence tolerance: 8.16e-06

```
$`Saprophagous macrofauna species richness`$AS1
Nonlinear regression model
  model: response ~ SSasymp(sowndiv, Asym, R0, lrc)
  data: DF
    Asym      R0      lrc
1.9580  0.4228 -5.3183
residual sum-of-squares: 4.349
```

Number of iterations to convergence: 4  
Achieved convergence tolerance: 5.981e-07

```
$`Saprophagous macrofauna species richness`$AS2
Nonlinear regression model
  model: response ~ SSasympOff(sowndiv, Asym, lrc, c0)
  data: DF
    Asym      lrc      c0
1.958  -5.318 -49.630
residual sum-of-squares: 4.349
```

Number of iterations to convergence: 7  
Achieved convergence tolerance: 6.376e-08

```
$`Saprophagous macrofauna species richness`$AS3
Nonlinear regression model
  model: response ~ SSasympOrig(sowndiv, Asym, lrc)
  data: DF
    Asym      lrc
0.5170 0.2968
residual sum-of-squares: 4.716
```

Number of iterations to convergence: 4  
Achieved convergence tolerance: 3.055e-06

```
$`Saprophagous macrofauna species richness`$LG2
Nonlinear regression model
  model: response ~ SSlogis(sowndiv, Asym, xmid, scal)
  data: DF
    Asym  xmid  scal
1.016 11.673 34.726
residual sum-of-squares: 4.348
```

Number of iterations to convergence: 2  
Achieved convergence tolerance: 7.056e-06

```
$`Saprophagous mesofauna abundance`
$`Saprophagous mesofauna abundance`$L0
```

```
Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)
```

```

Coefficients:
  (Intercept)      blockB2      blockB3      blockB4
sowndiv
  1.341015      0.039409      -0.004169      -0.003262      -
0.059874
  funcgr      grass      leg      sowndiv:funcgr
sowndiv:grass
  -0.314140      -0.597975      -0.418526      0.009234
0.015003
  sowndiv:leg      funcgr:grass      funcgr:leg      grass:leg
  0.010432      0.154441      0.046500      0.172970

```

\$`Saprophagous mesofauna abundance`\$L2

Call:

```
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)
```

Coefficients:

```

(Intercept)      sowndiv      funcgr      leg
  0.186943      0.001177      -0.011622      -0.037172

```

\$`Saprophagous mesofauna abundance`\$M1

Nonlinear regression model

```
model: response ~ a * sowndiv/(b + sowndiv)
```

```
data: DF
```

```

a      b
0.09657 -0.39941

```

```
residual sum-of-squares: 1.869
```

Number of iterations to convergence: 6

Achieved convergence tolerance: 7.25e-06

\$`Saprophagous mesofauna abundance`\$M1a

Nonlinear regression model

```
model: response ~ SSmicmen(sowndiv, Vm, k)
```

```
data: DF
```

```

Vm      k
0.09656 -0.39942

```

```
residual sum-of-squares: 1.869
```

Number of iterations to convergence: 6

Achieved convergence tolerance: 2.423e-06

\$`Saprophagous mesofauna abundance`\$M2

Nonlinear regression model

```
model: response ~ d + a * sowndiv/(b + sowndiv)
```

```
data: DF
```

```

a      b      d
0.03643 -34.55860 0.12232

```

```
residual sum-of-squares: 1.857
```

Number of iterations to convergence: 7

Achieved convergence tolerance: 2.384e-06

```
$`Saprophagous mesofauna abundance`$E2
Nonlinear regression model
  model: response ~ a + b * exp(sowndiv)
  data: DF
      a          b
1.127e-01 8.263e-28
residual sum-of-squares: 1.867
```

Number of iterations to convergence: 4  
Achieved convergence tolerance: 5.483e-08

```
$`Saprophagous mesofauna abundance`$E4
Nonlinear regression model
  model: response ~ a + exp(sowndiv)
  data: DF
a
1
residual sum-of-squares: 5.217e+52
```

Number of iterations to convergence: 0  
Achieved convergence tolerance: 6.25e-20

```
$`Saprophagous mesofauna abundance`$E5
Nonlinear regression model
  model: response ~ b * exp(sowndiv)
  data: DF
      b
1.813e-27
residual sum-of-squares: 2.831
```

Number of iterations to convergence: 4  
Achieved convergence tolerance: 4.072e-08

```
$`Saprophagous mesofauna abundance`$Pa2
Nonlinear regression model
  model: response ~ a + b * sowndiv
  data: DF
      a          b
0.107998 0.001074
residual sum-of-squares: 1.885
```

Number of iterations to convergence: 1  
Achieved convergence tolerance: 4.15e-09

```
$`Saprophagous mesofauna abundance`$Pa3
Nonlinear regression model
  model: response ~ a + sowndiv^c
  data: DF
      a          c
-0.877629 -0.003329
residual sum-of-squares: 1.899
```

Number of iterations to convergence: 9  
 Achieved convergence tolerance: 7.765e-07

```
$`Saprophagous mesofauna abundance`$Pa4
Nonlinear regression model
  model: response ~ b * sowndiv^c
  data: DF
      b      c
0.12427 -0.03869
residual sum-of-squares: 1.899
```

Number of iterations to convergence: 11  
 Achieved convergence tolerance: 5.355e-06

```
$`Saprophagous mesofauna abundance`$Pa5
Nonlinear regression model
  model: response ~ sowndiv^c
  data: DF
      c
-3.338
residual sum-of-squares: 12.70
```

Number of iterations to convergence: 16  
 Achieved convergence tolerance: 5.94e-06

```
$`Saprophagous mesofauna species richness`
$`Saprophagous mesofauna species richness`$L0
```

```
Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
    data = DF)
```

```
Coefficients:
      (Intercept)      blockB2      blockB3      blockB4
sowndiv
-0.918696      0.084647     -0.089643     -0.111853      -
0.018711
      funcgr      grass      leg  sowndiv:funcgr
sowndiv:grass
0.251719      0.753861      0.636052      0.004837      -
0.002650
      sowndiv:leg  funcgr:grass  funcgr:leg  grass:leg
      0.003633     -0.099412     -0.066297     -0.316524
```

```
$`Saprophagous mesofauna species richness`$L2
```

```
Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)
```

```
Coefficients:
      (Intercept)      sowndiv      funcgr      leg
0.5041918      0.0004479      0.0003795     -0.0311977
```

```
$`Saprophagous mesofauna species richness`$M1
Nonlinear regression model
  model: response ~ a * sowndiv/(b + sowndiv)
  data: DF
      a      b
0.4360 -0.1470
residual sum-of-squares: 5.612
```

```
Number of iterations to convergence: 4
Achieved convergence tolerance: 1.894e-07
```

```
$`Saprophagous mesofauna species richness`$M1a
Nonlinear regression model
  model: response ~ SSmicmen(sowndiv, Vm, k)
  data: DF
      Vm      k
0.4360 -0.1470
residual sum-of-squares: 5.612
```

```
Number of iterations to convergence: 2
Achieved convergence tolerance: 5.377e-06
```

```
$`Saprophagous mesofauna species richness`$M2
Nonlinear regression model
  model: response ~ d + a * sowndiv/(b + sowndiv)
  data: DF
      a      b      d
-0.8202 0.1030 1.2533
residual sum-of-squares: 5.612
```

```
Number of iterations to convergence: 7
Achieved convergence tolerance: 4.66e-07
```

```
$`Saprophagous mesofauna species richness`$E2
Nonlinear regression model
  model: response ~ a + b * exp(sowndiv)
  data: DF
      a      b
4.561e-01 1.114e-27
residual sum-of-squares: 5.604
```

```
Number of iterations to convergence: 4
Achieved convergence tolerance: 6.132e-09
```

```
$`Saprophagous mesofauna species richness`$E4
Nonlinear regression model
  model: response ~ a + exp(sowndiv)
  data: DF
a
1
residual sum-of-squares: 5.217e+52
```

Number of iterations to convergence: 0  
Achieved convergence tolerance: 6.25e-20

\$`Saprophagous mesofauna species richness`\$E5  
Nonlinear regression model  
model: response ~ b \* exp(sowndiv)  
data: DF  
b  
5.108e-27  
residual sum-of-squares: 21.42

Number of iterations to convergence: 4  
Achieved convergence tolerance: 1.146e-08

\$`Saprophagous mesofauna species richness`\$Pa2  
Nonlinear regression model  
model: response ~ a + b \* sowndiv  
data: DF  
a b  
0.4551992 0.0008356  
residual sum-of-squares: 5.656

Number of iterations to convergence: 1  
Achieved convergence tolerance: 7.193e-09

\$`Saprophagous mesofauna species richness`\$Pa3  
Nonlinear regression model  
model: response ~ a + sowndiv^c  
data: DF  
a c  
-0.51338 -0.01634  
residual sum-of-squares: 5.641

Number of iterations to convergence: 9  
Achieved convergence tolerance: 8.892e-07

\$`Saprophagous mesofauna species richness`\$Pa4  
Nonlinear regression model  
model: response ~ b \* sowndiv^c  
data: DF  
b c  
0.48795 -0.03618  
residual sum-of-squares: 5.64

Number of iterations to convergence: 8  
Achieved convergence tolerance: 1.076e-06

\$`Saprophagous mesofauna species richness`\$Pa5  
Nonlinear regression model  
model: response ~ sowndiv^c  
data: DF  
c  
-0.4514  
residual sum-of-squares: 11.13

Number of iterations to convergence: 12  
 Achieved convergence tolerance: 4.126e-06

\$`Herbivorous macrofauna abundance`  
 \$`Herbivorous macrofauna abundance`\$L0

Call:  
 lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,  
 data = DF)

Coefficients:

(Intercept)	blockB2	blockB3	blockB4	
sowndiv				
0.61859	0.11238	-0.08339	-0.05245	
0.09465				
funcgr	grass	leg	sowndiv:funcgr	
sowndiv:grass				
-0.26974	-0.26221	-0.15178	-0.01104	-
0.01779				
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg	
-0.02717	0.13958	0.10263	0.04449	

\$`Herbivorous macrofauna abundance`\$L2

Call:  
 lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:

(Intercept)	sowndiv	funcgr	leg
0.289741	0.004172	-0.005636	-0.042776

\$`Herbivorous macrofauna abundance`\$M1  
 Nonlinear regression model  
 model: response ~ a \* sowndiv/(b + sowndiv)  
 data: DF  
 a b  
 0.3109 0.7648  
 residual sum-of-squares: 3.4

Number of iterations to convergence: 4  
 Achieved convergence tolerance: 6.112e-06

\$`Herbivorous macrofauna abundance`\$M1a  
 Nonlinear regression model  
 model: response ~ SSmicmen(sowndiv, Vm, k)  
 data: DF  
 Vm k  
 0.3109 0.7648  
 residual sum-of-squares: 3.4



Number of iterations to convergence: 3  
 Achieved convergence tolerance: 8.72e-06

\$`Herbivorous macrofauna abundance`\$M2  
 Nonlinear regression model  
 model: response ~ d + a \* sowndiv/(b + sowndiv)  
 data: DF  
           a          b          d  
 4.3785 934.0906 0.2109  
 residual sum-of-squares: 3.311

Number of iterations to convergence: 11  
 Achieved convergence tolerance: 4.341e-06

\$`Herbivorous macrofauna abundance`\$E2  
 Nonlinear regression model  
 model: response ~ a + b \* exp(sowndiv)  
 data: DF  
           a          b  
 2.389e-01 2.056e-27  
 residual sum-of-squares: 3.36

Number of iterations to convergence: 4  
 Achieved convergence tolerance: 9.195e-10

\$`Herbivorous macrofauna abundance`\$E4  
 Nonlinear regression model  
 model: response ~ a + exp(sowndiv)  
 data: DF  
 a  
 1  
 residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0  
 Achieved convergence tolerance: 6.25e-20

\$`Herbivorous macrofauna abundance`\$E5  
 Nonlinear regression model  
 model: response ~ b \* exp(sowndiv)  
 data: DF  
           b  
 4.148e-27  
 residual sum-of-squares: 7.698

Number of iterations to convergence: 4  
 Achieved convergence tolerance: 7.254e-09

\$`Herbivorous macrofauna abundance`\$Pa1  
 Nonlinear regression model  
 model: response ~ a + b \* sowndiv^c  
 data: DF  
           a          b          c  
 0.206534 0.006654 0.900217  
 residual sum-of-squares: 3.311

Number of iterations to convergence: 7  
 Achieved convergence tolerance: 6.458e-06

\$`Herbivorous macrofauna abundance`\$Pa2  
 Nonlinear regression model  
 model: response ~ a + b \* sowndiv  
 data: DF  
       a          b  
 0.212078 0.004415  
 residual sum-of-squares: 3.311

Number of iterations to convergence: 1  
 Achieved convergence tolerance: 3.969e-10

\$`Herbivorous macrofauna abundance`\$Pa3  
 Nonlinear regression model  
 model: response ~ a + sowndiv^c  
 data: DF  
       a          c  
 -0.81813 0.04344  
 residual sum-of-squares: 3.354

Number of iterations to convergence: 8  
 Achieved convergence tolerance: 9.875e-07

\$`Herbivorous macrofauna abundance`\$Pa4  
 Nonlinear regression model  
 model: response ~ b \* sowndiv^c  
 data: DF  
       b          c  
 0.1843 0.1884  
 residual sum-of-squares: 3.343

Number of iterations to convergence: 7  
 Achieved convergence tolerance: 3.223e-06

\$`Herbivorous macrofauna abundance`\$Pa5  
 Nonlinear regression model  
 model: response ~ sowndiv^c  
 data: DF  
       c  
 -1.015  
 residual sum-of-squares: 16.57

Number of iterations to convergence: 17  
 Achieved convergence tolerance: 9.69e-06

\$`Herbivorous macrofauna abundance`\$AS1  
 Nonlinear regression model  
 model: response ~ SSasymp(sowndiv, Asym, R0, lrc)  
 data: DF  
       Asym      R0      lrc  
 2.4220 0.2108 -6.1558

```

residual sum-of-squares: 3.311

Number of iterations to convergence: 10
Achieved convergence tolerance: 3.86e-06

$`Herbivorous macrofauna abundance`$AS2
Nonlinear regression model
  model: response ~ SSasymOff(sowndiv, Asym, lrc, c0)
  data: DF
      Asym      lrc      c0
  2.422  -6.156 -42.933
residual sum-of-squares: 3.311

Number of iterations to convergence: 27
Achieved convergence tolerance: 4.669e-07

$`Herbivorous macrofauna abundance`$AS3
Nonlinear regression model
  model: response ~ SSasymOrig(sowndiv, Asym, lrc)
  data: DF
      Asym      lrc
  0.2797793  0.0003725
residual sum-of-squares: 3.397

Number of iterations to convergence: 7
Achieved convergence tolerance: 6.384e-06

$`Herbivorous macrofauna abundance`$LG2
Nonlinear regression model
  model: response ~ SSlogis(sowndiv, Asym, xmid, scal)
  data: DF
      Asym      xmid      scal
  0.6051  19.5021  31.2907
residual sum-of-squares: 3.311

Number of iterations to convergence: 3
Achieved convergence tolerance: 1.205e-06

$`Herbivorous macrofauna species richness`
$`Herbivorous macrofauna species richness`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

Coefficients:
  (Intercept)          blockB2          blockB3          blockB4
sowndiv
  -0.47987          0.10763        -0.11919        -0.11541
0.07662
  funcgr          grass          leg  sowndiv:funcgr
sowndiv:grass

```

0.01873	0.24153	0.29892	-0.01005	-
0.01299				
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg	
-0.01936	0.03315	0.05511	-0.11922	

\$`Herbivorous macrofauna species richness`\$L2

Call:

lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:

(Intercept)	sowndiv	funcgr	leg
0.162776	0.003608	0.045569	0.051962

\$`Herbivorous macrofauna species richness`\$M1

Nonlinear regression model

model: response ~ a \* sowndiv/(b + sowndiv)

data: DF

a	b
---	---

0.4841 1.0599

residual sum-of-squares: 3.598

Number of iterations to convergence: 3

Achieved convergence tolerance: 7.27e-06

\$`Herbivorous macrofauna species richness`\$M1a

Nonlinear regression model

model: response ~ SSmicmen(sowndiv, Vm, k)

data: DF

Vm	k
----	---

0.4841 1.0599

residual sum-of-squares: 3.598

Number of iterations to convergence: 3

Achieved convergence tolerance: 1.053e-06

\$`Herbivorous macrofauna species richness`\$M2

Nonlinear regression model

model: response ~ d + a \* sowndiv/(b + sowndiv)

data: DF

a	b	d
---	---	---

0.45459 1.22556 0.03293

residual sum-of-squares: 3.598

Number of iterations to convergence: 13

Achieved convergence tolerance: 6.964e-06

\$`Herbivorous macrofauna species richness`\$E2

Nonlinear regression model

model: response ~ a + b \* exp(sowndiv)

data: DF

a	b
---	---

3.571e-01 1.876e-27

residual sum-of-squares: 3.939

Number of iterations to convergence: 4

Achieved convergence tolerance: 4.219e-08

\$`Herbivorous macrofauna species richness`\$E4

Nonlinear regression model

model: response ~ a + exp(sowndiv)

data: DF

a

1

residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0

Achieved convergence tolerance: 6.25e-20

\$`Herbivorous macrofauna species richness`\$E5

Nonlinear regression model

model: response ~ b \* exp(sowndiv)

data: DF

b

5.004e-27

residual sum-of-squares: 13.63

Number of iterations to convergence: 4

Achieved convergence tolerance: 1.260e-08

\$`Herbivorous macrofauna species richness`\$Pa2

Nonlinear regression model

model: response ~ a + b \* sowndiv

data: DF

a

b

0.323094 0.005123

residual sum-of-squares: 3.766

Number of iterations to convergence: 1

Achieved convergence tolerance: 3.661e-09

\$`Herbivorous macrofauna species richness`\$Pa3

Nonlinear regression model

model: response ~ a + sowndiv<sup>c</sup>

data: DF

a

c

-0.73738 0.06477

residual sum-of-squares: 3.586

Number of iterations to convergence: 7

Achieved convergence tolerance: 8.508e-06

\$`Herbivorous macrofauna species richness`\$Pa4

Nonlinear regression model

model: response ~ b \* sowndiv<sup>c</sup>

data: DF

```
      b      c
0.2732 0.1840
residual sum-of-squares: 3.597
```

```
Number of iterations to convergence: 7
Achieved convergence tolerance: 2.319e-06
```

```
$`Herbivorous macrofauna species richness`$Pa5
Nonlinear regression model
  model: response ~ sowndiv^c
  data: DF
      c
-0.5415
residual sum-of-squares: 16.19
```

```
Number of iterations to convergence: 14
Achieved convergence tolerance: 8.433e-06
```

```
$`Herbivorous macrofauna species richness`$AS1
Nonlinear regression model
  model: response ~ SSasym(sowndiv, Asym, R0, lrc)
  data: DF
  Asym      R0      lrc
0.5322 0.2552 -2.3413
residual sum-of-squares: 3.643
```

```
Number of iterations to convergence: 20
Achieved convergence tolerance: 7.566e-06
```

```
$`Herbivorous macrofauna species richness`$AS2
Nonlinear regression model
  model: response ~ SSasymOff(sowndiv, Asym, lrc, c0)
  data: DF
  Asym      lrc      c0
0.5322 -2.3413 -6.7866
residual sum-of-squares: 3.643
```

```
Number of iterations to convergence: 20
Achieved convergence tolerance: 7.581e-06
```

```
$`Herbivorous macrofauna species richness`$AS3
Nonlinear regression model
  model: response ~ SSasymOrig(sowndiv, Asym, lrc)
  data: DF
  Asym      lrc
0.4316 -0.3215
residual sum-of-squares: 3.641
```

```
Number of iterations to convergence: 5
Achieved convergence tolerance: 9.734e-07
```

```
$`Herbivorous macrofauna species richness`$LG2
Nonlinear regression model
  model: response ~ SSlogis(sowndiv, Asym, xmid, scal)
```

```

data: DF
  Asym   xmid   scal
0.5406 -0.4005  8.5349
residual sum-of-squares: 3.661

```

```

Number of iterations to convergence: 14
Achieved convergence tolerance: 6.172e-06

```

```

$`Predatory macrofauna abundance`
$`Predatory macrofauna abundance`$L0

```

```

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

```

```

Coefficients:
  (Intercept)      blockB2      blockB3      blockB4
sowndiv
-0.202176      0.053584     -0.119942     -0.128746
0.017235
  funcgr      grass      leg  sowndiv:funcgr
sowndiv:grass
0.012339      0.111254      0.216122     -0.001862      -
0.002489
  sowndiv:leg  funcgr:grass  funcgr:leg  grass:leg
-0.004593      0.017909     -0.011525     -0.068991

```

```

$`Predatory macrofauna abundance`$L2

```

```

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

```

```

Coefficients:
(Intercept)  sowndiv  funcgr  leg
0.105210  0.002395 -0.008339  0.030135

```

```

$`Predatory macrofauna abundance`$M1
Nonlinear regression model
model: response ~ a * sowndiv/(b + sowndiv)
data: DF
  a      b
0.1644 0.2051
residual sum-of-squares: 1.940

```

```

Number of iterations to convergence: 5
Achieved convergence tolerance: 4.989e-06

```

```

$`Predatory macrofauna abundance`$M1a
Nonlinear regression model
model: response ~ SSmicmen(sowndiv, Vm, k)
data: DF

```

```

      Vm      k
0.1644 0.2051
residual sum-of-squares: 1.940

```

```

Number of iterations to convergence: 3
Achieved convergence tolerance: 5.223e-07

```

```

$`Predatory macrofauna abundance`$E2
Nonlinear regression model
  model: response ~ a + b * exp(sowndiv)
  data: DF
      a      b
1.483e-01 8.909e-28
residual sum-of-squares: 1.907

```

```

Number of iterations to convergence: 4
Achieved convergence tolerance: 6.245e-08

```

```

$`Predatory macrofauna abundance`$E4
Nonlinear regression model
  model: response ~ a + exp(sowndiv)
  data: DF
a
1
residual sum-of-squares: 5.217e+52

```

```

Number of iterations to convergence: 0
Achieved convergence tolerance: 6.25e-20

```

```

$`Predatory macrofauna abundance`$E5
Nonlinear regression model
  model: response ~ b * exp(sowndiv)
  data: DF
      b
2.189e-27
residual sum-of-squares: 3.578

```

```

Number of iterations to convergence: 4
Achieved convergence tolerance: 3.364e-08

```

```

$`Predatory macrofauna abundance`$Pa2
Nonlinear regression model
  model: response ~ a + b * sowndiv
  data: DF
      a      b
0.138950 0.001647
residual sum-of-squares: 1.911

```

```

Number of iterations to convergence: 1
Achieved convergence tolerance: 6.856e-15

```

```

$`Predatory macrofauna abundance`$Pa3
Nonlinear regression model
  model: response ~ a + sowndiv^c

```



```

      data:  DF
            a      c
-0.86547  0.01232
      residual sum-of-squares: 1.931

Number of iterations to convergence: 8
Achieved convergence tolerance: 2.042e-06

$`Predatory macrofauna abundance`$Pa4
Nonlinear regression model
  model: response ~ b * sowndiv^c
  data:  DF
        b      c
0.13359 0.08807
  residual sum-of-squares: 1.930

Number of iterations to convergence: 8
Achieved convergence tolerance: 1.052e-06

$`Predatory macrofauna abundance`$Pa5
Nonlinear regression model
  model: response ~ sowndiv^c
  data:  DF
        c
-2.094
  residual sum-of-squares: 14.23

Number of iterations to convergence: 18
Achieved convergence tolerance: 3.997e-06

$`Predatory macrofauna abundance`$AS3
Nonlinear regression model
  model: response ~ SSasymOrig(sowndiv, Asym, lrc)
  data:  DF
        Asym  lrc
0.1585 0.6448
  residual sum-of-squares: 1.939

Number of iterations to convergence: 4
Achieved convergence tolerance: 5.688e-06

$`Predatory macrofauna species richness`
$`Predatory macrofauna species richness`$L0

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
   data = DF)

Coefficients:
      (Intercept)          blockB2          blockB3          blockB4
sowndiv
      1.625178          0.078577         -0.177474         -0.152123
0.058597

```

	funcgr	grass	leg	sowndiv:funcgr	
sowndiv:grass	-0.384025	-0.641716	-0.372303	-0.008019	-
0.005931					
sowndiv:leg	-0.017018	0.167187	0.102339	0.164552	
funcgr:grass					
funcgr:leg					
grass:leg					

\$`Predatory macrofauna species richness`\$L2

Call:

lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:

(Intercept)	sowndiv	funcgr	leg
0.400356	0.002948	-0.023652	0.027495

\$`Predatory macrofauna species richness`\$M1

Nonlinear regression model

model: response ~ a \* sowndiv/(b + sowndiv)

data: DF

a	b
0.4393	0.1497

residual sum-of-squares: 3.881

Number of iterations to convergence: 4

Achieved convergence tolerance: 1.244e-07

\$`Predatory macrofauna species richness`\$M1a

Nonlinear regression model

model: response ~ SSmicmen(sowndiv, Vm, k)

data: DF

Vm	k
0.4393	0.1497

residual sum-of-squares: 3.881

Number of iterations to convergence: 3

Achieved convergence tolerance: 6.163e-06

\$`Predatory macrofauna species richness`\$E2

Nonlinear regression model

model: response ~ a + b \* exp(sowndiv)

data: DF

a	b
4.127e-01	7.646e-28

residual sum-of-squares: 3.883

Number of iterations to convergence: 4

Achieved convergence tolerance: 1.281e-08

\$`Predatory macrofauna species richness`\$E4

Nonlinear regression model

model: response ~ a + exp(sowndiv)

```

data: DF
a
1
residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 6.25e-20

$`Predatory macrofauna species richness`$E5
Nonlinear regression model
model: response ~ b * exp(sowndiv)
data: DF
      b
4.378e-27
residual sum-of-squares: 16.83

Number of iterations to convergence: 4
Achieved convergence tolerance: 4.998e-09

$`Predatory macrofauna species richness`$Pa1
Nonlinear regression model
model: response ~ a + b * sowndiv^c
data: DF
      a      b      c
0.4088279 0.0002075 1.4879992
residual sum-of-squares: 3.881

Number of iterations to convergence: 7
Achieved convergence tolerance: 6.256e-06

$`Predatory macrofauna species richness`$Pa2
Nonlinear regression model
model: response ~ a + b * sowndiv
data: DF
      a      b
0.403806 0.001515
residual sum-of-squares: 3.882

Number of iterations to convergence: 1
Achieved convergence tolerance: 7.321e-09

$`Predatory macrofauna species richness`$Pa3
Nonlinear regression model
model: response ~ a + sowndiv^c
data: DF
      a      c
-0.60703 0.01571
residual sum-of-squares: 3.886

Number of iterations to convergence: 7
Achieved convergence tolerance: 9.456e-06

$`Predatory macrofauna species richness`$Pa4
Nonlinear regression model

```

```

model: response ~ b * sowndiv^c
data: DF
      b      c
0.39325 0.03844
residual sum-of-squares: 3.886

```

```

Number of iterations to convergence: 6
Achieved convergence tolerance: 8.142e-06

```

```

$`Predatory macrofauna species richness`$Pa5
Nonlinear regression model
model: response ~ sowndiv^c
data: DF
      c
-0.4887
residual sum-of-squares: 12.06

```

```

Number of iterations to convergence: 12
Achieved convergence tolerance: 9.496e-06

```

```

$`Predatory macrofauna species richness`$AS3
Nonlinear regression model
model: response ~ SSasymOrig(sowndiv, Asym, lrc)
data: DF
      Asym      lrc
0.4305 0.6601
residual sum-of-squares: 3.868

```

```

Number of iterations to convergence: 2
Achieved convergence tolerance: 3.721e-06

```

```

$`Amobae abundance`
$`Amobae abundance`$L0

```

```

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

```

```

Coefficients:
(Intercept)          blockB2          blockB3          blockB4
sowndiv
-0.54335          -0.01291          0.12950          0.31241          -
0.11167
funcgr          grass          leg  sowndiv:funcgr
sowndiv:grass
0.10524          0.35813          -0.08285          0.01318
0.01856
sowndiv:leg  funcgr:grass  funcgr:leg  grass:leg
0.05646          -0.07554          NA          NA

```

```

$`Amobae abundance`$L2

```

Call:

```
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)
```

Coefficients:

(Intercept)	sowndiv	funcgr	leg
-0.45379	0.02164	0.05197	0.25842

\$`Amobae abundance`\$E1

Nonlinear regression model

model: response ~ a + b \* exp(c \* sowndiv)

data: DF

a	b	c
0.045121	0.004798	0.280140

residual sum-of-squares: 0.4619

Number of iterations to convergence: 13

Achieved convergence tolerance: 3.528e-07

\$`Amobae abundance`\$E2

Nonlinear regression model

model: response ~ a + b \* exp(sowndiv)

data: DF

a	b
5.565e-02	4.657e-08

residual sum-of-squares: 0.4621

Number of iterations to convergence: 2

Achieved convergence tolerance: 1.807e-10

\$`Amobae abundance`\$E3

Nonlinear regression model

model: response ~ a + exp(c \* sowndiv)

data: DF

a	c
-1.00409	0.02399

residual sum-of-squares: 0.4714

Number of iterations to convergence: 20

Achieved convergence tolerance: 2.139e-07

\$`Amobae abundance`\$E4

Nonlinear regression model

model: response ~ a + exp(sowndiv)

data: DF

a
-2962056

residual sum-of-squares: 2.106e+14

Number of iterations to convergence: 1

Achieved convergence tolerance: 1.027e-16

\$`Amobae abundance`\$E5

Nonlinear regression model

```
model: response ~ b * exp(sowndiv)
data: DF
      b
5.283e-08
residual sum-of-squares: 0.4869

Number of iterations to convergence: 2
Achieved convergence tolerance: 1.657e-10

$`Amobae abundance`$E6
Nonlinear regression model
model: response ~ exp(c * sowndiv)
data: DF
      c
-2.966
residual sum-of-squares: 1.358

Number of iterations to convergence: 27
Achieved convergence tolerance: 6.662e-08

$`Amobae abundance`$Pa2
Nonlinear regression model
model: response ~ a + b * sowndiv
data: DF
      a      b
-0.01401  0.02966
residual sum-of-squares: 0.4754

Number of iterations to convergence: 1
Achieved convergence tolerance: 4.403e-09

$`Amobae abundance`$Pa3
Nonlinear regression model
model: response ~ a + sowndiv^c
data: DF
      a      c
-1.0188  0.1310
residual sum-of-squares: 0.5499

Number of iterations to convergence: 7
Achieved convergence tolerance: 6.142e-06

$`Amobae abundance`$Pa4
Nonlinear regression model
model: response ~ b * sowndiv^c
data: DF
      b      c
0.01115  1.34820
residual sum-of-squares: 0.4691

Number of iterations to convergence: 6
Achieved convergence tolerance: 2.942e-06

$`Amobae abundance`$Pa5
```

```

Nonlinear regression model
  model: response ~ sowndiv^c
  data: DF
      c
-0.924
residual sum-of-squares: 4.866

```

```

Number of iterations to convergence: 23
Achieved convergence tolerance: 6.88e-06

```

```

$`Flagellate abundance`
$`Flagellate abundance`$L0

```

```

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
    data = DF)

```

```

Coefficients:
  (Intercept)      blockB2      blockB3      blockB4
sowndiv
-5.15959      -1.31843      -0.80018      0.28485
0.60133
  funcgr      grass      leg  sowndiv:funcgr
sowndiv:grass
0.54256      1.44368      1.45352      -0.06533      -
0.19331
  sowndiv:leg  funcgr:grass  funcgr:leg  grass:leg
-0.13968      0.32460      NA      NA

```

```

$`Flagellate abundance`$L2

```

```

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

```

```

Coefficients:
(Intercept)  sowndiv  funcgr  leg
-0.02244    -0.01529    0.11788    0.30827

```

```

$`Flagellate abundance`$M1
Nonlinear regression model
  model: response ~ a * sowndiv/(b + sowndiv)
  data: DF
      a      b
0.6124 0.1404
residual sum-of-squares: 1.205

```

```

Number of iterations to convergence: 5
Achieved convergence tolerance: 9.216e-06

```

```

$`Flagellate abundance`$M1a
Nonlinear regression model

```

```

model: response ~ SSmicmen(sowndiv, Vm, k)
data: DF
      Vm      k
0.6124 0.1404
residual sum-of-squares: 1.205

```

```

Number of iterations to convergence: 0
Achieved convergence tolerance: 6.815e-07

```

```

$`Flagellate abundance`$E2
Nonlinear regression model
model: response ~ a + b * exp(sowndiv)
data: DF
      a      b
5.972e-01 -6.307e-09
residual sum-of-squares: 1.209

```

```

Number of iterations to convergence: 2
Achieved convergence tolerance: 1.860e-08

```

```

$`Flagellate abundance`$E3
Nonlinear regression model
model: response ~ a + exp(c * sowndiv)
data: DF
      a      c
-0.407344 -0.002050
residual sum-of-squares: 1.215

```

```

Number of iterations to convergence: 20
Achieved convergence tolerance: 6.577e-06

```

```

$`Flagellate abundance`$E4
Nonlinear regression model
model: response ~ a + exp(sowndiv)
data: DF
      a
-2962055
residual sum-of-squares: 2.106e+14

```

```

Number of iterations to convergence: 1
Achieved convergence tolerance: 1.504e-16

```

```

$`Flagellate abundance`$E5
Nonlinear regression model
model: response ~ b * exp(sowndiv)
data: DF
      b
6.09e-08
residual sum-of-squares: 4.061

```

```

Number of iterations to convergence: 2
Achieved convergence tolerance: 1.236e-10

```

```

$`Flagellate abundance`$E6

```



```
Nonlinear regression model
  model: response ~ exp(c * sowndiv)
  data: DF
      c
-0.05427
residual sum-of-squares: 2.023

Number of iterations to convergence: 24
Achieved convergence tolerance: 5.472e-06

$`Flagellate abundance`$Pa2
Nonlinear regression model
  model: response ~ a + b * sowndiv
  data: DF
      a      b
0.592978 -0.002069
residual sum-of-squares: 1.215

Number of iterations to convergence: 1
Achieved convergence tolerance: 2.402e-15

$`Flagellate abundance`$Pa3
Nonlinear regression model
  model: response ~ a + sowndiv^c
  data: DF
      a      c
-0.433482 0.008553
residual sum-of-squares: 1.216

Number of iterations to convergence: 7
Achieved convergence tolerance: 3.397e-06

$`Flagellate abundance`$Pa4
Nonlinear regression model
  model: response ~ b * sowndiv^c
  data: DF
      b      c
0.56695 0.01445
residual sum-of-squares: 1.216

Number of iterations to convergence: 7
Achieved convergence tolerance: 7.712e-06

$`Flagellate abundance`$Pa5
Nonlinear regression model
  model: response ~ sowndiv^c
  data: DF
      c
-0.2399
residual sum-of-squares: 2.102

Number of iterations to convergence: 7
Achieved convergence tolerance: 7.101e-06
```

```
$`Bacterivorous nematode species richness`
$`Bacterivorous nematode species richness`$L0
```

Call:

```
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)
```

Coefficients:

(Intercept)	blockB2	blockB3	blockB4	
sowndiv				-
-0.318444	-0.087825	-0.158204	-0.045658	
0.034080				
funcgr	grass	leg	sowndiv:funcgr	
sowndiv:grass				
0.310109	0.487349	0.486881	0.004117	
0.024294				
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg	
-0.001638	-0.116599	-0.171749	-0.218221	

```
$`Bacterivorous nematode species richness`$L2
```

Call:

```
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)
```

Coefficients:

(Intercept)	sowndiv	funcgr	leg
0.875937	0.006438	-0.070078	-0.202421

```
$`Bacterivorous nematode species richness`$M1
```

Nonlinear regression model

```
model: response ~ a * sowndiv / (b + sowndiv)
data: DF
```

a	b
0.5235	0.2333

residual sum-of-squares: 4.994

Number of iterations to convergence: 6

Achieved convergence tolerance: 3.274e-06

```
$`Bacterivorous nematode species richness`$M1a
```

Nonlinear regression model

```
model: response ~ SSmicmen(sowndiv, Vm, k)
data: DF
```

Vm	k
0.5235	0.2333

residual sum-of-squares: 4.994

Number of iterations to convergence: 6

Achieved convergence tolerance: 2.365e-06

```
$`Bacterivorous nematode species richness`$M2
```

```
Nonlinear regression model
  model: response ~ d + a * sowndiv/(b + sowndiv)
  data: DF
      a      b      d
0.6767 66.3663 0.4186
residual sum-of-squares: 4.729
```

```
Number of iterations to convergence: 11
Achieved convergence tolerance: 9.064e-06
```

```
$`Bacterivorous nematode species richness`$E2
Nonlinear regression model
  model: response ~ a + b * exp(sowndiv)
  data: DF
      a      b
4.734e-01 2.179e-27
residual sum-of-squares: 4.886
```

```
Number of iterations to convergence: 4
Achieved convergence tolerance: 3.104e-08
```

```
$`Bacterivorous nematode species richness`$E4
Nonlinear regression model
  model: response ~ a + exp(sowndiv)
  data: DF
a
1
residual sum-of-squares: 3.913e+52
```

```
Number of iterations to convergence: 0
Achieved convergence tolerance: 7.034e-20
```

```
$`Bacterivorous nematode species richness`$E5
Nonlinear regression model
  model: response ~ b * exp(sowndiv)
  data: DF
      b
6.324e-27
residual sum-of-squares: 20.35
```

```
Number of iterations to convergence: 4
Achieved convergence tolerance: 1.36e-09
```

```
$`Bacterivorous nematode species richness`$Pa1
Nonlinear regression model
  model: response ~ a + b * sowndiv^c
  data: DF
      a      b      c
0.41674 0.01512 0.75580
residual sum-of-squares: 4.741
```

```
Number of iterations to convergence: 10
Achieved convergence tolerance: 4.539e-06
```

\$`Bacterivorous nematode species richness`\$Pa2

Nonlinear regression model

model: response ~ a + b \* sowndiv

data: DF

a b

0.437612 0.005515

residual sum-of-squares: 4.75

Number of iterations to convergence: 1

Achieved convergence tolerance: 1.870e-09

\$`Bacterivorous nematode species richness`\$Pa3

Nonlinear regression model

model: response ~ a + sowndiv^c

data: DF

a c

-0.59152 0.04781

residual sum-of-squares: 4.838

Number of iterations to convergence: 8

Achieved convergence tolerance: 9.52e-06

\$`Bacterivorous nematode species richness`\$Pa4

Nonlinear regression model

model: response ~ b \* sowndiv^c

data: DF

b c

0.4063 0.1115

residual sum-of-squares: 4.825

Number of iterations to convergence: 7

Achieved convergence tolerance: 2.109e-06

\$`Bacterivorous nematode species richness`\$Pa5

Nonlinear regression model

model: response ~ sowndiv^c

data: DF

c

-0.3686

residual sum-of-squares: 12.19

Number of iterations to convergence: 12

Achieved convergence tolerance: 6.692e-06

\$`Bacterivorous nematode species richness`\$AS1

Nonlinear regression model

model: response ~ SSasymp(sowndiv, Asym, R0, lrc)

data: DF

Asym R0 lrc

0.8267 0.4175 -3.6850

residual sum-of-squares: 4.727

Number of iterations to convergence: 5

Achieved convergence tolerance: 4.955e-06

```
$`Bacterivorous nematode species richness`$AS2
Nonlinear regression model
  model: response ~ SSasymOff(sowndiv, Asym, lrc, c0)
  data: DF
      Asym      lrc      c0
0.8267 -3.6850 -28.0226
residual sum-of-squares: 4.727
```

```
Number of iterations to convergence: 5
Achieved convergence tolerance: 4.802e-06
```

```
$`Bacterivorous nematode species richness`$AS3
Nonlinear regression model
  model: response ~ SSasymOrig(sowndiv, Asym, lrc)
  data: DF
      Asym      lrc
0.4901 1.0404
residual sum-of-squares: 5.057
```

```
Number of iterations to convergence: 8
Achieved convergence tolerance: 3.186e-06
```

```
$`Bacterivorous nematode species richness`$LG2
Nonlinear regression model
  model: response ~ SSlogis(sowndiv, Asym, xmid, scal)
  data: DF
      Asym      xmid      scal
0.7632 -3.6602 19.6752
residual sum-of-squares: 4.722
```

```
Number of iterations to convergence: 4
Achieved convergence tolerance: 8.326e-06
```

```
$`Fungivorous nematode species richness`
$`Fungivorous nematode species richness`$L0
```

```
Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)
```

```
Coefficients:
  (Intercept)          blockB2          blockB3          blockB4
sowndiv
  0.511959      -0.048813      -0.087673      -0.024309      -
0.075731
  funcgr          grass          leg  sowndiv:funcgr
sowndiv:grass
  0.178719          0.172345          0.044442          0.010451
0.005365
  sowndiv:leg  funcgr:grass  funcgr:leg  grass:leg
  0.029630      -0.054520      -0.117897      -0.037698
```

```
$`Fungivorous nematode species richness`$L2
```

```
Call:
```

```
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)
```

```
Coefficients:
```

```
(Intercept)      sowndiv      funcgr      leg
  0.747072      0.001506     -0.007748     -0.095203
```

```
$`Fungivorous nematode species richness`$M1
```

```
Nonlinear regression model
```

```
model: response ~ a * sowndiv/(b + sowndiv)
```

```
data: DF
```

```
      a      b
0.61926 0.06743
```

```
residual sum-of-squares: 5.08
```

```
Number of iterations to convergence: 4
```

```
Achieved convergence tolerance: 5.448e-06
```

```
$`Fungivorous nematode species richness`$M1a
```

```
Nonlinear regression model
```

```
model: response ~ SSmicmen(sowndiv, Vm, k)
```

```
data: DF
```

```
      Vm      k
0.61926 0.06744
```

```
residual sum-of-squares: 5.08
```

```
Number of iterations to convergence: 3
```

```
Achieved convergence tolerance: 3.753e-06
```

```
$`Fungivorous nematode species richness`$E2
```

```
Nonlinear regression model
```

```
model: response ~ a + b * exp(sowndiv)
```

```
data: DF
```

```
      a      b
5.978e-01 1.333e-27
```

```
residual sum-of-squares: 5.027
```

```
Number of iterations to convergence: 4
```

```
Achieved convergence tolerance: 6.257e-09
```

```
$`Fungivorous nematode species richness`$E4
```

```
Nonlinear regression model
```

```
model: response ~ a + exp(sowndiv)
```

```
data: DF
```

```
a
```

```
1
```

```
residual sum-of-squares: 3.913e+52
```

```
Number of iterations to convergence: 0
```

```
Achieved convergence tolerance: 7.034e-20
```

\$`Fungivorous nematode species richness`\$E5

Nonlinear regression model

model: response ~ b \* exp(sowndiv)

data: DF

b

6.567e-27

residual sum-of-squares: 29.69

Number of iterations to convergence: 4

Achieved convergence tolerance: 8.015e-09

\$`Fungivorous nematode species richness`\$Pa2

Nonlinear regression model

model: response ~ a + b \* sowndiv

data: DF

a

b

0.585358 0.002246

residual sum-of-squares: 5.042

Number of iterations to convergence: 1

Achieved convergence tolerance: 9.241e-09

\$`Fungivorous nematode species richness`\$Pa3

Nonlinear regression model

model: response ~ a + sowndiv<sup>c</sup>

data: DF

a

c

-0.41728 0.01417

residual sum-of-squares: 5.076

Number of iterations to convergence: 8

Achieved convergence tolerance: 1.062e-06

\$`Fungivorous nematode species richness`\$Pa4

Nonlinear regression model

model: response ~ b \* sowndiv<sup>c</sup>

data: DF

b

c

0.58258 0.02418

residual sum-of-squares: 5.075

Number of iterations to convergence: 7

Achieved convergence tolerance: 2.968e-06

\$`Fungivorous nematode species richness`\$Pa5

Nonlinear regression model

model: response ~ sowndiv<sup>c</sup>

data: DF

c

-0.242

residual sum-of-squares: 8.971

Number of iterations to convergence: 10

Achieved convergence tolerance: 2.664e-06

```
$`Fungivorous nematode species richness`$AS3
Nonlinear regression model
  model: response ~ SSasymOrig(sowndiv, Asym, lrc)
  data: DF
  Asym    lrc
0.6143 0.9533
  residual sum-of-squares: 5.068
```

Number of iterations to convergence: 3  
Achieved convergence tolerance: 7.017e-06

```
$`Omnivorous nematode species richness`
$`Omnivorous nematode species richness`$L0
```

```
Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
    data = DF)
```

```
Coefficients:
  (Intercept)      blockB2      blockB3      blockB4
sowndiv
  0.418437      -0.141997      0.073453      0.326920      -
0.012106
  funcgr      grass      leg  sowndiv:funcgr
sowndiv:grass
  0.088971      -0.024654      0.223959      0.003278      -
0.010343
  sowndiv:leg  funcgr:grass  funcgr:leg  grass:leg
  0.014175      0.032212      -0.194145      -0.070754
```

```
$`Omnivorous nematode species richness`$L2
```

```
Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)
```

```
Coefficients:
(Intercept)  sowndiv  funcgr  leg
  0.53156    0.00510  -0.05349  -0.05579
```

```
$`Omnivorous nematode species richness`$M1
Nonlinear regression model
  model: response ~ a * sowndiv/(b + sowndiv)
  data: DF
  a      b
0.3671 -0.0725
  residual sum-of-squares: 5.878
```

Number of iterations to convergence: 7  
Achieved convergence tolerance: 1.529e-06



```
$`Omnivorous nematode species richness`$M1a
Nonlinear regression model
  model: response ~ SSmicmen(sowndiv, Vm, k)
  data: DF
      Vm      k
0.36715 -0.07249
residual sum-of-squares: 5.878
```

```
Number of iterations to convergence: 4
Achieved convergence tolerance: 2.275e-06
```

```
$`Omnivorous nematode species richness`$E2
Nonlinear regression model
  model: response ~ a + b * exp(sowndiv)
  data: DF
      a      b
3.681e-01 2.030e-27
residual sum-of-squares: 5.73
```

```
Number of iterations to convergence: 4
Achieved convergence tolerance: 9.57e-10
```

```
$`Omnivorous nematode species richness`$E4
Nonlinear regression model
  model: response ~ a + exp(sowndiv)
  data: DF
a
1
residual sum-of-squares: 3.913e+52
```

```
Number of iterations to convergence: 0
Achieved convergence tolerance: 7.034e-20
```

```
$`Omnivorous nematode species richness`$E5
Nonlinear regression model
  model: response ~ b * exp(sowndiv)
  data: DF
      b
5.254e-27
residual sum-of-squares: 15.08
```

```
Number of iterations to convergence: 4
Achieved convergence tolerance: 2.294e-09
```

```
$`Omnivorous nematode species richness`$Pa2
Nonlinear regression model
  model: response ~ a + b * sowndiv
  data: DF
      a      b
0.350523 0.003254
residual sum-of-squares: 5.775
```

```
Number of iterations to convergence: 1
```

Achieved convergence tolerance: 5.555e-10

\$`Omnivorous nematode species richness`\$Pa3

Nonlinear regression model

model: response ~ a + sowndiv<sup>c</sup>

data: DF

a c

-0.6393 0.0113

residual sum-of-squares: 5.873

Number of iterations to convergence: 9

Achieved convergence tolerance: 1.479e-06

\$`Omnivorous nematode species richness`\$Pa4

Nonlinear regression model

model: response ~ b \* sowndiv<sup>c</sup>

data: DF

b c

0.35902 0.03365

residual sum-of-squares: 5.872

Number of iterations to convergence: 7

Achieved convergence tolerance: 3.928e-06

\$`Omnivorous nematode species richness`\$Pa5

Nonlinear regression model

model: response ~ sowndiv<sup>c</sup>

data: DF

c

-0.6064

residual sum-of-squares: 13.4

Number of iterations to convergence: 14

Achieved convergence tolerance: 5.292e-06

\$`Plant-feeding nematode species richness`

\$`Plant-feeding nematode species richness`\$L0

Call:

lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)<sup>2</sup>,  
data = DF)

Coefficients:

(Intercept)	blockB2	blockB3	blockB4
sowndiv			
0.555186	-0.110306	-0.257135	-0.203600
0.013882			
funcgr	grass	leg	sowndiv:funcgr
sowndiv:grass			
0.137924	-0.131863	0.161175	-0.004076
0.004630			
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg
0.001713	-0.018504	-0.133758	0.031712

\$`Plant-feeding nematode species richness`\$L2

Call:

lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:

(Intercept)	sowndiv	funcgr	leg
0.375780	0.007087	-0.023934	0.066479

\$`Plant-feeding nematode species richness`\$M1

Nonlinear regression model

model: response ~ a \* sowndiv/(b + sowndiv)

data: DF

a	b
0.5536	0.4558

0.5536 0.4558

residual sum-of-squares: 3.665

Number of iterations to convergence: 4

Achieved convergence tolerance: 2.088e-06

\$`Plant-feeding nematode species richness`\$M1a

Nonlinear regression model

model: response ~ SSmicmen(sowndiv, Vm, k)

data: DF

Vm	k
0.5536	0.4558

0.5536 0.4558

residual sum-of-squares: 3.665

Number of iterations to convergence: 4

Achieved convergence tolerance: 4.888e-06

\$`Plant-feeding nematode species richness`\$M2

Nonlinear regression model

model: response ~ d + a \* sowndiv/(b + sowndiv)

data: DF

a	b	d
0.4185	25.6553	0.3993

0.4185 25.6553 0.3993

residual sum-of-squares: 3.567

Number of iterations to convergence: 9

Achieved convergence tolerance: 1.66e-06

\$`Plant-feeding nematode species richness`\$E2

Nonlinear regression model

model: response ~ a + b \* exp(sowndiv)

data: DF

a	b
4.710e-01	2.005e-27

4.710e-01 2.005e-27

residual sum-of-squares: 3.742

Number of iterations to convergence: 4

Achieved convergence tolerance: 1.749e-08

\$`Plant-feeding nematode species richness`\$E4

Nonlinear regression model

model: response ~ a + exp(sowndiv)

data: DF

a

1

residual sum-of-squares: 3.913e+52

Number of iterations to convergence: 0

Achieved convergence tolerance: 7.034e-20

\$`Plant-feeding nematode species richness`\$E5

Nonlinear regression model

model: response ~ b \* exp(sowndiv)

data: DF

b

6.13e-27

residual sum-of-squares: 19.05

Number of iterations to convergence: 4

Achieved convergence tolerance: 1.446e-09

\$`Plant-feeding nematode species richness`\$Pa1

Nonlinear regression model

model: response ~ a + b \* sowndiv<sup>c</sup>

data: DF

a b c

0.3252 0.0825 0.3677

residual sum-of-squares: 3.562

Number of iterations to convergence: 7

Achieved convergence tolerance: 4.665e-06

\$`Plant-feeding nematode species richness`\$Pa2

Nonlinear regression model

model: response ~ a + b \* sowndiv

data: DF

a b

0.436977 0.005203

residual sum-of-squares: 3.613

Number of iterations to convergence: 1

Achieved convergence tolerance: 1.440e-09

\$`Plant-feeding nematode species richness`\$Pa3

Nonlinear regression model

model: response ~ a + sowndiv<sup>c</sup>

data: DF

a c

-0.6068 0.0550

residual sum-of-squares: 3.577

Number of iterations to convergence: 8  
 Achieved convergence tolerance: 4.466e-07

\$`Plant-feeding nematode species richness`\$Pa4  
 Nonlinear regression model  
 model: response ~ b \* sowndiv^c  
 data: DF  
       b      c  
 0.3951 0.1248  
 residual sum-of-squares: 3.571

Number of iterations to convergence: 7  
 Achieved convergence tolerance: 4.134e-07

\$`Plant-feeding nematode species richness`\$Pa5  
 Nonlinear regression model  
 model: response ~ sowndiv^c  
 data: DF  
       c  
 -0.3523  
 residual sum-of-squares: 11.69

Number of iterations to convergence: 12  
 Achieved convergence tolerance: 2.712e-06

\$`Plant-feeding nematode species richness`\$AS1  
 Nonlinear regression model  
 model: response ~ SSasym(sowndiv, Asym, R0, lrc)  
 data: DF  
       Asym      R0      lrc  
 0.7185 0.4044 -3.1448  
 residual sum-of-squares: 3.568

Number of iterations to convergence: 3  
 Achieved convergence tolerance: 1.844e-06

\$`Plant-feeding nematode species richness`\$AS2  
 Nonlinear regression model  
 model: response ~ SSasymOff(sowndiv, Asym, lrc, c0)  
 data: DF  
       Asym      lrc      c0  
 0.7185 -3.1448 -19.2105  
 residual sum-of-squares: 3.568

Number of iterations to convergence: 3  
 Achieved convergence tolerance: 1.850e-06

\$`Plant-feeding nematode species richness`\$AS3  
 Nonlinear regression model  
 model: response ~ SSasymOrig(sowndiv, Asym, lrc)  
 data: DF  
       Asym      lrc  
 0.5131 0.3125  
 residual sum-of-squares: 3.749

Number of iterations to convergence: 7  
 Achieved convergence tolerance: 6.768e-06

\$`Plant-feeding nematode species richness`\$LG2  
 Nonlinear regression model  
 model: response ~ SSlogis(sowndiv, Asym, xmid, scal)  
 data: DF  
 Asym xmid scal  
 0.7047 -4.9959 15.3458  
 residual sum-of-squares: 3.571

Number of iterations to convergence: 3  
 Achieved convergence tolerance: 2.132e-06

\$`Predatory nematode species richness`  
 \$`Predatory nematode species richness`\$L0

Call:  
 lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,  
 data = DF)

Coefficients:

(Intercept)	blockB2	blockB3	blockB4	
sowndiv				
-0.940341	-0.008989	-0.092801	-0.062547	-
0.061245				
funcgr	grass	leg	sowndiv:funcgr	
sowndiv:grass				
0.415795	0.577016	0.709755	0.009625	
0.019112				
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg	
0.009799	-0.203875	-0.187749	-0.258812	

\$`Predatory nematode species richness`\$L2

Call:  
 lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:

(Intercept)	sowndiv	funcgr	leg
0.040028	0.006618	-0.012927	0.074263

\$`Predatory nematode species richness`\$M1  
 Nonlinear regression model  
 model: response ~ a \* sowndiv/(b + sowndiv)  
 data: DF  
 a b  
 0.17031 -0.08201  
 residual sum-of-squares: 4.658

Number of iterations to convergence: 5  
 Achieved convergence tolerance: 3.430e-06

\$`Predatory nematode species richness`\$M1a  
 Nonlinear regression model  
 model: response ~ SSmicmen(sowndiv, Vm, k)  
 data: DF  
       Vm      k  
 0.1703 -0.0820  
 residual sum-of-squares: 4.658

Number of iterations to convergence: 12  
 Achieved convergence tolerance: 2.429e-07

\$`Predatory nematode species richness`\$E2  
 Nonlinear regression model  
 model: response ~ a + b \* exp(sowndiv)  
 data: DF  
       a      b  
 1.594e-01 3.469e-27  
 residual sum-of-squares: 4.209

Number of iterations to convergence: 4  
 Achieved convergence tolerance: 2.713e-09

\$`Predatory nematode species richness`\$E4  
 Nonlinear regression model  
 model: response ~ a + exp(sowndiv)  
 data: DF  
 a  
 1  
 residual sum-of-squares: 3.913e+52

Number of iterations to convergence: 0  
 Achieved convergence tolerance: 7.034e-20

\$`Predatory nematode species richness`\$E5  
 Nonlinear regression model  
 model: response ~ b \* exp(sowndiv)  
 data: DF  
       b  
 4.865e-27  
 residual sum-of-squares: 5.963

Number of iterations to convergence: 4  
 Achieved convergence tolerance: 2.700e-09

\$`Predatory nematode species richness`\$Pa2  
 Nonlinear regression model  
 model: response ~ a + b \* sowndiv  
 data: DF  
       a      b  
 0.132732 0.005157  
 residual sum-of-squares: 4.386

Number of iterations to convergence: 1  
Achieved convergence tolerance: 7.456e-10

\$`Predatory nematode species richness`\$Pa3  
Nonlinear regression model  
model: response ~ a + sowndiv^c  
data: DF  
a c  
-0.84871 0.01623  
residual sum-of-squares: 4.638

Number of iterations to convergence: 9  
Achieved convergence tolerance: 5.39e-06

\$`Predatory nematode species richness`\$Pa4  
Nonlinear regression model  
model: response ~ b \* sowndiv^c  
data: DF  
b c  
0.1352 0.1606  
residual sum-of-squares: 4.622

Number of iterations to convergence: 17  
Achieved convergence tolerance: 8.792e-06

\$`Predatory nematode species richness`\$Pa5  
Nonlinear regression model  
model: response ~ sowndiv^c  
data: DF  
c  
-1.678  
residual sum-of-squares: 15.56

Number of iterations to convergence: 16  
Achieved convergence tolerance: 3.511e-06

\$`Predatory nematode species richness`\$AS3  
Nonlinear regression model  
model: response ~ SSasymOrig(sowndiv, Asym, lrc)  
data: DF  
Asym lrc  
0.5967 -3.5023  
residual sum-of-squares: 5.137

Number of iterations to convergence: 8  
Achieved convergence tolerance: 6.351e-06

\$`Plant-feeding nematode abundance`  
\$`Plant-feeding nematode abundance`\$L0

Call:



```
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)
```

```
Coefficients:
(Intercept)      blockB2      blockB3      blockB4
sowndiv
 5.611e-01      2.077e-02     -1.618e-01      4.669e-04      -
7.277e-03
  funcgr      grass      leg  sowndiv:funcgr
sowndiv:grass
 5.311e-02     -1.714e-01     -1.139e-03      2.884e-05
1.879e-02
  sowndiv:leg  funcgr:grass  funcgr:leg  grass:leg
 -1.183e-02    -4.756e-02    -2.401e-02    4.268e-02
```

```
$`Plant-feeding nematode abundance`$L2
```

```
Call:
```

```
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)
```

```
Coefficients:
(Intercept)      sowndiv      funcgr      leg
 0.2294488      0.0009399      0.0107855      0.0227016
```

```
$`Plant-feeding nematode abundance`$M1
```

```
Nonlinear regression model
```

```
model: response ~ a * sowndiv/(b + sowndiv)
```

```
data: DF
```

```
  a      b
```

```
0.3158 0.2136
```

```
residual sum-of-squares: 3.018
```

```
Number of iterations to convergence: 5
```

```
Achieved convergence tolerance: 2.456e-06
```

```
$`Plant-feeding nematode abundance`$M1a
```

```
Nonlinear regression model
```

```
model: response ~ SSmicmen(sowndiv, Vm, k)
```

```
data: DF
```

```
  Vm      k
```

```
0.3158 0.2136
```

```
residual sum-of-squares: 3.018
```

```
Number of iterations to convergence: 2
```

```
Achieved convergence tolerance: 7.715e-07
```

```
$`Plant-feeding nematode abundance`$M2
```

```
Nonlinear regression model
```

```
model: response ~ d + a * sowndiv/(b + sowndiv)
```

```
data: DF
```

```
  a      b      d
```

```
0.08968 7.51206 0.25826
```

residual sum-of-squares: 3.016

Number of iterations to convergence: 5  
Achieved convergence tolerance: 6.331e-07

\$`Plant-feeding nematode abundance`\$E2  
Nonlinear regression model  
model: response ~ a + b \* exp(sowndiv)  
data: DF  
a b  
2.925e-01 2.361e-28  
residual sum-of-squares: 3.043

Number of iterations to convergence: 4  
Achieved convergence tolerance: 1.666e-09

\$`Plant-feeding nematode abundance`\$E4  
Nonlinear regression model  
model: response ~ a + exp(sowndiv)  
data: DF  
a  
1  
residual sum-of-squares: 3.913e+52

Number of iterations to convergence: 0  
Achieved convergence tolerance: 6.983e-20

\$`Plant-feeding nematode abundance`\$E5  
Nonlinear regression model  
model: response ~ b \* exp(sowndiv)  
data: DF  
b  
2.797e-27  
residual sum-of-squares: 9.03

Number of iterations to convergence: 4  
Achieved convergence tolerance: 4.1e-09

\$`Plant-feeding nematode abundance`\$Pa2  
Nonlinear regression model  
model: response ~ a + b \* sowndiv  
data: DF  
a b  
0.283762 0.001180  
residual sum-of-squares: 3.030

Number of iterations to convergence: 1  
Achieved convergence tolerance: 1.156e-09

\$`Plant-feeding nematode abundance`\$Pa3  
Nonlinear regression model  
model: response ~ a + sowndiv^c  
data: DF  
a c

-0.73310 0.01757  
residual sum-of-squares: 3.016

Number of iterations to convergence: 7  
Achieved convergence tolerance: 3.895e-06

\$`Plant-feeding nematode abundance`\$Pa4  
Nonlinear regression model  
model: response ~ b \* sowndiv^c  
data: DF  
b c  
0.26768 0.06056  
residual sum-of-squares: 3.016

Number of iterations to convergence: 7  
Achieved convergence tolerance: 2.235e-07

\$`Plant-feeding nematode abundance`\$Pa5  
Nonlinear regression model  
model: response ~ sowndiv^c  
data: DF  
c  
-0.8012  
residual sum-of-squares: 13.22

Number of iterations to convergence: 15  
Achieved convergence tolerance: 7.024e-06

\$`Plant-feeding nematode abundance`\$AS1  
Nonlinear regression model  
model: response ~ SSasymp(sowndiv, Asym, R0, lrc)  
data: DF  
Asym R0 lrc  
0.3369 0.2630 -2.2987  
residual sum-of-squares: 3.015

Number of iterations to convergence: 22  
Achieved convergence tolerance: 8.95e-06

\$`Plant-feeding nematode abundance`\$AS2  
Nonlinear regression model  
model: response ~ SSasympOff(sowndiv, Asym, lrc, c0)  
data: DF  
Asym lrc c0  
0.3369 -2.2987 -15.1113  
residual sum-of-squares: 3.015

Number of iterations to convergence: 15  
Achieved convergence tolerance: 8.89e-06

\$`Plant-feeding nematode abundance`\$AS3  
Nonlinear regression model  
model: response ~ SSasympOrig(sowndiv, Asym, lrc)  
data: DF

```

  Asym    lrc
0.3037 0.6562
residual sum-of-squares: 3.023

```

```

Number of iterations to convergence: 2
Achieved convergence tolerance: 3.096e-06

```

```

$`Plant-feeding nematode abundance`$LG2
Nonlinear regression model
  model: response ~ SSlogis(sowndiv, Asym, xmid, scal)
  data: DF
      Asym    xmid    scal
0.3373 -11.3104  8.8154
residual sum-of-squares: 3.014

```

```

Number of iterations to convergence: 32
Achieved convergence tolerance: 8.12e-06

```

```

$`Omnivorous nematode abundance`
$`Omnivorous nematode abundance`$L0

```

```

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
    data = DF)

```

```

Coefficients:
  (Intercept)      blockB2      blockB3      blockB4
sowndiv
  0.580168      -0.023768      0.047648      0.221986      -
0.049526
  funcgr      grass      leg  sowndiv:funcgr
sowndiv:grass
 -0.030450      -0.153541      -0.129963      0.006406
0.004660
  sowndiv:leg  funcgr:grass  funcgr:leg  grass:leg
  0.020150      0.027354      -0.045683      0.050059

```

```

$`Omnivorous nematode abundance`$L2

```

```

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

```

```

Coefficients:
  (Intercept)  sowndiv  funcgr  leg
  0.288068    0.001003  -0.016602  -0.026873

```

```

$`Omnivorous nematode abundance`$M1a
Nonlinear regression model
  model: response ~ SSmicmen(sowndiv, Vm, k)
  data: DF
      Vm      k

```

```
0.2214690 0.0001752
residual sum-of-squares: 2.695

Number of iterations to convergence: 3
Achieved convergence tolerance: 5.273e-06

$`Omnivorous nematode abundance`$E2
Nonlinear regression model
  model: response ~ a + b * exp(sowndiv)
  data: DF
      a          b
2.198e-01 3.511e-28
residual sum-of-squares: 2.691

Number of iterations to convergence: 4
Achieved convergence tolerance: 8.99e-10

$`Omnivorous nematode abundance`$E4
Nonlinear regression model
  model: response ~ a + exp(sowndiv)
  data: DF
a
1
residual sum-of-squares: 3.913e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 6.983e-20

$`Omnivorous nematode abundance`$E5
Nonlinear regression model
  model: response ~ b * exp(sowndiv)
  data: DF
      b
2.276e-27
residual sum-of-squares: 6.073

Number of iterations to convergence: 4
Achieved convergence tolerance: 6.339e-10

$`Omnivorous nematode abundance`$Pa2
Nonlinear regression model
  model: response ~ a + b * sowndiv
  data: DF
      a          b
0.2169470 0.0005421
residual sum-of-squares: 2.692

Number of iterations to convergence: 1
Achieved convergence tolerance: 1.516e-08

$`Omnivorous nematode abundance`$Pa3
Nonlinear regression model
  model: response ~ a + sowndiv^c
  data: DF
```

```

      a      c
-0.784102  0.003718
residual sum-of-squares: 2.694

```

```

Number of iterations to convergence: 8
Achieved convergence tolerance: 4.483e-08

```

```
$`Omnivorous nematode abundance`$Pa4
```

```

Nonlinear regression model
model: response ~ b * sowndiv^c
data: DF

```

```

      b      c
0.21579 0.01728
residual sum-of-squares: 2.694

```

```

Number of iterations to convergence: 7
Achieved convergence tolerance: 7.32e-07

```

```
$`Omnivorous nematode abundance`$Pa5
```

```

Nonlinear regression model
model: response ~ sowndiv^c
data: DF

```

```

      c
-1.284
residual sum-of-squares: 13.18

```

```

Number of iterations to convergence: 20
Achieved convergence tolerance: 5.335e-06

```

```

$`Predatory nematode abundance`
$`Predatory nematode abundance`$L0

```

```

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

```

```

Coefficients:
(Intercept)      blockB2      blockB3      blockB4      -
sowndiv          2.87930      0.05726      0.03274      -0.00908
0.08246
funcgr           grass           leg  sowndiv:funcgr
sowndiv:grass   -0.52723      -1.17278      -1.26450      0.01222
0.01961
sowndiv:leg     funcgr:grass   funcgr:leg     grass:leg
0.02061         0.10943         0.17711         0.48587

```

```
$`Predatory nematode abundance`$L2
```

```

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

```

Coefficients:  
 (Intercept)      sowndiv      funcgr      leg  
           0.079820      0.005578      -0.013658      -0.014687

\$`Predatory nematode abundance`\$E2  
 Nonlinear regression model  
 model: response ~ a + b \* exp(sowndiv)  
 data: DF  
           a            b  
 6.084e-02 3.086e-27  
 residual sum-of-squares: 1.217

Number of iterations to convergence: 4  
 Achieved convergence tolerance: 1.242e-08

\$`Predatory nematode abundance`\$E4  
 Nonlinear regression model  
 model: response ~ a + exp(sowndiv)  
 data: DF

a  
 1  
 residual sum-of-squares: 3.913e+52

Number of iterations to convergence: 0  
 Achieved convergence tolerance: 6.983e-20

\$`Predatory nematode abundance`\$E5  
 Nonlinear regression model  
 model: response ~ b \* exp(sowndiv)  
 data: DF

b  
 3.618e-27  
 residual sum-of-squares: 1.477

Number of iterations to convergence: 4  
 Achieved convergence tolerance: 2.905e-08

\$`Predatory nematode abundance`\$Pa2  
 Nonlinear regression model  
 model: response ~ a + b \* sowndiv  
 data: DF

a            b  
 0.032787 0.005115  
 residual sum-of-squares: 1.304

Number of iterations to convergence: 1  
 Achieved convergence tolerance: 3.545e-09

\$`Predatory nematode abundance`\$Pa3  
 Nonlinear regression model  
 model: response ~ a + sowndiv^c  
 data: DF

```

      a      c
-0.96994  0.02940
residual sum-of-squares: 1.495

```

```

Number of iterations to convergence: 9
Achieved convergence tolerance: 1.723e-06

```

```

$`Predatory nematode abundance`$Pa4
Nonlinear regression model
  model: response ~ b * sowndiv^c
  data: DF

```

```

      b      c
0.008507 0.921069
residual sum-of-squares: 1.356

```

```

Number of iterations to convergence: 12
Achieved convergence tolerance: 9.82e-06

```

```

$`Predatory nematode abundance`$Pa5
Nonlinear regression model
  model: response ~ sowndiv^c
  data: DF

```

```

      c
-3.902
residual sum-of-squares: 15.13

```

```

Number of iterations to convergence: 15
Achieved convergence tolerance: 6.27e-06

```

```

$`Bacterivorous nematode abundance`
$`Bacterivorous nematode abundance`$L0

```

```

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
    data = DF)

```

```

Coefficients:
      (Intercept)      blockB2      blockB3      blockB4
sowndiv
-0.721558      -0.102526      -0.095018      -0.120770      -
0.054064
      funcgr      grass      leg      sowndiv:funcgr
sowndiv:grass
0.339564      0.494652      0.464718      0.006983
0.018475
      sowndiv:leg      funcgr:grass      funcgr:leg      grass:leg
      0.010363      -0.124975      -0.167984      -0.150982

```

```

$`Bacterivorous nematode abundance`$L2

```

```

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

```



Coefficients:  
 (Intercept)      sowndiv      funcgr      leg  
           0.422191      0.003742      -0.053107      -0.087098

\$`Bacterivorous nematode abundance`\$M1  
 Nonlinear regression model  
 model: response ~ a \* sowndiv/(b + sowndiv)  
 data: DF  
       a            b  
 0.21562 0.04743  
 residual sum-of-squares: 2.463

Number of iterations to convergence: 8  
 Achieved convergence tolerance: 1.762e-06

\$`Bacterivorous nematode abundance`\$M1a  
 Nonlinear regression model  
 model: response ~ SSmicmen(sowndiv, Vm, k)  
 data: DF  
       Vm            k  
 0.21562 0.04745  
 residual sum-of-squares: 2.463

Number of iterations to convergence: 5  
 Achieved convergence tolerance: 3.502e-06

\$`Bacterivorous nematode abundance`\$E2  
 Nonlinear regression model  
 model: response ~ a + b \* exp(sowndiv)  
 data: DF  
       a            b  
 2.069e-01 1.063e-27  
 residual sum-of-squares: 2.421

Number of iterations to convergence: 4  
 Achieved convergence tolerance: 2.315e-08

\$`Bacterivorous nematode abundance`\$E4  
 Nonlinear regression model  
 model: response ~ a + exp(sowndiv)  
 data: DF  
 a  
 1  
 residual sum-of-squares: 3.913e+52

Number of iterations to convergence: 0  
 Achieved convergence tolerance: 6.983e-20

\$`Bacterivorous nematode abundance`\$E5  
 Nonlinear regression model  
 model: response ~ b \* exp(sowndiv)  
 data: DF

```

      b
2.875e-27
residual sum-of-squares: 5.418

Number of iterations to convergence: 4
Achieved convergence tolerance: 2.08e-09

$`Bacterivorous nematode abundance`$Pa2
Nonlinear regression model
  model: response ~ a + b * sowndiv
  data: DF
      a      b
0.192929 0.002281
residual sum-of-squares: 2.410

Number of iterations to convergence: 1
Achieved convergence tolerance: 1.425e-11

$`Bacterivorous nematode abundance`$Pa3
Nonlinear regression model
  model: response ~ a + sowndiv^c
  data: DF
      a      c
-0.81056 0.01483
residual sum-of-squares: 2.444

Number of iterations to convergence: 8
Achieved convergence tolerance: 7.34e-06

$`Bacterivorous nematode abundance`$Pa4
Nonlinear regression model
  model: response ~ b * sowndiv^c
  data: DF
      b      c
0.18720 0.08027
residual sum-of-squares: 2.441

Number of iterations to convergence: 8
Achieved convergence tolerance: 1.978e-06

$`Bacterivorous nematode abundance`$Pa5
Nonlinear regression model
  model: response ~ sowndiv^c
  data: DF
      c
-1.452
residual sum-of-squares: 13.18

Number of iterations to convergence: 21
Achieved convergence tolerance: 5.128e-06

$`Bacterivorous nematode abundance`$LG2
Nonlinear regression model
  model: response ~ SSlogis(sowndiv, Asym, xmid, scal)
```

```

data: DF
  Asym  xmid  scal
0.5185 28.8115 55.2367
residual sum-of-squares: 2.409

```

```

Number of iterations to convergence: 4
Achieved convergence tolerance: 1.208e-06

```

```

$`Fungivorous nematode abundance`
$`Fungivorous nematode abundance`$L0

```

```

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

```

```

Coefficients:
  (Intercept)      blockB2      blockB3      blockB4
sowndiv
  0.469115      0.024585     -0.016396      0.077099      -
0.021021
  funcgr      grass      leg  sowndiv:funcgr
sowndiv:grass
  0.035548     -0.077821     -0.013231      0.002742
0.007002
  sowndiv:leg  funcgr:grass  funcgr:leg  grass:leg
  0.001644     -0.023833     -0.055108      0.011134

```

```

$`Fungivorous nematode abundance`$L2

```

```

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

```

```

Coefficients:
(Intercept)  sowndiv  funcgr  leg
  0.335010   -0.001201  -0.020037  -0.042390

```

```

$`Fungivorous nematode abundance`$M1
Nonlinear regression model
  model: response ~ a * sowndiv/(b + sowndiv)
  data: DF
      a      b
0.21498 -0.06063
residual sum-of-squares: 2.761

```

```

Number of iterations to convergence: 4
Achieved convergence tolerance: 7.831e-06

```

```

$`Fungivorous nematode abundance`$M1a
Nonlinear regression model
  model: response ~ SSmicmen(sowndiv, Vm, k)
  data: DF

```

```

      Vm      k
0.21498 -0.06065
residual sum-of-squares: 2.761

```

```

Number of iterations to convergence: 3
Achieved convergence tolerance: 1.173e-06

```

```

$`Fungivorous nematode abundance`$M2
Nonlinear regression model
  model: response ~ d + a * sowndiv/(b + sowndiv)
  data: DF
      a      b      d
-0.002992 -4.310560 0.213767
residual sum-of-squares: 2.742

```

```

Number of iterations to convergence: 14
Achieved convergence tolerance: 3.159e-06

```

```

$`Fungivorous nematode abundance`$E2
Nonlinear regression model
  model: response ~ a + b * exp(sowndiv)
  data: DF
      a      b
2.240e-01 -8.294e-28
residual sum-of-squares: 2.737

```

```

Number of iterations to convergence: 4
Achieved convergence tolerance: 2.46e-09

```

```

$`Fungivorous nematode abundance`$E4
Nonlinear regression model
  model: response ~ a + exp(sowndiv)
  data: DF
a
1
residual sum-of-squares: 3.913e+52

```

```

Number of iterations to convergence: 0
Achieved convergence tolerance: 6.983e-20

```

```

$`Fungivorous nematode abundance`$E5
Nonlinear regression model
  model: response ~ b * exp(sowndiv)
  data: DF
      b
1.132e-27
residual sum-of-squares: 6.249

```

```

Number of iterations to convergence: 4
Achieved convergence tolerance: 6.222e-09

```

```

$`Fungivorous nematode abundance`$Pa2
Nonlinear regression model
  model: response ~ a + b * sowndiv

```

```

data: DF
      a      b
0.233777 -0.001645
residual sum-of-squares: 2.735

Number of iterations to convergence: 1
Achieved convergence tolerance: 6.468e-10

```

```

$`Fungivorous nematode abundance`$Pa3
Nonlinear regression model
  model: response ~ a + sowndiv^c
  data: DF
      a      c
-0.76322 -0.01136
residual sum-of-squares: 2.752

```

```

Number of iterations to convergence: 8
Achieved convergence tolerance: 5.819e-07

```

```

$`Fungivorous nematode abundance`$Pa4
Nonlinear regression model
  model: response ~ b * sowndiv^c
  data: DF
      b      c
0.23608 -0.04795
residual sum-of-squares: 2.752

```

```

Number of iterations to convergence: 8
Achieved convergence tolerance: 8.743e-06

```

```

$`Fungivorous nematode abundance`$Pa5
Nonlinear regression model
  model: response ~ sowndiv^c
  data: DF
      c
-1.187
residual sum-of-squares: 13.08

```

```

Number of iterations to convergence: 17
Achieved convergence tolerance: 9.556e-06

```

```

$`Fungivorous nematode abundance`$BIEXP
Nonlinear regression model
  model: response ~ SSbiexp(sowndiv, A1, lrc1, A2, lrc2)
  data: DF
      A1      lrc1      A2      lrc2
-0.04701 -0.43045  0.24788 -4.51583
residual sum-of-squares: 2.731

```

```

Number of iterations to convergence: 23
Achieved convergence tolerance: 8.412e-06

```

```

$`Fungivorous nematode abundance`$LG2
Nonlinear regression model

```

```

model: response ~ SSlogis(sowndiv, Asym, xmid, scal)
data: DF
      Asym      xmid      scal
0.2619  59.0430 -29.6045
residual sum-of-squares: 2.734

```

Number of iterations to convergence: 2  
 Achieved convergence tolerance: 5.513e-06

```

$`Collembola abundance`
$`Collembola abundance`$L0

```

```

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

```

```

Coefficients:
(Intercept)      blockB2      blockB3      blockB4
sowndiv
  3.32716      -0.12775      -0.03627      -0.15423      -
0.08519
      funcgr      grass      leg  sowndiv:funcgr
sowndiv:grass
 -0.68085      -1.29444      -1.32048      0.01055
0.01323
      sowndiv:leg  funcgr:grass  funcgr:leg  grass:leg
      0.03218      0.22039      0.23004      0.47891

```

```

$`Collembola abundance`$L2

```

```

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

```

```

Coefficients:
(Intercept)      sowndiv      funcgr      leg
  0.133770      0.001950      0.015583      0.058705

```

```

$`Collembola abundance`$M1
Nonlinear regression model
model: response ~ a * sowndiv/(b + sowndiv)
data: DF
      a      b
0.3187 0.5408
residual sum-of-squares: 2.58

```

Number of iterations to convergence: 5  
 Achieved convergence tolerance: 2.938e-07

```

$`Collembola abundance`$M1a
Nonlinear regression model
model: response ~ SSmicmen(sowndiv, Vm, k)

```

```

data: DF
      Vm      k
0.3187 0.5408
residual sum-of-squares: 2.58

Number of iterations to convergence: 2
Achieved convergence tolerance: 3.391e-06

$`Collembola abundance`$M2
Nonlinear regression model
model: response ~ d + a * sowndiv/(b + sowndiv)
data: DF
      a      b      d
0.2046 1.3001 0.1223
residual sum-of-squares: 2.579

Number of iterations to convergence: 9
Achieved convergence tolerance: 4.061e-06

$`Collembola abundance`$E2
Nonlinear regression model
model: response ~ a + b * exp(sowndiv)
data: DF
      a      b
2.670e-01 5.672e-28
residual sum-of-squares: 2.674

Number of iterations to convergence: 4
Achieved convergence tolerance: 2.437e-11

$`Collembola abundance`$E4
Nonlinear regression model
model: response ~ a + exp(sowndiv)
data: DF
a
1
residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 5.804e-20

$`Collembola abundance`$E5
Nonlinear regression model
model: response ~ b * exp(sowndiv)
data: DF
      b
2.905e-27
residual sum-of-squares: 8.09

Number of iterations to convergence: 4
Achieved convergence tolerance: 1.465e-08

$`Collembola abundance`$Pa2
Nonlinear regression model

```

```

model: response ~ a + b * sowndiv
data: DF
      a      b
0.253377 0.001961
residual sum-of-squares: 2.639

Number of iterations to convergence: 1
Achieved convergence tolerance: 4.108e-09

```

```

$`Collembola abundance`$Pa3
Nonlinear regression model
model: response ~ a + sowndiv^c
data: DF
      a      c
-0.77704 0.03082
residual sum-of-squares: 2.584

```

```

Number of iterations to convergence: 8
Achieved convergence tolerance: 1.657e-07

```

```

$`Collembola abundance`$Pa4
Nonlinear regression model
model: response ~ b * sowndiv^c
data: DF
      b      c
0.2267 0.1134
residual sum-of-squares: 2.587

```

```

Number of iterations to convergence: 7
Achieved convergence tolerance: 3.289e-06

```

```

$`Collembola abundance`$Pa5
Nonlinear regression model
model: response ~ sowndiv^c
data: DF
      c
-0.933
residual sum-of-squares: 15.17

```

```

Number of iterations to convergence: 18
Achieved convergence tolerance: 5.093e-06

```

```

$`Collembola abundance`$AS1
Nonlinear regression model
model: response ~ SSasym(sowndiv, Asym, R0, lrc)
data: DF
      Asym      R0      lrc
0.3176 0.1907 -1.3890
residual sum-of-squares: 2.584

```

```

Number of iterations to convergence: 13
Achieved convergence tolerance: 7.181e-06

```

```

$`Collembola abundance`$AS2

```



```

Nonlinear regression model
  model: response ~ SSasymOff(sowndiv, Asym, lrc, c0)
  data: DF
    Asym    lrc    c0
0.3176 -1.3890 -3.6780
residual sum-of-squares: 2.584

```

```

Number of iterations to convergence: 13
Achieved convergence tolerance: 7.243e-06

```

```

$`Collembola abundance`$AS3
Nonlinear regression model
  model: response ~ SSasymOrig(sowndiv, Asym, lrc)
  data: DF
    Asym    lrc
0.2952 0.1290
residual sum-of-squares: 2.595

```

```

Number of iterations to convergence: 4
Achieved convergence tolerance: 7.259e-06

```

```

$`Collembola abundance`$LG2
Nonlinear regression model
  model: response ~ SSlogis(sowndiv, Asym, xmid, scal)
  data: DF
    Asym    xmid    scal
0.3165 -1.7959  3.3273
residual sum-of-squares: 2.586

```

```

Number of iterations to convergence: 16
Achieved convergence tolerance: 6.976e-06

```

```

$`Mite abundance`
$`Mite abundance`$L0

```

```

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
    data = DF)

```

```

Coefficients:
  (Intercept)          blockB2          blockB3          blockB4
sowndiv
  5.081596      -0.009796      0.019798      -0.101649      -
0.110498
  funcgr          grass          leg  sowndiv:funcgr
sowndiv:grass
 -0.924492      -2.230046      -2.139964      0.014004
0.025339
  sowndiv:leg  funcgr:grass  funcgr:leg  grass:leg
  0.029644      0.305586      0.251218      0.924884

```

```

$`Mite abundance`$L2

```

Call:

```
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)
```

Coefficients:

```
(Intercept)      sowndiv      funcgr      leg
  2.598e-01      4.268e-05     -1.760e-02     -5.472e-03
```

\$`Mite abundance`\$M1

Nonlinear regression model

```
model: response ~ a * sowndiv/(b + sowndiv)
```

```
data: DF
```

```
      a      b
```

```
0.21700 0.02833
```

```
residual sum-of-squares: 2.867
```

Number of iterations to convergence: 6

Achieved convergence tolerance: 1.515e-06

\$`Mite abundance`\$M1a

Nonlinear regression model

```
model: response ~ SSmicmen(sowndiv, Vm, k)
```

```
data: DF
```

```
      Vm      k
```

```
0.21700 0.02834
```

```
residual sum-of-squares: 2.867
```

Number of iterations to convergence: 3

Achieved convergence tolerance: 7.903e-06

\$`Mite abundance`\$E2

Nonlinear regression model

```
model: response ~ a + b * exp(sowndiv)
```

```
data: DF
```

```
      a      b
```

```
2.167e-01 -3.524e-28
```

```
residual sum-of-squares: 2.862
```

Number of iterations to convergence: 4

Achieved convergence tolerance: 1.838e-08

\$`Mite abundance`\$E4

Nonlinear regression model

```
model: response ~ a + exp(sowndiv)
```

```
data: DF
```

```
a
```

```
1
```

```
residual sum-of-squares: 5.217e+52
```

Number of iterations to convergence: 0

Achieved convergence tolerance: 5.804e-20

\$`Mite abundance`\$E5

```
Nonlinear regression model
  model: response ~ b * exp(sowndiv)
  data: DF
      b
1.545e-27
residual sum-of-squares: 6.431

Number of iterations to convergence: 4
Achieved convergence tolerance: 4.232e-09

$`Mite abundance`$Pa2
Nonlinear regression model
  model: response ~ a + b * sowndiv
  data: DF
      a      b
0.2206881 -0.0006976
residual sum-of-squares: 2.861

Number of iterations to convergence: 1
Achieved convergence tolerance: 2.618e-09

$`Mite abundance`$Pa3
Nonlinear regression model
  model: response ~ a + sowndiv^c
  data: DF
      a      c
-0.781150 -0.002813
residual sum-of-squares: 2.867

Number of iterations to convergence: 8
Achieved convergence tolerance: 5.483e-07

$`Mite abundance`$Pa4
Nonlinear regression model
  model: response ~ b * sowndiv^c
  data: DF
      b      c
0.21868 -0.01247
residual sum-of-squares: 2.867

Number of iterations to convergence: 8
Achieved convergence tolerance: 1.286e-06

$`Mite abundance`$Pa5
Nonlinear regression model
  model: response ~ sowndiv^c
  data: DF
      c
-1.305
residual sum-of-squares: 14.49

Number of iterations to convergence: 18
Achieved convergence tolerance: 6.399e-06
```

```
$`Mite abundance`$BIEXP
Nonlinear regression model
  model: response ~ SSbiexp(sowndiv, A1, lrc1, A2, lrc2)
  data: DF
      A1      lrc1      A2      lrc2
-0.03812 -1.33549  0.24011 -5.09350
residual sum-of-squares: 2.856
```

```
Number of iterations to convergence: 19
Achieved convergence tolerance: 7.275e-06
```

```
$`Mite abundance`$LG2
Nonlinear regression model
  model: response ~ SSlogis(sowndiv, Asym, xmid, scal)
  data: DF
      Asym      xmid      scal
  0.2289  97.1762 -31.5272
residual sum-of-squares: 2.861
```

```
Number of iterations to convergence: 40
Achieved convergence tolerance: 9.444e-06
```

```
$`Gamasida abundance`
$`Gamasida abundance`$L0
```

```
Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)
```

```
Coefficients:
  (Intercept)      blockB2      blockB3      blockB4
sowndiv
  0.223179      -0.009512      -0.140608      -0.129438      -
0.037086
  funcgr      grass      leg  sowndiv:funcgr
sowndiv:grass
  -0.030971      -0.022045      -0.014081      0.005080
0.011566
  sowndiv:leg  funcgr:grass  funcgr:leg  grass:leg
  0.010214      0.025204      -0.014118      0.014940
```

```
$`Gamasida abundance`$L2
```

```
Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)
```

```
Coefficients:
  (Intercept)      sowndiv      funcgr      leg
  0.230764      0.005071      -0.035075      -0.037496
```

```
$`Gamasida abundance`$M1
```

```
Nonlinear regression model
  model: response ~ a * sowndiv/(b + sowndiv)
  data: DF
      a      b
0.1914 1.1112
residual sum-of-squares: 2.791
```

```
Number of iterations to convergence: 9
Achieved convergence tolerance: 5.854e-06
```

```
$`Gamasida abundance`$M1a
Nonlinear regression model
  model: response ~ SSmicmen(sowndiv, Vm, k)
  data: DF
      Vm      k
0.1914 1.1114
residual sum-of-squares: 2.791
```

```
Number of iterations to convergence: 12
Achieved convergence tolerance: 6.86e-06
```

```
$`Gamasida abundance`$E2
Nonlinear regression model
  model: response ~ a + b * exp(sowndiv)
  data: DF
      a      b
1.333e-01 1.944e-27
residual sum-of-squares: 2.662
```

```
Number of iterations to convergence: 4
Achieved convergence tolerance: 4.078e-08
```

```
$`Gamasida abundance`$E4
Nonlinear regression model
  model: response ~ a + exp(sowndiv)
  data: DF
a
1
residual sum-of-squares: 5.217e+52
```

```
Number of iterations to convergence: 0
Achieved convergence tolerance: 5.804e-20
```

```
$`Gamasida abundance`$E5
Nonlinear regression model
  model: response ~ b * exp(sowndiv)
  data: DF
      b
3.111e-27
residual sum-of-squares: 4.012
```

```
Number of iterations to convergence: 4
Achieved convergence tolerance: 1.189e-08
```

```
$`Gamasida abundance`$Pa1
Nonlinear regression model
  model: response ~ a + b * sowndiv^c
  data: DF
      a          b          c
0.118550 0.001507 1.234152
residual sum-of-squares: 2.645

Number of iterations to convergence: 6
Achieved convergence tolerance: 1.447e-07
```

```
$`Gamasida abundance`$Pa2
Nonlinear regression model
  model: response ~ a + b * sowndiv
  data: DF
      a          b
0.110844 0.003914
residual sum-of-squares: 2.647
```

```
Number of iterations to convergence: 1
Achieved convergence tolerance: 5.87e-11
```

```
$`Gamasida abundance`$Pa3
Nonlinear regression model
  model: response ~ a + sowndiv^c
  data: DF
      a          c
-0.90674 0.03328
residual sum-of-squares: 2.730
```

```
Number of iterations to convergence: 8
Achieved convergence tolerance: 8.492e-06
```

```
$`Gamasida abundance`$Pa4
Nonlinear regression model
  model: response ~ b * sowndiv^c
  data: DF
      b          c
0.08985 0.27981
residual sum-of-squares: 2.701
```

```
Number of iterations to convergence: 9
Achieved convergence tolerance: 6.145e-06
```

```
$`Gamasida abundance`$Pa5
Nonlinear regression model
  model: response ~ sowndiv^c
  data: DF
      c
-2.452
residual sum-of-squares: 16.47
```

```
Number of iterations to convergence: 18
Achieved convergence tolerance: 3.593e-06
```

```
$`Gamasida abundance`$AS3
Nonlinear regression model
  model: response ~ SSasymOrig(sowndiv, Asym, lrc)
  data: DF
      Asym      lrc
0.15954 0.03061
residual sum-of-squares: 2.824
```

```
Number of iterations to convergence: 19
Achieved convergence tolerance: 5.873e-06
```

```
$`Gamasida abundance`$LG2
Nonlinear regression model
  model: response ~ SSlogis(sowndiv, Asym, xmid, scal)
  data: DF
      Asym      xmid      scal
0.8968 77.2008 40.7402
residual sum-of-squares: 2.644
```

```
Number of iterations to convergence: 4
Achieved convergence tolerance: 2.708e-06
```

```
$`Collembola species richness`
$`Collembola species richness`$L0
```

```
Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
    data = DF)
```

```
Coefficients:
  (Intercept)          blockB2          blockB3          blockB4
sowndiv          4.74471         -0.12271         -0.01488         -0.14914
0.17695
  funcgr          grass          leg  sowndiv:funcgr
sowndiv:grass    -0.89443         -1.72479         -1.84417          0.02206
0.03562
  sowndiv:leg    funcgr:grass    funcgr:leg    grass:leg
          0.05797          0.27653          0.27812          0.64757
```

```
$`Collembola species richness`$L2
```

```
Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)
```

```
Coefficients:
  (Intercept)      sowndiv      funcgr      leg
  0.537532      0.004415     -0.014021    -0.020130
```

```

$`Collembola species richness`$M1
Nonlinear regression model
  model: response ~ a * sowndiv/(b + sowndiv)
  data:  DF
        a      b
0.5738 0.3234
residual sum-of-squares: 2.971

```

```

Number of iterations to convergence: 5
Achieved convergence tolerance: 1.778e-06

```

```

$`Collembola species richness`$M1a
Nonlinear regression model
  model: response ~ SSmicmen(sowndiv, Vm, k)
  data:  DF
        Vm      k
0.5738 0.3234
residual sum-of-squares: 2.971

```

```

Number of iterations to convergence: 4
Achieved convergence tolerance: 2.738e-06

```

```

$`Collembola species richness`$M2
Nonlinear regression model
  model: response ~ d + a * sowndiv/(b + sowndiv)
  data:  DF
        a      b      d
0.3232 21.7764 0.4465
residual sum-of-squares: 2.879

```

```

Number of iterations to convergence: 6
Achieved convergence tolerance: 3.110e-07

```

```

$`Collembola species richness`$E2
Nonlinear regression model
  model: response ~ a + b * exp(sowndiv)
  data:  DF
        a      b
5.072e-01 1.529e-27
residual sum-of-squares: 3.021

```

```

Number of iterations to convergence: 4
Achieved convergence tolerance: 5.023e-08

```

```

$`Collembola species richness`$E4
Nonlinear regression model
  model: response ~ a + exp(sowndiv)
  data:  DF
a
1
residual sum-of-squares: 5.217e+52

```

```

Number of iterations to convergence: 0
Achieved convergence tolerance: 5.804e-20

```



```
$`Collembola species richness`$E5
Nonlinear regression model
  model: response ~ b * exp(sowndiv)
  data: DF
      b
5.97e-27
residual sum-of-squares: 22.57

Number of iterations to convergence: 4
Achieved convergence tolerance: 2.196e-10

$`Collembola species richness`$Pa1
Nonlinear regression model
  model: response ~ a + b * sowndiv^c
  data: DF
      a      b      c
0.37785 0.07782 0.33780
residual sum-of-squares: 2.88

Number of iterations to convergence: 9
Achieved convergence tolerance: 8.77e-07

$`Collembola species richness`$Pa2
Nonlinear regression model
  model: response ~ a + b * sowndiv
  data: DF
      a      b
0.481486 0.004014
residual sum-of-squares: 2.924

Number of iterations to convergence: 1
Achieved convergence tolerance: 1.876e-09

$`Collembola species richness`$Pa3
Nonlinear regression model
  model: response ~ a + sowndiv^c
  data: DF
      a      c
-0.55624 0.04622
residual sum-of-squares: 2.891

Number of iterations to convergence: 8
Achieved convergence tolerance: 5.994e-07

$`Collembola species richness`$Pa4
Nonlinear regression model
  model: response ~ b * sowndiv^c
  data: DF
      b      c
0.44496 0.09605
residual sum-of-squares: 2.888

Number of iterations to convergence: 7
```

Achieved convergence tolerance: 2.901e-07

\$`Collembola species richness`\$Pa5

Nonlinear regression model

model: response ~ sowndiv^c

data: DF

c

-0.3213

residual sum-of-squares: 10.57

Number of iterations to convergence: 12

Achieved convergence tolerance: 2.504e-06

\$`Collembola species richness`\$AS1

Nonlinear regression model

model: response ~ SSasym(sowndiv, Asym, R0, lrc)

data: DF

Asym R0 lrc

0.6934 0.4500 -2.9736

residual sum-of-squares: 2.879

Number of iterations to convergence: 1

Achieved convergence tolerance: 8.852e-07

\$`Collembola species richness`\$AS2

Nonlinear regression model

model: response ~ SSasymOff(sowndiv, Asym, lrc, c0)

data: DF

Asym lrc c0

0.6934 -2.9736 -20.4813

residual sum-of-squares: 2.879

Number of iterations to convergence: 1

Achieved convergence tolerance: 1.365e-06

\$`Collembola species richness`\$AS3

Nonlinear regression model

model: response ~ SSasymOrig(sowndiv, Asym, lrc)

data: DF

Asym lrc

0.5385 0.5376

residual sum-of-squares: 3.043

Number of iterations to convergence: 6

Achieved convergence tolerance: 4.798e-06

\$`Collembola species richness`\$LG2

Nonlinear regression model

model: response ~ SSlogis(sowndiv, Asym, xmid, scal)

data: DF

Asym xmid scal

0.6866 -9.4396 14.2829

residual sum-of-squares: 2.879

Number of iterations to convergence: 1  
 Achieved convergence tolerance: 5.776e-06

\$`Aboveground herbivore abundance`  
 \$`Aboveground herbivore abundance`\$L0

Call:  
 lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,  
 data = DF)

Coefficients:

(Intercept)	blockB2	blockB3	blockB4	
sowndiv				
3.211833	-0.022801	-0.103561	-0.140502	
0.066319				
funcgr	grass	leg	sowndiv:funcgr	
sowndiv:grass				
-0.629014	-1.264339	-1.362688	-0.007438	-
0.007964				
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg	
-0.019563	0.159127	0.265130	0.506788	

\$`Aboveground herbivore abundance`\$L2

Call:  
 lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:

(Intercept)	sowndiv	funcgr	leg
0.304450	0.008327	0.006768	-0.061162

\$`Aboveground herbivore abundance`\$M1  
 Nonlinear regression model  
 model: response ~ a \* sowndiv/(b + sowndiv)  
 data: DF

a	b
0.5849	3.8403

residual sum-of-squares: 1.508

Number of iterations to convergence: 14  
 Achieved convergence tolerance: 7.193e-06

\$`Aboveground herbivore abundance`\$M1a  
 Nonlinear regression model  
 model: response ~ SSmicmen(sowndiv, Vm, k)  
 data: DF

Vm	k
0.5849	3.8406

residual sum-of-squares: 1.508

Number of iterations to convergence: 12

Achieved convergence tolerance: 9.82e-06

\$`Aboveground herbivore abundance`\$M2

Nonlinear regression model

model: response ~ d + a \* sowndiv/(b + sowndiv)

data: DF

a	b	d
1.2291	73.8072	0.1897

residual sum-of-squares: 1.251

Number of iterations to convergence: 8

Achieved convergence tolerance: 8.297e-06

\$`Aboveground herbivore abundance`\$E2

Nonlinear regression model

model: response ~ a + b \* exp(sowndiv)

data: DF

a	b
2.835e-01	4.061e-27

residual sum-of-squares: 1.558

Number of iterations to convergence: 4

Achieved convergence tolerance: 3.021e-08

\$`Aboveground herbivore abundance`\$E4

Nonlinear regression model

model: response ~ a + exp(sowndiv)

data: DF

a

1

residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0

Achieved convergence tolerance: 8.031e-20

\$`Aboveground herbivore abundance`\$E5

Nonlinear regression model

model: response ~ b \* exp(sowndiv)

data: DF

b
6.543e-27

residual sum-of-squares: 5.256

Number of iterations to convergence: 4

Achieved convergence tolerance: 9.403e-09

\$`Aboveground herbivore abundance`\$Pa1

Nonlinear regression model

model: response ~ a + b \* sowndiv^c

data: DF

a	b	c
0.14125	0.05342	0.58765

residual sum-of-squares: 1.237

Number of iterations to convergence: 7  
Achieved convergence tolerance: 9.668e-06

\$`Aboveground herbivore abundance`\$Pa2  
Nonlinear regression model  
model: response ~ a + b \* sowndiv  
data: DF  
a b  
0.219536 0.009292  
residual sum-of-squares: 1.284

Number of iterations to convergence: 1  
Achieved convergence tolerance: 9.678e-10

\$`Aboveground herbivore abundance`\$Pa3  
Nonlinear regression model  
model: response ~ a + sowndiv^c  
data: DF  
a c  
-0.8436 0.0934  
residual sum-of-squares: 1.331

Number of iterations to convergence: 8  
Achieved convergence tolerance: 4.092e-06

\$`Aboveground herbivore abundance`\$Pa4  
Nonlinear regression model  
model: response ~ b \* sowndiv^c  
data: DF  
b c  
0.1681 0.3455  
residual sum-of-squares: 1.261

Number of iterations to convergence: 6  
Achieved convergence tolerance: 9.92e-06

\$`Aboveground herbivore abundance`\$Pa5  
Nonlinear regression model  
model: response ~ sowndiv^c  
data: DF  
c  
-0.4642  
residual sum-of-squares: 14.49

Number of iterations to convergence: 14  
Achieved convergence tolerance: 9.666e-06

\$`Aboveground herbivore abundance`\$AS1  
Nonlinear regression model  
model: response ~ SSasym(sowndiv, Asym, R0, lrc)  
data: DF  
Asym R0 lrc  
0.9843 0.1921 -3.9221  
residual sum-of-squares: 1.253

Number of iterations to convergence: 3  
 Achieved convergence tolerance: 1.304e-06

```
$`Aboveground herbivore abundance`$AS2
Nonlinear regression model
  model: response ~ SSasymOff(sowndiv, Asym, lrc, c0)
  data: DF
      Asym      lrc      c0
0.9843 -3.9221 -10.9625
residual sum-of-squares: 1.253
```

Number of iterations to convergence: 3  
 Achieved convergence tolerance: 1.307e-06

```
$`Aboveground herbivore abundance`$AS3
Nonlinear regression model
  model: response ~ SSasymOrig(sowndiv, Asym, lrc)
  data: DF
      Asym      lrc
0.4746 -1.2771
residual sum-of-squares: 1.666
```

Number of iterations to convergence: 18  
 Achieved convergence tolerance: 5.758e-06

```
$`Aboveground herbivore abundance`$LG2
Nonlinear regression model
  model: response ~ SSlogis(sowndiv, Asym, xmid, scal)
  data: DF
      Asym  xmid  scal
0.779 15.018 14.595
residual sum-of-squares: 1.264
```

Number of iterations to convergence: 2  
 Achieved convergence tolerance: 1.350e-06

```
$`Aboveground carnivore abundance`
$`Aboveground carnivore abundance`$L0
```

```
Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
  data = DF)
```

```
Coefficients:
  (Intercept)          blockB2          blockB3          blockB4
sowndiv
  4.7208466      -0.0886979      -0.0550726      -0.0237293      -
0.0181320
  funcgr          grass          leg  sowndiv:funcgr
sowndiv:grass
 -0.9023465      -1.7673288      -2.0982837          0.0001356
0.0150569
```

sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg
0.0050220	0.2318474	0.3733037	0.7164957

\$`Aboveground carnivore abundance`\$L2

Call:

lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:

(Intercept)	sowndiv	funcgr	leg
0.633127	0.002308	-0.003545	-0.189020

\$`Aboveground carnivore abundance`\$M1

Nonlinear regression model

model: response ~ a \* sowndiv/(b + sowndiv)

data: DF

a	b
---	---

0.5117 1.1924

residual sum-of-squares: 1.806

Number of iterations to convergence: 4

Achieved convergence tolerance: 4.961e-07

\$`Aboveground carnivore abundance`\$M1a

Nonlinear regression model

model: response ~ SSmicmen(sowndiv, Vm, k)

data: DF

Vm	k
----	---

0.5117 1.1924

residual sum-of-squares: 1.806

Number of iterations to convergence: 2

Achieved convergence tolerance: 1.252e-06

\$`Aboveground carnivore abundance`\$M2

Nonlinear regression model

model: response ~ d + a \* sowndiv/(b + sowndiv)

data: DF

a	b	d
---	---	---

0.47154 1.47757 0.04569

residual sum-of-squares: 1.806

Number of iterations to convergence: 3

Achieved convergence tolerance: 9.555e-06

\$`Aboveground carnivore abundance`\$E2

Nonlinear regression model

model: response ~ a + b \* exp(sowndiv)

data: DF

a	b
---	---

3.639e-01 1.160e-27

residual sum-of-squares: 2.269

Number of iterations to convergence: 4  
 Achieved convergence tolerance: 1.832e-08

\$`Aboveground carnivore abundance`\$E4  
 Nonlinear regression model  
 model: response ~ a + exp(sowndiv)  
 data: DF  
 a  
 1  
 residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0  
 Achieved convergence tolerance: 8.031e-20

\$`Aboveground carnivore abundance`\$E5  
 Nonlinear regression model  
 model: response ~ b \* exp(sowndiv)  
 data: DF  
 b  
 4.347e-27  
 residual sum-of-squares: 8.36

Number of iterations to convergence: 4  
 Achieved convergence tolerance: 2.062e-08

\$`Aboveground carnivore abundance`\$Pa2  
 Nonlinear regression model  
 model: response ~ a + b \* sowndiv  
 data: DF  
 a b  
 0.328693 0.004208  
 residual sum-of-squares: 2.115

Number of iterations to convergence: 1  
 Achieved convergence tolerance: 8.806e-10

\$`Aboveground carnivore abundance`\$Pa3  
 Nonlinear regression model  
 model: response ~ a + sowndiv^c  
 data: DF  
 a c  
 -0.73615 0.06541  
 residual sum-of-squares: 1.859

Number of iterations to convergence: 7  
 Achieved convergence tolerance: 2.877e-06

\$`Aboveground carnivore abundance`\$Pa4  
 Nonlinear regression model  
 model: response ~ b \* sowndiv^c  
 data: DF  
 b c  
 0.2773 0.1782



residual sum-of-squares: 1.885

Number of iterations to convergence: 9  
Achieved convergence tolerance: 1.433e-06

\$`Aboveground carnivore abundance`\$Pa5

Nonlinear regression model  
model: response ~ sowndiv^c  
data: DF  
c

-0.3737  
residual sum-of-squares: 12.36

Number of iterations to convergence: 12  
Achieved convergence tolerance: 2.792e-06

\$`Aboveground carnivore abundance`\$AS1

Nonlinear regression model  
model: response ~ SSasym(sowndiv, Asym, R0, lrc)  
data: DF  
Asym R0 lrc

0.4867 0.1448 -1.1667  
residual sum-of-squares: 1.806

Number of iterations to convergence: 2  
Achieved convergence tolerance: 4.346e-06

\$`Aboveground carnivore abundance`\$AS2

Nonlinear regression model  
model: response ~ SSasymOff(sowndiv, Asym, lrc, c0)  
data: DF  
Asym lrc c0

0.4867 -1.1667 -1.1342  
residual sum-of-squares: 1.806

Number of iterations to convergence: 2  
Achieved convergence tolerance: 4.393e-06

\$`Aboveground carnivore abundance`\$AS3

Nonlinear regression model  
model: response ~ SSasymOrig(sowndiv, Asym, lrc)  
data: DF  
Asym lrc

0.4647 -0.4869  
residual sum-of-squares: 1.843

Number of iterations to convergence: 7  
Achieved convergence tolerance: 5.382e-06

\$`Aboveground carnivore abundance`\$LG2

Nonlinear regression model  
model: response ~ SSlogis(sowndiv, Asym, xmid, scal)  
data: DF  
Asym xmid scal

```
0.4851 1.1073 2.0759
residual sum-of-squares: 1.806
```

```
Number of iterations to convergence: 2
Achieved convergence tolerance: 4.695e-07
```

```
$`Aboveground omnivore abundance`
$`Aboveground omnivore abundance`$L0
```

```
Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)
```

```
Coefficients:
(Intercept)      blockB2      blockB3      blockB4
sowndiv
 1.4261864    -0.1177153    -0.1273346    -0.0681818
0.0467792
  funcgr      grass      leg  sowndiv:funcgr
sowndiv:grass
 -0.2237831    -0.2175366    -0.7035044    -0.0069720
0.0062441
  sowndiv:leg  funcgr:grass  funcgr:leg  grass:leg
 -0.0220844    0.0001476    0.1397496    0.1683369
```

```
$`Aboveground omnivore abundance`$L2
```

```
Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)
```

```
Coefficients:
(Intercept)  sowndiv  funcgr  leg
 1.001860    0.003109  -0.090819  -0.352086
```

```
$`Aboveground omnivore abundance`$M1
```

```
Nonlinear regression model
model: response ~ a * sowndiv/(b + sowndiv)
data: DF
a      b
0.3691 0.4050
residual sum-of-squares: 2.396
```

```
Number of iterations to convergence: 5
Achieved convergence tolerance: 8.796e-06
```

```
$`Aboveground omnivore abundance`$M1a
```

```
Nonlinear regression model
model: response ~ SSmicmen(sowndiv, Vm, k)
data: DF
Vm      k
0.3691 0.4050
```

residual sum-of-squares: 2.396

Number of iterations to convergence: 5  
Achieved convergence tolerance: 3.686e-06

\$`Aboveground omnivore abundance`\$M2  
Nonlinear regression model  
model: response ~ d + a \* sowndiv/(b + sowndiv)  
data: DF  
a b d  
0.2379 17.8646 0.2577  
residual sum-of-squares: 2.333

Number of iterations to convergence: 14  
Achieved convergence tolerance: 6.94e-06

\$`Aboveground omnivore abundance`\$E2  
Nonlinear regression model  
model: response ~ a + b \* exp(sowndiv)  
data: DF  
a b  
3.127e-01 9.990e-28  
residual sum-of-squares: 2.424

Number of iterations to convergence: 4  
Achieved convergence tolerance: 6.259e-08

\$`Aboveground omnivore abundance`\$E4  
Nonlinear regression model  
model: response ~ a + exp(sowndiv)  
data: DF  
a  
1  
residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0  
Achieved convergence tolerance: 8.031e-20

\$`Aboveground omnivore abundance`\$E5  
Nonlinear regression model  
model: response ~ b \* exp(sowndiv)  
data: DF  
b  
3.737e-27  
residual sum-of-squares: 6.922

Number of iterations to convergence: 4  
Achieved convergence tolerance: 1.296e-09

\$`Aboveground omnivore abundance`\$Pa1  
Nonlinear regression model  
model: response ~ a + b \* sowndiv^c  
data: DF  
a b c

0.20931 0.06141 0.32966  
residual sum-of-squares: 2.341

Number of iterations to convergence: 13  
Achieved convergence tolerance: 8.086e-06

\$`Aboveground omnivore abundance`\$Pa2  
Nonlinear regression model  
model: response ~ a + b \* sowndiv  
data: DF  
a b  
0.290158 0.002912  
residual sum-of-squares: 2.367

Number of iterations to convergence: 1  
Achieved convergence tolerance: 1.224e-09

\$`Aboveground omnivore abundance`\$Pa3  
Nonlinear regression model  
model: response ~ a + sowndiv^c  
data: DF  
a c  
-0.7365 0.0359  
residual sum-of-squares: 2.348

Number of iterations to convergence: 8  
Achieved convergence tolerance: 7.745e-07

\$`Aboveground omnivore abundance`\$Pa4  
Nonlinear regression model  
model: response ~ b \* sowndiv^c  
data: DF  
b c  
0.2643 0.1190  
residual sum-of-squares: 2.345

Number of iterations to convergence: 7  
Achieved convergence tolerance: 1.189e-06

\$`Aboveground omnivore abundance`\$Pa5  
Nonlinear regression model  
model: response ~ sowndiv^c  
data: DF  
c  
-0.5454  
residual sum-of-squares: 11.93

Number of iterations to convergence: 14  
Achieved convergence tolerance: 3.366e-06

\$`Aboveground omnivore abundance`\$AS1  
Nonlinear regression model  
model: response ~ SSasymp(sowndiv, Asym, R0, lrc)  
data: DF

```

  Asym      R0      lrc
0.4388  0.2585 -2.7408
residual sum-of-squares: 2.33

```

```

Number of iterations to convergence: 6
Achieved convergence tolerance: 5.867e-06

```

```

$`Aboveground omnivore abundance`$AS2
Nonlinear regression model
  model: response ~ SSasymOff(sowndiv, Asym, lrc, c0)
  data: DF
      Asym      lrc      c0
0.4388 -2.7408 -13.7847
residual sum-of-squares: 2.33

```

```

Number of iterations to convergence: 6
Achieved convergence tolerance: 5.769e-06

```

```

$`Aboveground omnivore abundance`$AS3
Nonlinear regression model
  model: response ~ SSasymOrig(sowndiv, Asym, lrc)
  data: DF
      Asym      lrc
0.3414 0.5438
residual sum-of-squares: 2.433

```

```

Number of iterations to convergence: 4
Achieved convergence tolerance: 8.377e-06

```

```

$`Aboveground omnivore abundance`$LG2
Nonlinear regression model
  model: response ~ SSlogis(sowndiv, Asym, xmid, scal)
  data: DF
      Asym      xmid      scal
0.4348 -4.3436 10.8311
residual sum-of-squares: 2.328

```

```

Number of iterations to convergence: 5
Achieved convergence tolerance: 8.04e-06

```

```

$`Parasitoid abundance`
$`Parasitoid abundance`$L0

```

```

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

```

```

Coefficients:
  (Intercept)      blockB2      blockB3      blockB4
sowndiv
  6.176487      -0.131229      -0.243014      -0.065277
0.024879

```

funcgr	grass	leg	sowndiv:funcgr
sowndiv:grass			
-1.120755	-2.414636	-2.630248	-0.001607
0.007002			
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg
-0.015767	0.292672	0.371989	0.971772

\$`Parasitoid abundance`\$L2

Call:

lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:

(Intercept)	sowndiv	funcgr	leg
0.831973	0.008307	-0.062920	-0.325588

\$`Parasitoid abundance`\$M1

Nonlinear regression model

model: response ~ a \* sowndiv/(b + sowndiv)

data: DF

a	b
0.5475	3.7200

0.5475 3.7200

residual sum-of-squares: 3.219

Number of iterations to convergence: 21

Achieved convergence tolerance: 8.92e-06

\$`Parasitoid abundance`\$M1a

Nonlinear regression model

model: response ~ SSmicmen(sowndiv, Vm, k)

data: DF

Vm	k
0.5475	3.7207

0.5475 3.7207

residual sum-of-squares: 3.219

Number of iterations to convergence: 21

Achieved convergence tolerance: 7.14e-06

\$`Parasitoid abundance`\$M2

Nonlinear regression model

model: response ~ d + a \* sowndiv/(b + sowndiv)

data: DF

a	b	d
3.5740	335.9181	0.2029

3.5740 335.9181 0.2029

residual sum-of-squares: 2.772

Number of iterations to convergence: 8

Achieved convergence tolerance: 2.569e-06

\$`Parasitoid abundance`\$E2

Nonlinear regression model

model: response ~ a + b \* exp(sowndiv)

```

data: DF
      a      b
2.706e-01 4.156e-27
residual sum-of-squares: 2.958

Number of iterations to convergence: 4
Achieved convergence tolerance: 7.82e-09

$`Parasitoid abundance`$E4
Nonlinear regression model
  model: response ~ a + exp(sowndiv)
  data: DF
a
1
residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 8.031e-20

$`Parasitoid abundance`$E5
Nonlinear regression model
  model: response ~ b * exp(sowndiv)
  data: DF
      b
6.526e-27
residual sum-of-squares: 6.326

Number of iterations to convergence: 4
Achieved convergence tolerance: 1.800e-08

$`Parasitoid abundance`$Pa1
Nonlinear regression model
  model: response ~ a + b * sowndiv^c
  data: DF
      a      b      c
0.19684 0.01455 0.88557
residual sum-of-squares: 2.771

Number of iterations to convergence: 5
Achieved convergence tolerance: 1.343e-06

$`Parasitoid abundance`$Pa2
Nonlinear regression model
  model: response ~ a + b * sowndiv
  data: DF
      a      b
0.210010 0.009059
residual sum-of-squares: 2.774

Number of iterations to convergence: 1
Achieved convergence tolerance: 1.407e-10

$`Parasitoid abundance`$Pa3
Nonlinear regression model

```

```

model: response ~ a + sowndiv^c
data: DF
      a      c
-0.83867  0.08475
residual sum-of-squares: 2.989

```

Number of iterations to convergence: 9  
 Achieved convergence tolerance: 4.719e-07

```

$`Parasitoid abundance`$Pa4
Nonlinear regression model
model: response ~ b * sowndiv^c
data: DF
      b      c
0.1606  0.3449
residual sum-of-squares: 2.876

```

Number of iterations to convergence: 8  
 Achieved convergence tolerance: 7.317e-06

```

$`Parasitoid abundance`$Pa5
Nonlinear regression model
model: response ~ sowndiv^c
data: DF
      c
-0.5338
residual sum-of-squares: 15.50

```

Number of iterations to convergence: 16  
 Achieved convergence tolerance: 3.879e-06

```

$`Parasitoid abundance`$AS1
Nonlinear regression model
model: response ~ SSasym(sowndiv, Asym, R0, lrc)
data: DF
      Asym      R0      lrc
2.129  0.203 -5.203
residual sum-of-squares: 2.772

```

Number of iterations to convergence: 2  
 Achieved convergence tolerance: 3.416e-08

```

$`Parasitoid abundance`$AS2
Nonlinear regression model
model: response ~ SSasymOff(sowndiv, Asym, lrc, c0)
data: DF
      Asym      lrc      c0
2.129 -5.203 -18.210
residual sum-of-squares: 2.772

```

Number of iterations to convergence: 2  
 Achieved convergence tolerance: 6.217e-08

```

$`Parasitoid abundance`$LG2

```



```

Nonlinear regression model
  model: response ~ SSlogis(sowndiv, Asym, xmid, scal)
  data: DF
    Asym    xmid    scal
0.8386 20.9265 18.8546
residual sum-of-squares: 2.773

```

```

Number of iterations to convergence: 1
Achieved convergence tolerance: 2.611e-06

```

```

$`Hyperparasitoid abundance`
$`Hyperparasitoid abundance`$L0

```

```

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
    data = DF)

```

```

Coefficients:
  (Intercept)      blockB2      blockB4      sowndiv
funcgr
  1.8521809      -0.0320712      0.3509313      0.0255851      -
0.5250246
      grass      leg  sowndiv:funcgr  sowndiv:grass
sowndiv:leg
 -0.7114799      -0.6803634      -0.0004056      -0.0189907      -
0.0037382
  funcgr:grass  funcgr:leg  grass:leg
    0.1759965    0.2076345    0.2063541

```

```

$`Hyperparasitoid abundance`$L2

```

```

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

```

```

Coefficients:
(Intercept)      sowndiv      funcgr      leg
  0.133847      -0.002814      0.059486      0.043011

```

```

$`Hyperparasitoid abundance`$M1
Nonlinear regression model
  model: response ~ a * sowndiv/(b + sowndiv)
  data: DF
    a      b
0.28749 -0.04046
residual sum-of-squares: 3.158

```

```

Number of iterations to convergence: 7
Achieved convergence tolerance: 7.454e-06

```

```

$`Hyperparasitoid abundance`$M1a
Nonlinear regression model

```

```
model: response ~ SSmicmen(sowndiv, Vm, k)
data: DF
      Vm      k
0.28750 -0.04044
residual sum-of-squares: 3.158
```

Number of iterations to convergence: 4  
Achieved convergence tolerance: 1.970e-06

```
$`Hyperparasitoid abundance`$M2
Nonlinear regression model
model: response ~ d + a * sowndiv/(b + sowndiv)
data: DF
      a      b      d
-0.06718 -5.96317 0.28368
residual sum-of-squares: 2.912
```

Number of iterations to convergence: 13  
Achieved convergence tolerance: 6.082e-06

```
$`Hyperparasitoid abundance`$E2
Nonlinear regression model
model: response ~ a + b * exp(sowndiv)
data: DF
      a      b
2.88e-01 3.97e-28
residual sum-of-squares: 3.153
```

Number of iterations to convergence: 4  
Achieved convergence tolerance: 2.245e-08

```
$`Hyperparasitoid abundance`$E4
Nonlinear regression model
model: response ~ a + exp(sowndiv)
data: DF
a
1
residual sum-of-squares: 3.913e+52
```

Number of iterations to convergence: 0  
Achieved convergence tolerance: 6.29e-20

```
$`Hyperparasitoid abundance`$E5
Nonlinear regression model
model: response ~ b * exp(sowndiv)
data: DF
      b
2.919e-27
residual sum-of-squares: 5.227
```

Number of iterations to convergence: 4  
Achieved convergence tolerance: 1.508e-08

```
$`Hyperparasitoid abundance`$Pa1
```

```
Nonlinear regression model
  model: response ~ a + b * sowndiv^c
  data: DF
      a          b          c
0.40685 -0.08832  0.15208
residual sum-of-squares: 3.141

Number of iterations to convergence: 15
Achieved convergence tolerance: 8.373e-06

$`Hyperparasitoid abundance`$Pa2
Nonlinear regression model
  model: response ~ a + b * sowndiv
  data: DF
      a          b
0.3002417 -0.0006191
residual sum-of-squares: 3.155

Number of iterations to convergence: 1
Achieved convergence tolerance: 2.213e-08

$`Hyperparasitoid abundance`$Pa3
Nonlinear regression model
  model: response ~ a + sowndiv^c
  data: DF
      a          c
-0.68051 -0.01787
residual sum-of-squares: 3.142

Number of iterations to convergence: 8
Achieved convergence tolerance: 9.192e-07

$`Hyperparasitoid abundance`$Pa4
Nonlinear regression model
  model: response ~ b * sowndiv^c
  data: DF
      b          c
0.31900 -0.05795
residual sum-of-squares: 3.143

Number of iterations to convergence: 8
Achieved convergence tolerance: 1.611e-06

$`Hyperparasitoid abundance`$Pa5
Nonlinear regression model
  model: response ~ sowndiv^c
  data: DF
      c
-0.5917
residual sum-of-squares: 8.238

Number of iterations to convergence: 11
Achieved convergence tolerance: 8.552e-07
```

```

$`Hyperparasitoid abundance`$AS3
Nonlinear regression model
  model: response ~ SSasymOrig(sowndiv, Asym, lrc)
  data: DF
  Asym    lrc
0.2999 0.9994
  residual sum-of-squares: 3.156

```

```

Number of iterations to convergence: 2
Achieved convergence tolerance: 2.620e-07

```

```

$`Pollinator abundance`
$`Pollinator abundance`$L0

```

```

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

```

```

Coefficients:
  (Intercept)      blockB2      blockB3      blockB4
sowndiv
  1.002187      -0.141355      -0.160610      -0.108764
0.012896
  funcgr      grass      leg  sowndiv:funcgr
sowndiv:grass
 -0.044395      -0.080761      -0.213346      -0.001070
0.007455
  sowndiv:leg  funcgr:grass  funcgr:leg  grass:leg
 -0.015239      -0.045765      0.020650      -0.015216

```

```

$`Pollinator abundance`$L2

```

```

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

```

```

Coefficients:
(Intercept)  sowndiv  funcgr  leg
  0.632480  0.000598 -0.027858 -0.210336

```

```

$`Pollinator abundance`$M1
Nonlinear regression model
  model: response ~ a * sowndiv/(b + sowndiv)
  data: DF
  a      b
0.2856 0.1398
  residual sum-of-squares: 2.009

```

```

Number of iterations to convergence: 6
Achieved convergence tolerance: 1.577e-06

```

```

$`Pollinator abundance`$M1a

```

```
Nonlinear regression model
  model: response ~ SSmicmen(sowndiv, Vm, k)
  data: DF
      Vm      k
0.2856 0.1398
residual sum-of-squares: 2.009
```

```
Number of iterations to convergence: 2
Achieved convergence tolerance: 9.826e-06
```

```
$`Pollinator abundance`$E2
Nonlinear regression model
  model: response ~ a + b * exp(sowndiv)
  data: DF
      a      b
2.629e-01 8.424e-28
residual sum-of-squares: 1.984
```

```
Number of iterations to convergence: 4
Achieved convergence tolerance: 1.549e-08
```

```
$`Pollinator abundance`$E4
Nonlinear regression model
  model: response ~ a + exp(sowndiv)
  data: DF
a
1
residual sum-of-squares: 5.217e+52
```

```
Number of iterations to convergence: 0
Achieved convergence tolerance: 8.031e-20
```

```
$`Pollinator abundance`$E5
Nonlinear regression model
  model: response ~ b * exp(sowndiv)
  data: DF
      b
3.145e-27
residual sum-of-squares: 5.164
```

```
Number of iterations to convergence: 4
Achieved convergence tolerance: 1.324e-08
```

```
$`Pollinator abundance`$Pa2
Nonlinear regression model
  model: response ~ a + b * sowndiv
  data: DF
      a      b
0.252644 0.001651
residual sum-of-squares: 1.985
```

```
Number of iterations to convergence: 1
Achieved convergence tolerance: 1.878e-09
```

```

$`Pollinator abundance`$Pa3
Nonlinear regression model
  model: response ~ a + sowndiv^c
  data: DF
      a      c
-0.75295  0.01492
residual sum-of-squares: 1.998

```

```

Number of iterations to convergence: 8
Achieved convergence tolerance: 1.534e-06

```

```

$`Pollinator abundance`$Pa4
Nonlinear regression model
  model: response ~ b * sowndiv^c
  data: DF
      b      c
0.24658  0.05811
residual sum-of-squares: 1.998

```

```

Number of iterations to convergence: 7
Achieved convergence tolerance: 6.814e-06

```

```

$`Pollinator abundance`$Pa5
Nonlinear regression model
  model: response ~ sowndiv^c
  data: DF
      c
-0.6934
residual sum-of-squares: 11.67

```

```

Number of iterations to convergence: 13
Achieved convergence tolerance: 9.425e-06

```

```

$`Pollinator abundance`$AS3
Nonlinear regression model
  model: response ~ SSasympOrig(sowndiv, Asym, lrc)
  data: DF
  Asym  lrc
0.2784 0.8920
residual sum-of-squares: 2.012

```

```

Number of iterations to convergence: 3
Achieved convergence tolerance: 1.674e-06

```

```

$`Invader abundance`
$`Invader abundance`$L0

```

```

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

```

```

Coefficients:
  (Intercept)      blockB2      blockB3      blockB4
sowndiv

```

0.0948471	-0.1047890	-0.0822876	-0.0698602	
0.0008283				
funcgr	grass	leg	sowndiv:funcgr	
sowndiv:grass				
0.0579528	0.3623876	0.0139182	0.0011248	-
0.0100594				
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg	
0.0013060	-0.0776286	-0.0003597	-0.1033390	

\$`Invader abundance`\$L02

Generalized least squares fit by maximum likelihood

Model: response ~ block + (sowndiv + funcgr + grass + leg)^2

Data: DF

Log-likelihood: 53.2507

Coefficients:

(Intercept)	blockB2	blockB3	blockB4	
sowndiv				
-0.4229337492	-0.1183189954	-0.1304634129	-0.0910711246	
0.0136915868				
funcgr	grass	leg	sowndiv:funcgr	
sowndiv:grass				
0.1684421917	0.6006197821	0.2276533374	-0.0004172888	-
0.0119627573				
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg	
-0.0038335378	-0.1155916413	-0.0182514680	-0.1950475315	

Variance function:

Structure: Exponential of variance covariate

Formula: ~fitted(.)

Parameter estimates:

expon

5.720827

Degrees of freedom: 82 total; 68 residual

Residual standard error: 0.03759467

\$`Invader abundance`\$L011

Generalized least squares fit by maximum likelihood

Model: response ~ block + (sowndiv + funcgr + grass + leg)^2

Data: DF

Log-likelihood: 53.39595

Coefficients:

(Intercept)	blockB2	blockB3	blockB4	
sowndiv				
0.214463989	-0.088644602	-0.088227958	-0.073070824	-
0.004116072				
funcgr	grass	leg	sowndiv:funcgr	
sowndiv:grass				
0.027564026	0.343163236	-0.045344435	0.001604593	-
0.008266401				
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg	
0.002525867	-0.080155696	0.021008184	-0.102308085	

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.3738835  
 Degrees of freedom: 82 total; 68 residual  
 Residual standard error: 0.2197977

\$`Invader abundance`\$L021  
 Generalized least squares fit by maximum likelihood  
 Model: response ~ block + (sowndiv + funcgr + grass + leg)^2  
 Data: DF  
 Log-likelihood: 56.94919

Coefficients:

(Intercept)	blockB2	blockB3	blockB4	
sowndiv				-
0.186472665	0.005263845	0.021510854	0.024733810	
0.028393251				
funcgr	grass	leg	sowndiv:funcgr	
sowndiv:grass				-
0.041281594	0.315519961	-0.024930964	0.004424593	
0.001421379				
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg	
0.008427897	-0.081210990	0.002836866	-0.107116026	

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.08592699  
 Degrees of freedom: 82 total; 68 residual  
 Residual standard error: 0.2526560

\$`Invader abundance`\$L2

Call:  
 lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:

(Intercept)	sowndiv	funcgr	leg
0.567230	-0.004025	-0.051769	-0.144489

\$`Invader abundance`\$L21  
 Generalized least squares fit by maximum likelihood  
 Model: response ~ sowndiv + funcgr + leg  
 Data: DF  
 Log-likelihood: 44.7894

Coefficients:



```
(Intercept)      sowndiv      funcgr      leg
0.484491856 -0.003471566 -0.037187508 -0.114501179
```

Variance function:

Structure: Power of variance covariate

Formula: ~fitted(.)

Parameter estimates:

power

0.942972

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.6937715

\$`Invader abundance`\$L22

Generalized least squares fit by maximum likelihood

Model: response ~ sowndiv + funcgr + leg

Data: DF

Log-likelihood: 39.72063

Coefficients:

```
(Intercept)      sowndiv      funcgr      leg
0.441504105 -0.003573788 -0.029447487 -0.099416362
```

Variance function:

Structure: Exponential of variance covariate

Formula: ~fitted(.)

Parameter estimates:

expon

6.289382

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.04194056

\$`Invader abundance`\$L211

Generalized least squares fit by maximum likelihood

Model: response ~ sowndiv + funcgr + leg

Data: DF

Log-likelihood: 42.1319

Coefficients:

```
(Intercept)      sowndiv      funcgr      leg
0.447412914 -0.003567621 -0.030316035 -0.108397163
```

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.3388165

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.2393709

\$`Invader abundance`\$L222

Generalized least squares fit by maximum likelihood

Model: response ~ sowndiv + funcgr + leg

Data: DF

Log-likelihood: 46.25071

Coefficients:

(Intercept)	sowndiv	funcgr	leg
0.455606549	-0.003420561	-0.032132902	-0.109051649

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon
-0.04910265

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.2098406

\$`Invader abundance`\$M1

Nonlinear regression model

model: response ~ a \* sowndiv/(b + sowndiv)

data: DF

a	b
0.1641	-0.4761

residual sum-of-squares: 2.435

Number of iterations to convergence: 8

Achieved convergence tolerance: 1.998e-06

\$`Invader abundance`\$M1a

Nonlinear regression model

model: response ~ SSmicmen(sowndiv, Vm, k)

data: DF

Vm	k
0.1641	-0.4761

residual sum-of-squares: 2.435

Number of iterations to convergence: 4

Achieved convergence tolerance: 6.607e-06

\$`Invader abundance`\$M2

Nonlinear regression model

model: response ~ d + a \* sowndiv/(b + sowndiv)

data: DF

a	b	d
-0.3348	12.3555	0.3110

residual sum-of-squares: 2.305

Number of iterations to convergence: 8

Achieved convergence tolerance: 5.069e-06

\$`Invader abundance`\$M211

Generalized nonlinear least squares fit

Model: response ~ d + a \* sowndiv/(b + sowndiv)

Data: DF

Log-likelihood: 40.14578

Coefficients:

	a	b	d
	-0.3690034	22.1355213	0.2850952

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power
-0.3712425

Degrees of freedom: 82 total; 79 residual

Residual standard error: 0.2621744

\$`Invader abundance`\$M222

Generalized nonlinear least squares fit

Model: response ~ d + a \* sowndiv/(b + sowndiv)

Data: DF

Log-likelihood: 44.88807

Coefficients:

	a	b	d
	-0.3787998	21.3212682	0.2927103

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon
-0.05099692

Degrees of freedom: 82 total; 79 residual

Residual standard error: 0.2209340

\$`Invader abundance`\$M3

Generalized nonlinear least squares fit

Model: response ~ a \* sowndiv/(b + sowndiv)

Data: DF

Log-likelihood: 30.97222

Coefficients:

a.(Intercept)	a.leg	b.(Intercept)	b.leg
0.24914479	-0.06172622	-0.61869389	0.04318655

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1700533

\$`Invader abundance`\$M311

Generalized nonlinear least squares fit

Model: response ~ a \* sowndiv/(b + sowndiv)

Data: DF

Log-likelihood: 34.41162

Coefficients:

a.(Intercept)	a.leg	b.(Intercept)	b.leg
0.19583611	-0.03598630	-0.75896319	0.10937049

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.1827186  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2138829

\$`Invader abundance`\$M321  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 31.41477

Coefficients:  
 a.(Intercept)           a.leg b.(Intercept)           b.leg  
     0.22005059   -0.04743426   -0.68820082   0.07689891

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.005816461  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1777986

\$`Invader abundance`\$M4  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 29.73078

Coefficients:  
 a.(Intercept)           a.grass b.(Intercept)           b.grass  
     0.07260709   0.06756012   -0.45254503   0.03465354

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1726474

\$`Invader abundance`\$M411  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 34.38195

Coefficients:  
 a.(Intercept)           a.grass b.(Intercept)           b.grass  
     0.05861905   0.06422998   -0.59408588   0.06845999

Variance function:  
 Structure: Power of variance covariate

Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.2175738  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2253233

\$`Invader abundance`\$M422  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 31.71743

Coefficients:  
 a.(Intercept)          a.grass b.(Intercept)          b.grass  
     0.01305763      0.09259118      -0.76114135      0.17346143

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.01481194  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1913664

\$`Invader abundance`\$M511  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 35.62032

Coefficients:  
 a.(Intercept)          a.funcgr b.(Intercept)          b.funcgr  
     0.19010293      -0.02595969      0.19713078      -0.64645796

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.2698072  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2398416

\$`Invader abundance`\$M522  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 34.94891

Coefficients:  
 a.(Intercept)          a.funcgr b.(Intercept)          b.funcgr  
     0.2238262      -0.0497326      0.5401651      -0.9112279

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.0419854  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2323107

\$`Invader abundance`\$M6  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 13.07694

Coefficients:

a.(Intercept)	a.funcgr	a.leg	b.(Intercept)	b.funcgr
-0.23798558	0.04922908	0.14909558	-8.43494986	0.63234113
	b.leg			
	3.60372733			

Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.214291

\$`Invader abundance`\$M611  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 39.48383

Coefficients:

a.(Intercept)	a.funcgr	a.leg	b.(Intercept)	b.funcgr
0.35486102	-0.04600789	-0.08004049	0.07769520	-0.58759789
	b.leg			
	0.04365296			

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.2406816  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2219853

\$`Invader abundance`\$M622  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 24.10479

Coefficients:

a.(Intercept)	a.funcgr	a.leg	b.(Intercept)	b.funcgr

0.01866494 -0.01629558 0.06478459 -2.91537403 -0.01334685  
 b.leg  
 1.20935978

## Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.05140486

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.2912490

## \$`Invader abundance`\$M7

Generalized nonlinear least squares fit

Model: response ~ a \* sowndiv/(b + sowndiv)

Data: DF

Log-likelihood: 30.88462

## Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
0.11149679	-0.01188506	0.04362230	0.35698982	-0.54330152
	b.grass			
	-0.12480209			

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.1724605

## \$`Invader abundance`\$M711

Generalized nonlinear least squares fit

Model: response ~ a \* sowndiv/(b + sowndiv)

Data: DF

Log-likelihood: 36.90214

## Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
0.16392725	-0.02314251	0.01543774	0.86396713	-0.73015934
	b.grass			
	-0.30525716			

## Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.2575043

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.2348789

## \$`Invader abundance`\$M722

Generalized nonlinear least squares fit

Model: response ~ a \* sowndiv/(b + sowndiv)

Data: DF

Log-likelihood: 36.12136

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
0.19177306	-0.04536400	0.01705130	0.98483053	-0.93873615
	b.grass			
	-0.22912603			

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.03959124  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2272863

\$`Invader abundance`\$M81  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 32.2338

Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
0.14438475	0.06545733	-0.05180781	-0.99526402	0.19436730
	b.leg			
	0.11400671			

Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1696461

\$`Invader abundance`\$M821  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 36.09408

Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
0.09134739	0.06759404	-0.02697942	-1.28479553	0.25070728
	b.leg			
	0.21784472			

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.1972918  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2169212

\$`Invader abundance`\$M832  
 Generalized nonlinear least squares fit



Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 33.41921

## Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
0.04804095	0.08994424	-0.01898503	-1.42632619	0.32362842
	b.leg			
	0.24646832			

## Variance function:

Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.01189590  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1851912

## \$`Invader abundance`\$M91

Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 34.29109

## Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
0.53857176	-0.06361510	-0.04335824	-0.12531460	0.93021793
	b.funcgr	b.grass	b.leg	
	-0.53314224	-0.32274917	-0.13194821	

Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.1676636

## \$`Invader abundance`\$M921

Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 27.03216

## Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
-0.22851219	0.05024008	0.08061437	0.06446704	-14.86289205
	b.funcgr	b.grass	b.leg	
	2.25089738	2.84219721	3.16774921	

## Variance function:

Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.3299815  
 Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.2989774

\$`Invader abundance`\$M932  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 38.20703

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
0.46677146	-0.07765869	-0.03216412	-0.08813560	0.86002467
	b.funcgr	b.grass	b.leg	
	-0.83772691	-0.20409047	-0.02626041	

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.03360188  
 Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.2132977

\$`Invader abundance`\$M1332  
 Generalized nonlinear least squares fit  
 Model: response ~ d + a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 51.8033

Coefficients:

a.(Intercept)	a.funcgr	a.leg	b.(Intercept)	b.funcgr
-3.06324133	0.32394216	1.18141394	82.28886459	21.85153865
	b.leg	d.(Intercept)	d.funcgr	d.leg
	-47.44499433	0.72391757	-0.08353662	-0.18371000

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.0494803  
 Degrees of freedom: 82 total; 73 residual  
 Residual standard error: 0.2085139

\$`Invader abundance`\$M1421  
 Generalized nonlinear least squares fit  
 Model: response ~ d + a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 43.54543

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
-7.00327421	0.13867722	3.14584406	1750.08547192	-7.77040726
	b.grass	d.(Intercept)	d.funcgr	d.grass
	-863.09808881	-0.05787106	0.02003169	0.20781047

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.3687438  
 Degrees of freedom: 82 total; 73 residual  
 Residual standard error: 0.2606909

\$`Invader abundance`\$M151  
 Generalized nonlinear least squares fit  
 Model: response ~ d + a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 36.03919

Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
-0.71311972	-0.04280351	0.21235215	154.16358571	-65.73402975
b.leg	d.(Intercept)	d.grass	d.leg	
-10.04856066	0.11409034	0.20155085	-0.06552941	

Degrees of freedom: 82 total; 73 residual  
 Residual standard error: 0.1652475

\$`Invader abundance`\$M1521  
 Generalized nonlinear least squares fit  
 Model: response ~ d + a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 45.93036

Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
-2.689393e+01	1.304132e+01	2.113955e-01	7.604110e+03	-3.789799e+03
b.leg	d.(Intercept)	d.grass	d.leg	
-1.105012e+01	4.960164e-02	2.231372e-01	-4.754850e-02	

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.3595345  
 Degrees of freedom: 82 total; 73 residual  
 Residual standard error: 0.2497796

\$`Invader abundance`\$E2  
 Nonlinear regression model  
 model: response ~ a + b \* exp(sowndiv)  
 data: DF  
     a            b  
 2.197e-01 -1.809e-27  
 residual sum-of-squares: 2.536

Number of iterations to convergence: 4  
 Achieved convergence tolerance: 5.939e-08

\$`Invader abundance`\$E4  
 Nonlinear regression model  
 model: response ~ a + exp(sowndiv)  
 data: DF  
 a  
 1  
 residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0  
 Achieved convergence tolerance: 6.17e-20

\$`Invader abundance`\$E5  
 Nonlinear regression model  
 model: response ~ b \* exp(sowndiv)  
 data: DF  
 b  
 1.151e-28  
 residual sum-of-squares: 6.3

Number of iterations to convergence: 4  
 Achieved convergence tolerance: 1.372e-09

\$`Invader abundance`\$E22  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* exp(sowndiv)  
 Data: DF  
 Log-likelihood: 40.11754

Coefficients:  
 a b  
 1.882089e-01 -1.532909e-27

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.05172093  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.2341514

\$`Invader abundance`\$E31  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 38.79981

Coefficients:  
 a c  
 -0.775235528 -0.004168319

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.3790989  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.2679494

\$`Invader abundance`\$E32  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 43.20836

Coefficients:  
           a                  c  
 -0.770078973 -0.004080025

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.05130422  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.2246845

\$`Invader abundance`\$E41  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -1768.036

Coefficients:  
           a  
 -2.415134

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 14.88816  
 Degrees of freedom: 82 total; 81 residual  
 Residual standard error: 0.1416940

\$`Invader abundance`\$E42  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -801.5105

Coefficients:

a  
-3.069749

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
1.014182  
Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.7079285

\$`Invader abundance`\$E51  
Generalized nonlinear least squares fit  
Model: response ~ b \* exp(sowndiv)  
Data: DF  
Log-likelihood: -1.920097

Coefficients:  
b  
1.151439e-28

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
-0.3560951  
Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.4228511

\$`Invader abundance`\$E52  
Generalized nonlinear least squares fit  
Model: response ~ b \* exp(sowndiv)  
Data: DF  
Log-likelihood: 4.865807

Coefficients:  
b  
1.151439e-28

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.05786626  
Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.3770643

\$`Invader abundance`\$E61  
Generalized nonlinear least squares fit  
Model: response ~ exp(c \* sowndiv)  
Data: DF

Log-likelihood: 11.00391

Coefficients:

$c$   
-0.7305366

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power  
-0.2148205

Degrees of freedom: 82 total; 81 residual

Residual standard error: 0.2928547

\$`Invader abundance`\$E62

Generalized nonlinear least squares fit

Model: response ~ exp( $c * sowndiv$ )

Data: DF

Log-likelihood: 16.51183

Coefficients:

$c$   
-0.811601

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon  
-0.04292147

Degrees of freedom: 82 total; 81 residual

Residual standard error: 0.2877479

\$`Invader abundance`\$Ea10

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF

Log-likelihood: -4912.516

Coefficients:

a.(Intercept)	a.leg
-2963126	911706

Degrees of freedom: 82 total; 80 residual

Residual standard error: 2.553606e+25

\$`Invader abundance`\$Ea12

Generalized nonlinear least squares fit

Model: response ~ exp( $c * sowndiv$ )

Data: DF

Log-likelihood: 16.695

Coefficients:

```
c.(Intercept)      c.leg
  0.3438988      -0.7503805
```

```
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1998497
```

```
$`Invader abundance`$Ea911
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 41.26493
```

```
Coefficients:
a.(Intercept)      a.leg c.(Intercept)      c.leg
-0.687672739  -0.052484133  -0.002881459  -0.002035232
```

```
Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
-0.3742735
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2614469
```

```
$`Invader abundance`$Ea921
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 45.52539
```

```
Coefficients:
a.(Intercept)      a.leg c.(Intercept)      c.leg
-0.688344745  -0.045309377  -0.001729266  -0.003143998
```

```
Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
-0.05068551
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2200353
```

```
$`Invader abundance`$Ea1011
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1766.566
```

```
Coefficients:
a.(Intercept)      a.leg
-2.1745485      -0.1374774
```



Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
14.89503  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.1386226

\$`Invader abundance`\$Ea1021  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -801.4501

Coefficients:  
a.(Intercept) a.leg  
-3.6915954 0.3584942

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
1.014214  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.7116208

\$`Invader abundance`\$Ea121  
Generalized nonlinear least squares fit  
Model: response ~ exp(c \* sowndiv)  
Data: DF  
Log-likelihood: 20.20608

Coefficients:  
c.(Intercept) c.leg  
0.4395948 -0.7699244

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
-0.2217967  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.2661401

\$`Invader abundance`\$Ea1221  
Generalized nonlinear least squares fit  
Model: response ~ exp(c \* sowndiv)  
Data: DF  
Log-likelihood: 24.20597

Coefficients:

```

c.(Intercept)      c.leg
  0.4431009      -0.7919247

```

```

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
-0.04040003
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2579633

```

```

$`Invader abundance`$Eb16
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

```

```

Coefficients:
a.(Intercept)      a.grass
  -3508714          1286426

```

```

Degrees of freedom: 82 total; 80 residual
Residual standard error: 2.553606e+25

```

```

$`Invader abundance`$Eb18
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 8.491606

```

```

Coefficients:
c.(Intercept)      c.grass
  -1.3351941        0.2671049

```

```

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2208772

```

```

$`Invader abundance`$Eb1511
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 42.25407

```

```

Coefficients:
a.(Intercept)      a.grass c.(Intercept)      c.grass
-0.928306486      0.129727349  0.009783139      -0.013238877

```

```

Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
-0.3580496

```

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.2521647

\$`Invader abundance`\$Eb1521  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(c \* sowndiv)  
Data: DF  
Log-likelihood: 47.01877

Coefficients:  
a.(Intercept)            a.grass    c.(Intercept)            c.grass  
-0.929791968    0.131945974    0.009743024    -0.013233999

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.050311111

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.2153709

\$`Invader abundance`\$Eb1611  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -1767.522

Coefficients:  
a.(Intercept)            a.grass  
-2.55864026            0.08200363

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
14.89056

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.1411824

\$`Invader abundance`\$Eb1621  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -801.3425

Coefficients:  
a.(Intercept)            a.grass  
-4.1052831            0.5970601

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv

Parameter estimates:  
 expon  
 1.014318  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.7100529

\$`Invader abundance`\$Eb1811  
 Generalized nonlinear least squares fit  
 Model: response ~ exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 11.13965

Coefficients:  
 c.(Intercept)           c.grass  
   -1.0395104            0.1703889

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
   power  
 -0.2050308  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.2899472

\$`Invader abundance`\$Eb1821  
 Generalized nonlinear least squares fit  
 Model: response ~ exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 16.71487

Coefficients:  
 c.(Intercept)           c.grass  
   -1.2203830            0.2292794

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
   expon  
 -0.04265491  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.2881644

\$`Invader abundance`\$Ec22  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -4912.516

Coefficients:  
 a.(Intercept)           a.funcgr  
   252095.8              -912137.6

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 2.553606e+25

\$`Invader abundance`\$Ec24  
Generalized nonlinear least squares fit  
Model: response ~ exp(c \* sowndiv)  
Data: DF  
Log-likelihood: 13.66704

Coefficients:  
c.(Intercept)      c.funcgr  
-1.1822421      0.2267671

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.2073673

\$`Invader abundance`\$Ec2121  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(c \* sowndiv)  
Data: DF  
Log-likelihood: 45.81655

Coefficients:  
a.(Intercept)      a.funcgr    c.(Intercept)      c.funcgr  
-0.677003919    -0.024301135    -0.018282488      0.003574789

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.05139769

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.2206001

\$`Invader abundance`\$Ec2211  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -1768.036

Coefficients:  
a.(Intercept)      a.funcgr  
2.293596      -4.708730

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
14.88816

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.1425766

```
$`Invader abundance`$Ec2221
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -794.7024

Coefficients:
a.(Intercept)      a.funcgr
   3.673552        -6.349790

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
  1.021545
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.6154255
```

```
$`Invader abundance`$Ec2411
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 16.33890
```

```
Coefficients:
c.(Intercept)      c.funcgr
  -1.0879521        0.2061365
```

```
Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
  -0.1929917
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.267313
```

```
$`Invader abundance`$Ec2421
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 21.53604
```

```
Coefficients:
c.(Intercept)      c.funcgr
  -1.1494337        0.2263834
```

```
Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
  -0.04149374
```

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.2690151

\$`Invader abundance`\$Ed28  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -4912.516

Coefficients:  
a.(Intercept)      a.funcgr      a.leg  
872779.4      -990730.6      -307654.9

Degrees of freedom: 82 total; 79 residual  
Residual standard error: 2.569717e+25

\$`Invader abundance`\$Ed2811  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -1766.566

Coefficients:  
a.(Intercept)      a.funcgr      a.leg  
2.5685513      -4.7430997      -0.1374774

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
14.89503

Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.1394972

\$`Invader abundance`\$Ed2821  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -794.6891

Coefficients:  
a.(Intercept)      a.funcgr      a.leg  
3.9686351      -6.3865345      -0.1476168

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
1.021569

Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.6190824

```

$`Invader abundance`$Ed3021
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 25.09075

Coefficients:
c.(Intercept)      c.funcgr      c.leg
  0.08860051      0.07610679     -0.65174044

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
-0.0398211
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.2555317

```

```

$`Invader abundance`$Ee40
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr      a.grass
 -335850.6        -839615.5      296563.3

Degrees of freedom: 82 total; 79 residual
Residual standard error: 2.569717e+25

```

```

$`Invader abundance`$Ee341
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1767.522

Coefficients:
a.(Intercept)      a.funcgr      a.grass
  2.12958922      -4.68822946     0.08200362

```

```

Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
14.89056
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1420732

```

```

$`Invader abundance`$Ee342
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)

```



Data: DF  
Log-likelihood: -794.6968

Coefficients:  
a.(Intercept)      a.funcgr      a.grass  
3.48229916      -6.32582543      0.09559537

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
  expon  
1.021555  
Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.6192145

\$`Invader abundance`\$Ef40  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -4912.516

Coefficients:  
a.(Intercept)      a.grass      a.leg  
-5251826      1394676      1054750

Degrees of freedom: 82 total; 79 residual  
Residual standard error: 2.569717e+25

\$`Invader abundance`\$Ef3721  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* exp(c \* sowndiv)  
Data: DF  
Log-likelihood: -2739.352

Coefficients:  
a.(Intercept)      a.grass      a.leg      b.(Intercept)      b.grass  
4.550016e-01      3.824826e-02      -1.244299e-01      -1.671282e-04      6.483160e-05  
                  b.leg      c.(Intercept)      c.grass      c.leg  
1.766882e-05      1.000011e+00      9.999959e-01      9.999988e-01

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
  expon  
4.462693  
Degrees of freedom: 82 total; 73 residual  
Residual standard error: 0.001896154

\$`Invader abundance`\$Ef3921  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(c \* sowndiv)  
Data: DF

Log-likelihood: 49.45979

Coefficients:

a.(Intercept)	a.grass	a.leg	c.(Intercept)	c.grass
-0.801347675	0.135550858	-0.088151532	0.008757770	-0.015175787
	c.leg			
	0.001997876			

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.04984311

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.2109377

\$`Invader abundance`\$Ef4011

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF

Log-likelihood: -1766.448

Coefficients:

a.(Intercept)	a.grass	a.leg
-2.26951526	0.04070006	-0.12391071

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

14.89558

Degrees of freedom: 82 total; 79 residual

Residual standard error: 0.1391824

\$`Invader abundance`\$Ef4021

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF

Log-likelihood: -801.165

Coefficients:

a.(Intercept)	a.grass	a.leg
-5.6465543	0.8307653	0.6548644

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

1.014429

Degrees of freedom: 82 total; 79 residual

Residual standard error: 0.7123082

\$`Invader abundance`\$Ef4211  
 Generalized nonlinear least squares fit  
 Model: response ~ exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 20.86188

Coefficients:  
 c.(Intercept)          c.grass                  c.leg  
                   0.6029478        -0.1165741        -0.7653157

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
                   power  
 -0.2064317  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.259694

\$`Invader abundance`\$Ef4221  
 Generalized nonlinear least squares fit  
 Model: response ~ exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 25.19821

Coefficients:  
 c.(Intercept)          c.grass                  c.leg  
                   0.6912315        -0.1620634        -0.7931793

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
                   expon  
 -0.04032088  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.2562944

\$`Invader abundance`\$Eg46  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -4912.516

Coefficients:  
 a.(Intercept)          a.funcgr                  a.grass                  a.leg  
                   292092.0        -918391.5        183181.3        -199834.3

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 2.586137e+25

\$`Invader abundance`\$Eg4611  
 Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -1766.448

## Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg
2.46001782	-4.72953304	0.04070005	-0.12391072

## Variance function:

Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 14.89558  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1400717

\$`Invader abundance`\$Eg4621  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -794.688

## Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg
3.84221323	-6.37072032	0.04567755	-0.13008952

## Variance function:

Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 1.021571  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.6230196

\$`Invader abundance`\$Pa1  
 Nonlinear regression model  
 model: response ~ a + b \* sowndiv^c  
 data: DF  

a	b	c
0.6022	-0.3072	0.1550

 residual sum-of-squares: 2.295

Number of iterations to convergence: 11  
 Achieved convergence tolerance: 2.866e-06

\$`Invader abundance`\$Pa2  
 Nonlinear regression model  
 model: response ~ a + b \* sowndiv  
 data: DF  

a	b
0.250758	-0.004793

 residual sum-of-squares: 2.393

Number of iterations to convergence: 1  
 Achieved convergence tolerance: 1.430e-10

\$`Invader abundance`\$Pa3  
 Nonlinear regression model  
 model: response ~ a + sowndiv^c  
 data: DF  
       a          c  
 -0.6949 -0.0696  
 residual sum-of-squares: 2.302

Number of iterations to convergence: 8  
 Achieved convergence tolerance: 1.388e-06

\$`Invader abundance`\$Pa4  
 Nonlinear regression model  
 model: response ~ b \* sowndiv^c  
 data: DF  
       b          c  
 0.3097 -0.2947  
 residual sum-of-squares: 2.322

Number of iterations to convergence: 9  
 Achieved convergence tolerance: 1.03e-06

\$`Invader abundance`\$Pa5  
 Nonlinear regression model  
 model: response ~ sowndiv^c  
 data: DF  
       c  
 -1.388  
 residual sum-of-squares: 10.87

Number of iterations to convergence: 16  
 Achieved convergence tolerance: 4.725e-06

\$`Invader abundance`\$Pb11  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 30.27011

Coefficients:  
       a          b          c  
 0.6021535 -0.3071771 0.1549520

Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.1704266

\$`Invader abundance`\$Pb21  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF

Log-likelihood: 28.55619

Coefficients:

	a	b
	0.250758061	-0.004792753

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.1729352

\$`Invader abundance`\$Pb31

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 30.13368

Coefficients:

	a	c
	-0.69489839	-0.06960382

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.1696401

\$`Invader abundance`\$Pb41

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 29.78818

Coefficients:

	b	c
	0.3097057	-0.2947488

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.1703564

\$`Invader abundance`\$Pb51

Generalized nonlinear least squares fit

Model: response ~ sowndiv<sup>c</sup>

Data: DF

Log-likelihood: -33.51072

Coefficients:

	c
	-1.387611

Degrees of freedom: 82 total; 81 residual

Residual standard error: 0.366361

\$`Invader abundance`\$Pc121

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 40.35215

Coefficients:

a	b	c
0.4463549	-0.1595320	0.2430347

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power
-0.3705384

Degrees of freedom: 82 total; 79 residual

Residual standard error: 0.2612421

\$`Invader abundance`\$Pc131

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv^c

Data: DF

Log-likelihood: 45.11403

Coefficients:

a	b	c
0.4565660	-0.1664563	0.2392683

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon
-0.05095225

Degrees of freedom: 82 total; 79 residual

Residual standard error: 0.2202416

\$`Invader abundance`\$Pc221

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv

Data: DF

Log-likelihood: 38.58775

Coefficients:

a	b
0.219798405	-0.003585873

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power
-0.3806004

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.2692427

\$`Invader abundance`\$Pc231

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv

Data: DF  
Log-likelihood: 42.97463

Coefficients:

a	b
0.225341330	-0.003541865

Variance function:

Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:

expon
-0.05134829

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.2254111

\$`Invader abundance`\$Pc321

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 39.60107

Coefficients:

a	c
-0.67341011	-0.08345803

Variance function:

Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:

power
-0.3556401

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.256262

\$`Invader abundance`\$Pc331

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 43.82733

Coefficients:

a	c
-0.66409766	-0.09471116

Variance function:

Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:

expon
-0.05052622

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.2215104



```
$`Invader abundance`$Pc421
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 37.77617
```

Coefficients:

```
      b      c
0.3350423 -0.3643016
```

Variance function:

```
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
  power
-0.3072863
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2438784
```

```
$`Invader abundance`$Pc431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 36.14356
```

Coefficients:

```
      b      c
0.3489759 -0.5070250
```

Variance function:

```
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
  expon
-0.03289137
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2090916
```

```
$`Invader abundance`$Pc521
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 8.496593
```

Coefficients:

```
      c
-0.872734
```

Variance function:

```
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
  power
-0.7349819
```

Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.6535871

\$`Invader abundance`\$Pc531  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -4.439147

Coefficients:

c  
-1.046137

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:

expon  
-0.06754658  
Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.4589769

\$`Invader abundance`\$Pd61  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv^c  
Data: DF  
Log-likelihood: 30.47216

Coefficients:

a.(Intercept)	a.funcgr	b.(Intercept)	b.funcgr	c.(Intercept)
0.334886306	-0.024877669	-0.022998214	0.002586177	0.950513525
	c.funcgr			
	-0.065539989			

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1733301

\$`Invader abundance`\$Pd71  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 30.40951

Coefficients:

a.(Intercept)	a.funcgr	b.(Intercept)	b.funcgr
0.329927604	-0.029343753	-0.017308412	0.003515594

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1712243

\$`Invader abundance`\$Pd81  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF

Log-likelihood: 30.16052

Coefficients:

a.(Intercept)	a.funcgr	c.(Intercept)	c.funcgr
-0.707741015	0.009028536	-0.062774310	-0.004499274

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.171745

\$`Invader abundance`\$Pd91

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv^c

Data: DF

Log-likelihood: 29.91367

Coefficients:

b.(Intercept)	b.funcgr	c.(Intercept)	c.funcgr
0.27563864	0.02688852	-0.22760621	-0.04409281

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1722628

\$`Invader abundance`\$Pd101

Generalized nonlinear least squares fit

Model: response ~ sowndiv^c

Data: DF

Log-likelihood: -32.67393

Coefficients:

c.(Intercept)	c.funcgr
-2.0533833	0.2959445

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.3649008

\$`Invader abundance`\$Pe621

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv^c

Data: DF

Log-likelihood: 41.38124

Coefficients:

a.(Intercept)	a.funcgr	b.(Intercept)	b.funcgr	c.(Intercept)
0.3029607303	-0.0236047650	-0.0059872898	0.0007383095	1.4547741331
	c.funcgr			
	-0.1099692391			

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.3914348

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.2713142

\$`Invader abundance`\$Pe631  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv^c  
Data: DF  
Log-likelihood: 45.96573

Coefficients:  
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr c.(Intercept)  
0.311832748   -0.023913670   -0.008152650   0.001042906   1.338836124  
c.funcgr  
-0.094651265

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.05146487  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.2232064

\$`Invader abundance`\$Pe721  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 41.20443

Coefficients:  
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr  
0.317563066   -0.025127691   -0.016136583   0.003191292

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
-0.3877693  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.2669348

\$`Invader abundance`\$Pe731  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 45.8575

Coefficients:  
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr  
0.321984677   -0.025366830   -0.016541130   0.003271439

Variance function:  
Structure: Exponential of variance covariate

Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.05141859  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2205295

\$`Invader abundance`\$Pe821  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 39.85312

Coefficients:  
 a.(Intercept)      a.funcgr    c.(Intercept)      c.funcgr  
 -0.71712737      0.02334206    -0.06350915      -0.01016126

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.3624853  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2613728

\$`Invader abundance`\$Pe831  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 44.56813

Coefficients:  
 a.(Intercept)      a.funcgr    c.(Intercept)      c.funcgr  
 -0.73405610      0.03616619    -0.05556796      -0.01698256

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.05085261  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2229386

\$`Invader abundance`\$Pe921  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 38.53071

Coefficients:  
 b.(Intercept)      b.funcgr    c.(Intercept)      c.funcgr  
 0.23886600      0.06471418    -0.21923353      -0.07966958

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.3289522  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2527224

\$`Invader abundance`\$Pe931  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 40.77589

Coefficients:  
 b.(Intercept)      b.funcgr    c.(Intercept)      c.funcgr  
     0.13600578      0.15785010      -0.08859434      -0.20082956

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.04712211  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2261312

\$`Invader abundance`\$Pe1021  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: 8.958299

Coefficients:  
 c.(Intercept)      c.funcgr  
     -1.01814997      0.04865806

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.7216424  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.6411433

\$`Invader abundance`\$Pe1031  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -4.182259

## Coefficients:

c.(Intercept)	c.funcgr
-1.3155657	0.0710146

## Variance function:

Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.06700493  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.458256

## \$`Invader abundance`\$Pf111

Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 32.65248

## Coefficients:

a.(Intercept)	a.grass	b.(Intercept)	b.grass	c.(Intercept)
0.01246323	0.18392084	0.04580310	-0.04841561	1.46016543
	c.grass			
	-0.42282426			

Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1687821

## \$`Invader abundance`\$Pf121

Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 32.56315

## Coefficients:

a.(Intercept)	a.grass	b.(Intercept)	b.grass
0.060921396	0.136957262	0.009385455	-0.012442343

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1667858

## \$`Invader abundance`\$Pf131

Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 31.75053

## Coefficients:

a.(Intercept)	a.grass	c.(Intercept)	c.grass
-0.8780006764	0.1103969138	0.0006062357	-0.0406280171

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1684469

\$`Invader abundance`\$Pf141  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 31.3878

Coefficients:

b.(Intercept)	b.grass	c.(Intercept)	c.grass
0.12053981	0.11105461	-0.13533294	-0.06973454

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1691937

\$`Invader abundance`\$Pf151  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -33.45612

Coefficients:

c.(Intercept)	c.grass
-1.7512639	0.2226676

Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.3683982

\$`Invader abundance`\$Pg171  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 31.24589

Coefficients:

a.(Intercept)	a.leg	b.(Intercept)	b.leg
0.367348662	-0.069728795	-0.002226355	-0.003299537

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1694867

\$`Invader abundance`\$Pg181  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 34.98048

Coefficients:

a.(Intercept)	a.leg	c.(Intercept)	c.leg
-0.38687935	-0.18352827	-0.18833358	0.06448595

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1619408

\$`Invader abundance`\$Pg191  
 Generalized nonlinear least squares fit



Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 34.617

Coefficients:  
b.(Intercept)            b.leg    c.(Intercept)            c.leg  
    0.64453474    -0.19511823    -0.46081723            0.05862756

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1626602

\$`Invader abundance`\$Pg201  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -31.33639

Coefficients:  
c.(Intercept)            c.leg  
    0.3461394            -1.2994556

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.3589970

\$`Invader abundance`\$Ph221  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 36.48591

Coefficients:  
a.(Intercept)            a.funcgr            a.leg    b.(Intercept)            b.funcgr  
    0.74196716    -0.08085495    -0.20605396    -0.04247883            0.00665702  
          b.leg  
    0.01260532

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1610733

\$`Invader abundance`\$Ph231  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 35.82151

Coefficients:  
a.(Intercept)            a.funcgr            a.leg    c.(Intercept)            c.funcgr  
   -0.29330126    -0.04519313    -0.20575353    -0.18272442            0.01151563  
          c.leg  
    0.05964037

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1623837

\$`Invader abundance`\$Ph241  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 36.03314

Coefficients:  
 b.(Intercept)      b.funcgr              b.leg    c.(Intercept)      c.funcgr  
   0.606486707    -0.002070936    -0.174474923    0.139433226    -0.118852294  
                   c.leg  
 -0.162655265

Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1619651

\$`Invader abundance`\$Ph251  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -31.33605

Coefficients:  
 c.(Intercept)      c.funcgr              c.leg  
   0.371502130    -0.005913315    -1.308434410

Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.3612605

\$`Invader abundance`\$Pi261  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 32.91713

Coefficients:  
 a.(Intercept)      a.funcgr              a.grass    b.(Intercept)      b.funcgr  
 -0.810997336    0.020617861    0.993457000    0.817768129    0.001028162  
                   b.grass    c.(Intercept)      c.funcgr              c.grass  
 -0.839826789    1.061651547    0.021512249    -0.508249447

Degrees of freedom: 82 total; 73 residual  
 Residual standard error: 0.1716604

\$`Invader abundance`\$Pi271  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 32.72635

Coefficients:  
 a.(Intercept)      a.funcgr              a.grass    b.(Intercept)      b.funcgr  
   0.0568018865    0.0048470791    0.1368367932    0.0038503489    0.0009098336  
                   b.grass  
 -0.0107404964

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1686302

\$`Invader abundance`\$Pi281  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 32.28086

Coefficients:

a.(Intercept)	a.funcgr	a.grass	c.(Intercept)	c.funcgr
-0.98693651	0.04177543	0.14131378	0.04795075	-0.01709286
	c.grass			
	-0.05690232			

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1695488

\$`Invader abundance`\$Pi291  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 32.28284

Coefficients:

b.(Intercept)	b.funcgr	b.grass	c.(Intercept)	c.funcgr
-0.08027685	0.07968513	0.16941868	0.18680723	-0.11349684
	c.grass			
	-0.17106800			

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1695447

\$`Invader abundance`\$Pi301  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -32.36455

Coefficients:

c.(Intercept)	c.funcgr	c.grass
-2.9840753	0.4046579	0.4628305

Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.3658202

\$`Invader abundance`\$Pj311  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv^c  
Data: DF  
Log-likelihood: 35.96113

Coefficients:

a. (Intercept)	a. grass	a. leg	b. (Intercept)	b. grass
0.62644521	0.36488683	-0.36160357	-0.25609047	-0.26999765
	b. leg	c. (Intercept)	c. grass	c. leg
0.22230622	0.15029902	-0.02564616	0.04504088	

Degrees of freedom: 82 total; 73 residual  
Residual standard error: 0.1654049

\$`Invader abundance`\$Pj321  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 35.06818

Coefficients:

a. (Intercept)	a. grass	a. leg	b. (Intercept)	b. grass
0.211907505	0.131319410	-0.090396796	0.008342197	-0.013768391
	b. leg			
0.001266285				

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1638824

\$`Invader abundance`\$Pj331  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 35.63367

Coefficients:

a. (Intercept)	a. grass	a. leg	c. (Intercept)	c. grass
-0.54051894	0.07542841	-0.16684317	-0.11468758	-0.03678350
	c. leg			
0.05770076				

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1627561

\$`Invader abundance`\$Pj341  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 35.06263

Coefficients:

b. (Intercept)	b. grass	b. leg	c. (Intercept)	c. grass
0.52666596	0.04666181	-0.17349889	-0.45241915	0.02444973
	c. leg			
0.04997824				

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1638935

\$`Invader abundance`\$Pj351

Generalized nonlinear least squares fit

Model: response ~ sowndiv<sup>c</sup>

Data: DF

Log-likelihood: -31.29572

Coefficients:

c.(Intercept)	c.grass	c.leg
0.5413296	-0.1156257	-1.3220242

Degrees of freedom: 82 total; 79 residual

Residual standard error: 0.3610829

\$`Invader abundance`\$Pk371

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv

Data: DF

Log-likelihood: 36.71996

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
0.624691484	-0.066163108	0.037170612	-0.184409728	-0.020357008
	b.funcgr	b.grass	b.leg	
	0.003917047	-0.006774679	0.008214975	

Degrees of freedom: 82 total; 74 residual

Residual standard error: 0.1627702

\$`Invader abundance`\$Pk381

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 36.23872

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	c.(Intercept)
-0.459401161	-0.025255999	0.056790821	-0.178382472	-0.021458703
	c.funcgr	c.grass	c.leg	
	-0.007875366	-0.053316744	0.030532974	

Degrees of freedom: 82 total; 74 residual

Residual standard error: 0.1637283

\$`Invader abundance`\$Pk391

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 36.9996

Coefficients:

b.(Intercept)	b.funcgr	b.grass	b.leg	c.(Intercept)
0.33098399	0.04054253	0.09658130	-0.13986018	1.18043035
	c.funcgr	c.grass	c.leg	
	-0.26125736	-0.33538575	-0.33347420	

Degrees of freedom: 82 total; 74 residual  
Residual standard error: 0.1622161

\$`Invader abundance`\$Pk401  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -31.17508

Coefficients:  
c.(Intercept)      c.funcgr      c.grass      c.leg  
1.9325895      -0.1990075      -0.4236287      -1.7021928

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.3628559

\$`Invader abundance`\$Pm1121  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv^c  
Data: DF  
Log-likelihood: 42.42333

Coefficients:  
a.(Intercept)      a.grass      b.(Intercept)      b.grass      c.(Intercept)  
-0.05037650      0.24254113      0.09448375      -0.09626433      1.81522301  
c.grass  
-0.68911776

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
-0.3604728  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.2558531

\$`Invader abundance`\$Pm1221  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 42.18275

Coefficients:  
a.(Intercept)      a.grass      b.(Intercept)      b.grass  
0.073515985      0.125042409      0.008016638      -0.011098131

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
-0.3579639  
Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.2523521

\$`Invader abundance`\$Pm1231  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 46.96174

Coefficients:  
a.(Intercept)            a.grass b.(Intercept)            b.grass  
0.070209116    0.128894368    0.008104369    -0.011203394

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.05032007  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.2155373

\$`Invader abundance`\$Pm1321  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 40.15715

Coefficients:  
a.(Intercept)            a.grass c.(Intercept)            c.grass  
-0.78883988    0.07384008    -0.03833572    -0.02887602

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
-0.3358681  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.2503161

\$`Invader abundance`\$Pm1331  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 44.25284

Coefficients:  
a.(Intercept)            a.grass c.(Intercept)            c.grass  
-0.738973564    0.044413990    -0.076195327    -0.007767322

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:

expon  
 -0.04985922  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2218969

\$`Invader abundance`\$Pm1421  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 38.55335

Coefficients:  
 b.(Intercept)            b.grass c.(Intercept)            c.grass  
           0.20007863        0.07929307     -0.30412670        -0.01490977

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           power  
 -0.2918026  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2390957

\$`Invader abundance`\$Pm1431  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 38.29122

Coefficients:  
 b.(Intercept)            b.grass c.(Intercept)            c.grass  
           0.29353730        0.02802755     -0.84750757        0.26258246

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           expon  
 -0.03967438  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2186506

\$`Invader abundance`\$Pm1521  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: 8.557915

Coefficients:  
 c.(Intercept)            c.grass  
           -0.8147400        -0.0457785

Variance function:



Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.7336138  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.6558344

\$`Invader abundance`\$Pm1531  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -4.433769

Coefficients:  
 c.(Intercept)           c.grass  
   -1.01642869       -0.02797205

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.06750813  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.4616539

\$`Invader abundance`\$Pn1721  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 40.99492

Coefficients:  
 a.(Intercept)           a.leg b.(Intercept)           b.leg  
   0.298743334   -0.046613021   -0.001761901   -0.002341891

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.3768088  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2632983

\$`Invader abundance`\$Pn1731  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 45.23193

Coefficients:  
 a.(Intercept)           a.leg b.(Intercept)           b.leg

0.2984515528 -0.0396607377 -0.0008158036 -0.0032827198

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.05077733

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.2209983

\$`Invader abundance`\$Pn1821

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 44.15542

Coefficients:

a.(Intercept)	a.leg	c.(Intercept)	c.leg
-0.34990756	-0.20756525	-0.21488556	0.08246755

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.3448227

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.2415940

\$`Invader abundance`\$Pn1831

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 48.69719

Coefficients:

a.(Intercept)	a.leg	c.(Intercept)	c.leg
-0.33708150	-0.21043306	-0.22848745	0.08741645

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.0494622

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.2094751

\$`Invader abundance`\$Pn1921

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 42.29265

Coefficients:

b.(Intercept)	b.leg	c.(Intercept)	c.leg
0.7492946	-0.2515664	-0.6667354	0.1829145

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.2990622  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2309129

\$`Invader abundance`\$Pn1931  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 41.14902

Coefficients:

b.(Intercept)	b.leg	c.(Intercept)	c.leg
0.8091815	-0.2787171	-0.9716606	0.3260912

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.03473652  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2023969

\$`Invader abundance`\$Pn2021  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: 10.34763

Coefficients:

c.(Intercept)	c.leg
-0.4946436	-0.3184766

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.7059934  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.6158959

\$`Invader abundance`\$Pn2031  
 Generalized nonlinear least squares fit

Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -2.959177

Coefficients:  
 c.(Intercept)           c.leg  
   -0.1215847       -0.8989223

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
   expon  
 -0.06618317  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.4482976

\$`Invader abundance`\$Pp2121  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 47.06444

Coefficients:  
 a.(Intercept)       a.funcgr           a.leg b.(Intercept)       b.funcgr  
   0.731900609   -0.075370031   -0.217215733   -0.024957840   0.002177117  
           b.leg c.(Intercept)       c.funcgr           c.leg  
   0.010331652   1.116923794   -0.143047205   0.313475037

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
   power  
 -0.3696229  
 Degrees of freedom: 82 total; 73 residual  
 Residual standard error: 0.2500662

\$`Invader abundance`\$Pp2221  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 46.6413

Coefficients:  
 a.(Intercept)       a.funcgr           a.leg b.(Intercept)       b.funcgr  
   0.754060781   -0.079920835   -0.217718144   -0.043749592   0.006657424  
           b.leg  
   0.013757482

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:

```

    power
-0.3602385
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2429406

```

```

$`Invader abundance`$Pp2231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 50.80888

```

```

Coefficients:
a.(Intercept)      a.funcgr      a.leg b.(Intercept)      b.funcgr
  0.740612710   -0.077819900  -0.209156810  -0.042672968   0.006541472
      b.leg
  0.013057536

```

```

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
-0.04959603
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.207056

```

```

$`Invader abundance`$Pp2321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 44.9155

```

```

Coefficients:
a.(Intercept)      a.funcgr      a.leg c.(Intercept)      c.funcgr
 -0.18916469   -0.04644753  -0.26095110  -0.27502109   0.01819533
      c.leg
  0.10311909

```

```

Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
-0.3405568
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2409632

```

```

$`Invader abundance`$Pp2331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 48.98426

```

```

Coefficients:

```

a.(Intercept)	a.funcgr	a.leg	c.(Intercept)	c.funcgr
-0.266122291	-0.025560877	-0.231704014	-0.239340627	0.007489603
	c.leg			
	0.090219468			

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.04906694  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2107554

\$`Invader abundance`\$Pp2421  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 43.81555

b.(Intercept)	b.funcgr	b.leg	c.(Intercept)	c.funcgr
0.64446407	0.02388094	-0.21455454	-0.10939863	-0.11341270
	c.leg			
	-0.01819977			

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.303572  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2311695

\$`Invader abundance`\$Pp2431  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 45.80999

b.(Intercept)	b.funcgr	b.leg	c.(Intercept)	c.funcgr
0.56237821	0.09185412	-0.20903260	0.11062056	-0.22723805
	c.leg			
	-0.07450236			

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.04446559  
 Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.2105882

\$`Invader abundance`\$Pp2521  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: 10.51697

Coefficients:  
c.(Intercept)      c.funcgr      c.leg  
-0.28614192    -0.03840577    -0.39871699

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
-0.7098015  
Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.6220096

\$`Invader abundance`\$Pp2531  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -2.462987

Coefficients:  
c.(Intercept)      c.funcgr      c.leg  
0.6423419      -0.1113610    -1.2335512

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.06657737  
Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.4499246

\$`Invader abundance`\$Pq2721  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 42.66089

Coefficients:  
a.(Intercept)      a.funcgr      a.grass    b.(Intercept)      b.funcgr  
0.076943882    0.004811255    0.121049346    0.001683290    0.001004948  
    b.grass  
-0.009075095

Variance function:  
Structure: Power of variance covariate

Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.3669896  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2575931

\$`Invader abundance`\$Pq2731  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 47.46071

Coefficients:  
 a.(Intercept)      a.funcgr      a.grass    b.(Intercept)      b.funcgr  
   0.071523283    0.005966201    0.125508102    0.001488101    0.001046019  
           b.grass  
 -0.009133785

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.0506212  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2175921

\$`Invader abundance`\$Pq2821  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 41.2799

Coefficients:  
 a.(Intercept)      a.funcgr      a.grass    c.(Intercept)      c.funcgr  
 -1.00835861    0.05601574    0.14973096    0.06816375    -0.02453366  
           c.grass  
 -0.06928831

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.3438254  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2531123

\$`Invader abundance`\$Pq2831  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 45.97365



Coefficients:

a.(Intercept)	a.funcgr	a.grass	c.(Intercept)	c.funcgr
-1.00525405	0.06742965	0.13836045	0.06473201	-0.03062228
	c.grass			
	-0.06256849			

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.05004287  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2204766

\$`Invader abundance`\$Pq2921  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 41.11316

Coefficients:

b.(Intercept)	b.funcgr	b.grass	c.(Intercept)	c.funcgr
-0.3448916	0.1536346	0.2688783	0.7131279	-0.2275026
	c.grass			
	-0.3869549			

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.3399824  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2521847

\$`Invader abundance`\$Pq2931  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 43.01545

Coefficients:

b.(Intercept)	b.funcgr	b.grass	c.(Intercept)	c.funcgr
-0.3339144	0.2182006	0.2252733	0.5564066	-0.2952986
	c.grass			
	-0.2688959			

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon

-0.04687295  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2224389

\$`Invader abundance`\$Pq3021  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: 8.990034

Coefficients:  
 c.(Intercept)      c.funcgr      c.grass  
 -1.10297731      0.05878646      0.04319733

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.7205282  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.6438729

\$`Invader abundance`\$Pq3031  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -3.964087

Coefficients:  
 c.(Intercept)      c.funcgr      c.grass  
 -1.9753290      0.1581112      0.3096115

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.06687784  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.4594204

\$`Invader abundance`\$Pr3221  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 44.78195

Coefficients:  
 a.(Intercept)      a.grass      a.leg      b.(Intercept)      b.grass  
 0.196492807      0.126535135      -0.085288302      0.006717771      -0.012186934  
 b.leg  
 0.001707759

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.3582216  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2477692

\$`Invader abundance`\$Pr3231  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 49.30091

Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
0.193026617	0.130338893	-0.082782212	0.007252526	-0.012392393
	b.leg			
	0.001348527			

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.04988375  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2114206

\$`Invader abundance`\$Pr3321  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 44.68341

Coefficients:

a.(Intercept)	a.grass	a.leg	c.(Intercept)	c.grass
-0.46334874	0.07627850	-0.20942265	-0.15508330	-0.04404392
	c.leg			
	0.08509773			

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.3415551  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2420046

\$`Invader abundance`\$Pr3331  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c

Data: DF  
Log-likelihood: 48.97447

Coefficients:

a.(Intercept)	a.grass	a.leg	c.(Intercept)	c.grass
-0.41702788	0.05235117	-0.21163406	-0.19016920	-0.02883295
	c.leg			
	0.09023691			

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.04925354  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.2111185

\$`Invader abundance`\$Pr3421  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 42.4812

Coefficients:

b.(Intercept)	b.grass	b.leg	c.(Intercept)	c.grass
0.708111731	0.009703086	-0.238226255	-0.703096917	0.049586930
	c.leg			
	0.167742551			

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
-0.2963200  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.2324460

\$`Invader abundance`\$Pr3431  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 42.48675

Coefficients:

b.(Intercept)	b.grass	b.leg	c.(Intercept)	c.grass
0.85619892	-0.04350173	-0.26717430	-1.25121982	0.25687070
	c.leg			
	0.27014410			

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv

Parameter estimates:  
 expon  
 -0.03985363  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2107846

\$`Invader abundance`\$Pr3521  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: 10.35181

Coefficients:  
 c.(Intercept)          c.grass          c.leg  
 -0.48284607      -0.01162401      -0.31575693

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.7056322  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.6194177

\$`Invader abundance`\$Pr3531  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -2.778649

Coefficients:  
 c.(Intercept)          c.grass          c.leg  
 -0.2063479          0.1515175          -0.9744229

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.06642155  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.4510561

\$`Invader abundance`\$Ps3721  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 46.84857

Coefficients:  
 a.(Intercept)          a.funcgr          a.grass          a.leg      b.(Intercept)  
 0.776174517      -0.082647454      -0.007852252      -0.220787127      -0.036558090  
                                 b.funcgr          b.grass          b.leg

0.005773283 -0.002044155 0.012142087

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.3625649

Degrees of freedom: 82 total; 74 residual

Residual standard error: 0.2464298

\$`Invader abundance`\$Ps3731

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv

Data: DF

Log-likelihood: 50.94663

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
0.693154335	-0.071849069	0.014540558	-0.199851089	-0.031594904
b.funcgr	b.grass	b.leg		
0.005171200	-0.003313974	0.010770025		

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.04953642

Degrees of freedom: 82 total; 74 residual

Residual standard error: 0.2093760

\$`Invader abundance`\$Ps3821

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv^c

Data: DF

Log-likelihood: 45.28678

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	c.(Intercept)
-0.283895851	-0.035825698	0.033826188	-0.244978060	-0.159881072
c.funcgr	c.grass	c.leg		
0.004723799	-0.038601205	0.081705168		

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.3400161

Degrees of freedom: 82 total; 74 residual

Residual standard error: 0.2428995

\$`Invader abundance`\$Ps3831

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 49.27361

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	c.(Intercept)
-0.38812892	-0.01120230	0.04260621	-0.21164686	-0.12185627
	c.funcgr	c.grass	c.leg	
-0.00651053	-0.03936069	0.06887257		

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.04892602

Degrees of freedom: 82 total; 74 residual

Residual standard error: 0.2125748

\$`Invader abundance`\$Ps3921

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 45.54622

Coefficients:

b.(Intercept)	b.funcgr	b.grass	b.leg	c.(Intercept)
-0.003213657	0.136682055	0.227219740	-0.157069295	1.603625748
	c.funcgr	c.grass	c.leg	
-0.386059476	-0.591665215	-0.160257241		

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.3418101

Degrees of freedom: 82 total; 74 residual

Residual standard error: 0.2427780

\$`Invader abundance`\$Ps3931

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 47.28533

Coefficients:

b.(Intercept)	b.funcgr	b.grass	b.leg	c.(Intercept)
-0.01290679	0.18135957	0.21354815	-0.16338695	1.77183934
	c.funcgr	c.grass	c.leg	
-0.47068837	-0.58851221	-0.21576149		

Variance function:

```

Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
  expon
-0.04665023
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.2135781

$`Invader abundance`$Ps4021
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 10.95581

Coefficients:
c.(Intercept)      c.funcgr      c.grass      c.leg
      0.3715612      -0.1197887      -0.1884820      -0.5465698

Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
-0.7104753
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.6232662

$`Invader abundance`$Ps4031
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -2.209384

Coefficients:
c.(Intercept)      c.funcgr      c.grass      c.leg
      1.9667590      -0.2649226      -0.3764372      -1.5687500

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
-0.06654936
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.4512928

$`Invader abundance`$AS1
Nonlinear regression model
  model: response ~ SSasymp(sowndiv, Asym, R0, lrc)
  data: DF
    Asym      R0      lrc
0.02133  0.29604 -2.75052
residual sum-of-squares: 2.312

```



Number of iterations to convergence: 5  
 Achieved convergence tolerance: 8.803e-06

```
$`Invader abundance`$BIEXP
Nonlinear regression model
  model: response ~ SSbiexp(sowndiv, A1, lrc1, A2, lrc2)
  data: DF
      A1    lrc1      A2    lrc2
0.3584 0.6365 0.2597 -3.1622
residual sum-of-squares: 2.292
```

Number of iterations to convergence: 5  
 Achieved convergence tolerance: 3.807e-06

```
$`Mycorrhiza species richness`
$`Mycorrhiza species richness`$L0
```

```
Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
    data = DF)
```

```
Coefficients:
  (Intercept)      blockB2      blockB3      blockB4
sowndiv
  1.801373      0.083645     -0.026957      0.021404
0.008348
  funcgr      grass      leg  sowndiv:funcgr
sowndiv:grass
 -0.412400     -0.840267     -0.405923      0.001045      -
0.004643
  sowndiv:leg  funcgr:grass  funcgr:leg  grass:leg
 -0.003388      0.247349      0.074420      0.217500
```

```
$`Mycorrhiza species richness`$L2
```

```
Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)
```

```
Coefficients:
(Intercept)  sowndiv  funcgr  leg
  0.218492  0.002933  0.047786  0.098950
```

```
$`Mycorrhiza species richness`$M1
Nonlinear regression model
  model: response ~ a * sowndiv/(b + sowndiv)
  data: DF
      a      b
0.5110 0.1226
residual sum-of-squares: 2.822
```

Number of iterations to convergence: 6

Achieved convergence tolerance: 1.955e-06

```
$`Mycorrhiza species richness`$M1a
Nonlinear regression model
  model: response ~ SSmicmen(sowndiv, Vm, k)
  data: DF
      Vm      k
0.5110 0.1226
residual sum-of-squares: 2.822
```

Number of iterations to convergence: 5  
Achieved convergence tolerance: 6.473e-06

```
$`Mycorrhiza species richness`$M2
Nonlinear regression model
  model: response ~ d + a * sowndiv/(b + sowndiv)
  data: DF
      a      b      d
0.3852 37.6075 0.4336
residual sum-of-squares: 2.643
```

Number of iterations to convergence: 10  
Achieved convergence tolerance: 5.1e-07

```
$`Mycorrhiza species richness`$E2
Nonlinear regression model
  model: response ~ a + b * exp(sowndiv)
  data: DF
      a      b
4.835e-01 1.280e-27
residual sum-of-squares: 2.784
```

Number of iterations to convergence: 4  
Achieved convergence tolerance: 3.687e-08

```
$`Mycorrhiza species richness`$E4
Nonlinear regression model
  model: response ~ a + exp(sowndiv)
  data: DF
a
1
residual sum-of-squares: 3.913e+52
```

Number of iterations to convergence: 0  
Achieved convergence tolerance: 6.792e-20

```
$`Mycorrhiza species richness`$E5
Nonlinear regression model
  model: response ~ b * exp(sowndiv)
  data: DF
      b
5.513e-27
residual sum-of-squares: 20.08
```

Number of iterations to convergence: 4  
Achieved convergence tolerance: 3.044e-09

\$`Mycorrhiza species richness`\$Pa1  
Nonlinear regression model  
model: response ~ a + b \* sowndiv^c  
data: DF  
a b c  
0.43059 0.01744 0.64943  
residual sum-of-squares: 2.664

Number of iterations to convergence: 46  
Achieved convergence tolerance: 9.603e-06

\$`Mycorrhiza species richness`\$Pa2  
Nonlinear regression model  
model: response ~ a + b \* sowndiv  
data: DF  
a b  
0.456963 0.003994  
residual sum-of-squares: 2.679

Number of iterations to convergence: 1  
Achieved convergence tolerance: 1.551e-10

\$`Mycorrhiza species richness`\$Pa3  
Nonlinear regression model  
model: response ~ a + sowndiv^c  
data: DF  
a c  
-0.56583 0.03604  
residual sum-of-squares: 2.719

Number of iterations to convergence: 9  
Achieved convergence tolerance: 3.814e-07

\$`Mycorrhiza species richness`\$Pa4  
Nonlinear regression model  
model: response ~ b \* sowndiv^c  
data: DF  
b c  
0.4327 0.0809  
residual sum-of-squares: 2.712

Number of iterations to convergence: 7  
Achieved convergence tolerance: 4.267e-06

\$`Mycorrhiza species richness`\$Pa5  
Nonlinear regression model  
model: response ~ sowndiv^c  
data: DF  
c  
-0.3848  
residual sum-of-squares: 9.692

Number of iterations to convergence: 12  
Achieved convergence tolerance: 8.646e-06

```
$`Mycorrhiza species richness`$AS1
Nonlinear regression model
  model: response ~ SSasymp(sowndiv, Asym, R0, lrc)
  data: DF
      Asym      R0      lrc
0.6817  0.4309 -3.1654
residual sum-of-squares: 2.637
```

Number of iterations to convergence: 18  
Achieved convergence tolerance: 8.598e-06

```
$`Mycorrhiza species richness`$AS2
Nonlinear regression model
  model: response ~ SSasympOff(sowndiv, Asym, lrc, c0)
  data: DF
      Asym      lrc      c0
0.6818 -3.1655 -23.6945
residual sum-of-squares: 2.637
```

Number of iterations to convergence: 14  
Achieved convergence tolerance: 8.431e-06

```
$`Mycorrhiza species richness`$AS3
Nonlinear regression model
  model: response ~ SSasympOrig(sowndiv, Asym, lrc)
  data: DF
      Asym      lrc
0.4893 1.9651
residual sum-of-squares: 2.846
```

Number of iterations to convergence: 7  
Achieved convergence tolerance: 2.289e-06

```
$`Mycorrhiza species richness`$LG2
Nonlinear regression model
  model: response ~ SSlogis(sowndiv, Asym, xmid, scal)
  data: DF
      Asym      xmid      scal
0.6688 -8.9144 15.2449
residual sum-of-squares: 2.63
```

Number of iterations to convergence: 18  
Achieved convergence tolerance: 9.797e-06

```
$`Aboveground herbivore species richness`
$`Aboveground herbivore species richness`$L0
```

Call:

```
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)
```

```
Coefficients:
(Intercept)      blockB2      blockB3      blockB4
sowndiv
  3.542690    -0.049192    -0.145620    -0.013189
0.025763
  funcgr      grass      leg  sowndiv:funcgr
sowndiv:grass
 -0.565416    -1.373447    -1.547001    -0.003388
0.007026
  sowndiv:leg  funcgr:grass  funcgr:leg  grass:leg
 -0.010016     0.146057     0.217942     0.570139
```

```
$`Aboveground herbivore species richness`$L2
```

```
Call:
```

```
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)
```

```
Coefficients:
(Intercept)      sowndiv      funcgr      leg
  0.541702     0.009016     0.010269    -0.205594
```

```
$`Aboveground herbivore species richness`$M1
```

```
Nonlinear regression model
```

```
model: response ~ a * sowndiv/(b + sowndiv)
```

```
data: DF
```

```
  a      b
```

```
0.811 6.987
```

```
residual sum-of-squares: 1.354
```

```
Number of iterations to convergence: 15
```

```
Achieved convergence tolerance: 6.603e-06
```

```
$`Aboveground herbivore species richness`$M1a
```

```
Nonlinear regression model
```

```
model: response ~ SSmicmen(sowndiv, Vm, k)
```

```
data: DF
```

```
  Vm      k
```

```
0.811 6.988
```

```
residual sum-of-squares: 1.354
```

```
Number of iterations to convergence: 12
```

```
Achieved convergence tolerance: 5.025e-06
```

```
$`Aboveground herbivore species richness`$M2
```

```
Nonlinear regression model
```

```
model: response ~ d + a * sowndiv/(b + sowndiv)
```

```
data: DF
```

```
  a      b      d
```

```
1.1572 40.0162 0.1715
```

residual sum-of-squares: 1.098

Number of iterations to convergence: 6  
Achieved convergence tolerance: 8.631e-06

\$`Aboveground herbivore species richness`\$E2  
Nonlinear regression model

model: response ~ a + b \* exp(sowndiv)

data: DF

a b

3.178e-01 4.857e-27

residual sum-of-squares: 1.793

Number of iterations to convergence: 4  
Achieved convergence tolerance: 5.452e-08

\$`Aboveground herbivore species richness`\$E4  
Nonlinear regression model

model: response ~ a + exp(sowndiv)

data: DF

a

1

residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0  
Achieved convergence tolerance: 8.031e-20

\$`Aboveground herbivore species richness`\$E5  
Nonlinear regression model

model: response ~ b \* exp(sowndiv)

data: DF

b

7.64e-27

residual sum-of-squares: 6.44

Number of iterations to convergence: 4  
Achieved convergence tolerance: 2.903e-08

\$`Aboveground herbivore species richness`\$Pa1  
Nonlinear regression model

model: response ~ a + b \* sowndiv^c

data: DF

a b c

0.07643 0.11129 0.47917

residual sum-of-squares: 1.085

Number of iterations to convergence: 7  
Achieved convergence tolerance: 4.311e-07

\$`Aboveground herbivore species richness`\$Pa2  
Nonlinear regression model

model: response ~ a + b \* sowndiv

data: DF

a b

0.23483 0.01171

residual sum-of-squares: 1.234

Number of iterations to convergence: 1

Achieved convergence tolerance: 9.27e-10

\$`Aboveground herbivore species richness`\$Pa3

Nonlinear regression model

model: response ~ a + sowndiv<sup>c</sup>

data: DF

a c

-0.8503 0.1169

residual sum-of-squares: 1.184

Number of iterations to convergence: 8

Achieved convergence tolerance: 3.12e-06

\$`Aboveground herbivore species richness`\$Pa4

Nonlinear regression model

model: response ~ b \* sowndiv<sup>c</sup>

data: DF

b c

0.1734 0.3880

residual sum-of-squares: 1.092

Number of iterations to convergence: 6

Achieved convergence tolerance: 1.723e-06

\$`Aboveground herbivore species richness`\$Pa5

Nonlinear regression model

model: response ~ sowndiv<sup>c</sup>

data: DF

c

-0.3583

residual sum-of-squares: 15.11

Number of iterations to convergence: 14

Achieved convergence tolerance: 5.685e-06

\$`Aboveground herbivore species richness`\$AS1

Nonlinear regression model

model: response ~ SSasym(sowndiv, Asym, R0, lrc)

data: DF

Asym R0 lrc

0.9883 0.1772 -3.4479

residual sum-of-squares: 1.101

Number of iterations to convergence: 3

Achieved convergence tolerance: 5.077e-07

\$`Aboveground herbivore species richness`\$AS2

Nonlinear regression model

model: response ~ SSasymOff(sowndiv, Asym, lrc, c0)

data: DF

```

      Asym      lrc      c0
0.9883 -3.4479 -6.2111
residual sum-of-squares: 1.101

```

```

Number of iterations to convergence: 3
Achieved convergence tolerance: 5.08e-07

```

```

$`Aboveground herbivore species richness`$AS3
Nonlinear regression model
  model: response ~ SSasymOrig(sowndiv, Asym, lrc)
  data: DF
      Asym      lrc
0.7294 -2.2898
residual sum-of-squares: 1.551

```

```

Number of iterations to convergence: 33
Achieved convergence tolerance: 9.188e-06

```

```

$`Aboveground herbivore species richness`$LG2
Nonlinear regression model
  model: response ~ SSlogis(sowndiv, Asym, xmid, scal)
  data: DF
      Asym      xmid      scal
0.8811 13.1636 10.8363
residual sum-of-squares: 1.122

```

```

Number of iterations to convergence: 2
Achieved convergence tolerance: 2.494e-06

```

```

$`Aboveground carnivore species richness`
$`Aboveground carnivore species richness`$L0

```

```

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
    data = DF)

```

```

Coefficients:
      (Intercept)          blockB2          blockB3          blockB4
sowndiv
  5.429105      -0.156202      -0.104682      0.009385      -
0.077174
      funcgr          grass          leg  sowndiv:funcgr
sowndiv:grass
 -0.873498      -2.091119      -2.278339      0.008375
0.024366
      sowndiv:leg  funcgr:grass  funcgr:leg  grass:leg
      0.026581      0.269358      0.264119      0.870962

```

```

$`Aboveground carnivore species richness`$L2

```

```

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

```



Coefficients:  
 (Intercept)      sowndiv      funcgr      leg  
                  0.81312      0.00748      -0.01456      -0.20032

\$`Aboveground carnivore species richness`\$M1  
 Nonlinear regression model  
 model: response ~ a \* sowndiv/(b + sowndiv)  
 data: DF  
       a        b  
 0.7875 1.2819  
 residual sum-of-squares: 2.042

Number of iterations to convergence: 6  
 Achieved convergence tolerance: 6.784e-06

\$`Aboveground carnivore species richness`\$M1a  
 Nonlinear regression model  
 model: response ~ SSmicmen(sowndiv, Vm, k)  
 data: DF  
       Vm        k  
 0.7875 1.2819  
 residual sum-of-squares: 2.042

Number of iterations to convergence: 6  
 Achieved convergence tolerance: 2.215e-06

\$`Aboveground carnivore species richness`\$M2  
 Nonlinear regression model  
 model: response ~ d + a \* sowndiv/(b + sowndiv)  
 data: DF  
       a        b        d  
 0.6395 9.6391 0.3349  
 residual sum-of-squares: 1.911

Number of iterations to convergence: 10  
 Achieved convergence tolerance: 4.073e-06

\$`Aboveground carnivore species richness`\$E2  
 Nonlinear regression model  
 model: response ~ a + b \* exp(sowndiv)  
 data: DF  
       a        b  
 5.393e-01 3.364e-27  
 residual sum-of-squares: 2.670

Number of iterations to convergence: 4  
 Achieved convergence tolerance: 4.622e-09

\$`Aboveground carnivore species richness`\$E4  
 Nonlinear regression model  
 model: response ~ a + exp(sowndiv)  
 data: DF

```

a
1
  residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 8.031e-20

$`Aboveground carnivore species richness`$E5
Nonlinear regression model
  model: response ~ b * exp(sowndiv)
  data: DF
      b
8.086e-27
  residual sum-of-squares: 16.05

Number of iterations to convergence: 4
Achieved convergence tolerance: 8.72e-09

$`Aboveground carnivore species richness`$Pa1
Nonlinear regression model
  model: response ~ a + b * sowndiv^c
  data: DF
      a      b      c
-0.5644  0.9508  0.1076
  residual sum-of-squares: 1.885

Number of iterations to convergence: 16
Achieved convergence tolerance: 1.334e-06

$`Aboveground carnivore species richness`$Pa2
Nonlinear regression model
  model: response ~ a + b * sowndiv
  data: DF
      a      b
0.471926  0.009014
  residual sum-of-squares: 2.21

Number of iterations to convergence: 1
Achieved convergence tolerance: 4.713e-09

$`Aboveground carnivore species richness`$Pa3
Nonlinear regression model
  model: response ~ a + sowndiv^c
  data: DF
      a      c
-0.6141  0.1032
  residual sum-of-squares: 1.885

Number of iterations to convergence: 7
Achieved convergence tolerance: 1.247e-06

$`Aboveground carnivore species richness`$Pa4
Nonlinear regression model
  model: response ~ b * sowndiv^c

```

```
data: DF
      b      c
0.3977 0.2085
residual sum-of-squares: 1.891

Number of iterations to convergence: 7
Achieved convergence tolerance: 1.128e-06

$`Aboveground carnivore species richness`$Pa5
Nonlinear regression model
  model: response ~ sowndiv^c
  data: DF
      c
-0.1519
residual sum-of-squares: 9.702

Number of iterations to convergence: 10
Achieved convergence tolerance: 8.666e-06

$`Aboveground carnivore species richness`$AS1
Nonlinear regression model
  model: response ~ SSasym(sowndiv, Asym, R0, lrc)
  data: DF
  Asym      R0      lrc
0.9103 0.3763 -2.6824
residual sum-of-squares: 1.937

Number of iterations to convergence: 6
Achieved convergence tolerance: 5.383e-06

$`Aboveground carnivore species richness`$AS2
Nonlinear regression model
  model: response ~ SSasymOff(sowndiv, Asym, lrc, c0)
  data: DF
  Asym      lrc      c0
0.9103 -2.6824 -7.7979
residual sum-of-squares: 1.937

Number of iterations to convergence: 6
Achieved convergence tolerance: 5.399e-06

$`Aboveground carnivore species richness`$AS3
Nonlinear regression model
  model: response ~ SSasymOrig(sowndiv, Asym, lrc)
  data: DF
  Asym      lrc
0.7027 -0.4829
residual sum-of-squares: 2.278

Number of iterations to convergence: 15
Achieved convergence tolerance: 6.976e-06

$`Aboveground carnivore species richness`$LG2
Nonlinear regression model
```

```

model: response ~ SSlogis(sowndiv, Asym, xmid, scal)
data: DF
Asym  xmid  scal
0.9086 2.2419 9.9254
residual sum-of-squares: 1.965

```

```

Number of iterations to convergence: 5
Achieved convergence tolerance: 6.799e-06

```

```

$`Aboveground omnivore species richness`
$`Aboveground omnivore species richness`$L0

```

```

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

```

```

Coefficients:
(Intercept)      blockB2      blockB3      blockB4
sowndiv
 1.2588258    -0.0373488    -0.1012202     0.0191073     -
0.0114090
  funcgr      grass      leg  sowndiv:funcgr
sowndiv:grass
 -0.1216172     0.0400796    -0.7112026    -0.0002074
0.0234268
  sowndiv:leg  funcgr:grass  funcgr:leg    grass:leg
 -0.0083184    -0.1584131     0.2065219     0.1351638

```

```

$`Aboveground omnivore species richness`$L2

```

```

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

```

```

Coefficients:
(Intercept)  sowndiv  funcgr  leg
 0.975284    0.003096  -0.077447  -0.255278

```

```

$`Aboveground omnivore species richness`$M1
Nonlinear regression model
model: response ~ a * sowndiv/(b + sowndiv)
data: DF
a      b
0.4929 0.1468
residual sum-of-squares: 2.261

```

```

Number of iterations to convergence: 6
Achieved convergence tolerance: 1.888e-06

```

```

$`Aboveground omnivore species richness`$M1a
Nonlinear regression model
model: response ~ SSmicmen(sowndiv, Vm, k)

```

```

data: DF
      Vm      k
0.4929 0.1468
residual sum-of-squares: 2.261

Number of iterations to convergence: 4
Achieved convergence tolerance: 5.083e-06

$`Aboveground omnivore species richness`$M2
Nonlinear regression model
  model: response ~ d + a * sowndiv/(b + sowndiv)
  data: DF
        a      b      d
0.2128 20.1657 0.4123
residual sum-of-squares: 2.186

Number of iterations to convergence: 9
Achieved convergence tolerance: 2.921e-06

$`Aboveground omnivore species richness`$E2
Nonlinear regression model
  model: response ~ a + b * exp(sowndiv)
  data: DF
        a      b
4.591e-01 7.446e-28
residual sum-of-squares: 2.263

Number of iterations to convergence: 4
Achieved convergence tolerance: 7.282e-08

$`Aboveground omnivore species richness`$E4
Nonlinear regression model
  model: response ~ a + exp(sowndiv)
  data: DF
a
1
residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 8.031e-20

$`Aboveground omnivore species richness`$E5
Nonlinear regression model
  model: response ~ b * exp(sowndiv)
  data: DF
        b
4.765e-27
residual sum-of-squares: 11.96

Number of iterations to convergence: 4
Achieved convergence tolerance: 3.452e-08

$`Aboveground omnivore species richness`$Pa1
Nonlinear regression model

```

```

model: response ~ a + b * sowndiv^c
data: DF
      a      b      c
0.39352 0.03213 0.42307
residual sum-of-squares: 2.199

Number of iterations to convergence: 47
Achieved convergence tolerance: 9.933e-06

$`Aboveground omnivore species richness`$Pa2
Nonlinear regression model
model: response ~ a + b * sowndiv
data: DF
      a      b
0.439347 0.002439
residual sum-of-squares: 2.216

Number of iterations to convergence: 1
Achieved convergence tolerance: 6.904e-09

$`Aboveground omnivore species richness`$Pa3
Nonlinear regression model
model: response ~ a + sowndiv^c
data: DF
      a      c
-0.58117 0.02924
residual sum-of-squares: 2.21

Number of iterations to convergence: 8
Achieved convergence tolerance: 2.413e-06

$`Aboveground omnivore species richness`$Pa4
Nonlinear regression model
model: response ~ b * sowndiv^c
data: DF
      b      c
0.41847 0.06676
residual sum-of-squares: 2.208

Number of iterations to convergence: 7
Achieved convergence tolerance: 4.796e-06

$`Aboveground omnivore species richness`$Pa5
Nonlinear regression model
model: response ~ sowndiv^c
data: DF
      c
-0.3272
residual sum-of-squares: 8.423

Number of iterations to convergence: 12
Achieved convergence tolerance: 2.322e-06

$`Aboveground omnivore species richness`$AS1

```

```

Nonlinear regression model
  model: response ~ SSasymp(sowndiv, Asym, R0, lrc)
  data: DF
      Asym      R0      lrc
0.5673  0.4100 -2.7219
residual sum-of-squares: 2.181

```

```

Number of iterations to convergence: 40
Achieved convergence tolerance: 9.847e-06

```

```

$`Aboveground omnivore species richness`$AS2
Nonlinear regression model
  model: response ~ SSasympOff(sowndiv, Asym, lrc, c0)
  data: DF
      Asym      lrc      c0
0.5674 -2.7221 -19.5121
residual sum-of-squares: 2.181

```

```

Number of iterations to convergence: 25
Achieved convergence tolerance: 8.746e-06

```

```

$`Aboveground omnivore species richness`$AS3
Nonlinear regression model
  model: response ~ SSasympOrig(sowndiv, Asym, lrc)
  data: DF
      Asym      lrc
0.4741 1.0713
residual sum-of-squares: 2.282

```

```

Number of iterations to convergence: 3
Achieved convergence tolerance: 2.584e-06

```

```

$`Aboveground omnivore species richness`$LG2
Nonlinear regression model
  model: response ~ SSlogis(sowndiv, Asym, xmid, scal)
  data: DF
      Asym      xmid      scal
0.5653 -11.3956  11.7725
residual sum-of-squares: 2.178

```

```

Number of iterations to convergence: 44
Achieved convergence tolerance: 8.336e-06

```

```

$`Parasitoid species richness`
$`Parasitoid species richness`$L0

```

```

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

```

```

Coefficients:
  (Intercept)      blockB2      blockB3      blockB4
sowndiv

```

1.3918128	-0.0959923	-0.1500167	-0.0030301	
0.0416670				
funcgr	grass	leg	sowndiv:funcgr	
sowndiv:grass				
-0.1637666	-0.3441796	-0.2710549	-0.0047511	-
0.0006327				
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg	
-0.0143749	0.0786142	0.0076970	0.0426012	

\$`Parasitoid species richness`\$L2

Call:

lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:

(Intercept)	sowndiv	funcgr	leg
0.733584	0.007586	-0.019561	-0.187555

\$`Parasitoid species richness`\$M1

Nonlinear regression model

model: response ~ a \* sowndiv/(b + sowndiv)

data: DF

a	b
---	---

0.6457 0.9254

residual sum-of-squares: 1.835

Number of iterations to convergence: 6

Achieved convergence tolerance: 7.932e-06

\$`Parasitoid species richness`\$M1a

Nonlinear regression model

model: response ~ SSmicmen(sowndiv, Vm, k)

data: DF

Vm	k
----	---

0.6457 0.9253

residual sum-of-squares: 1.835

Number of iterations to convergence: 7

Achieved convergence tolerance: 6.306e-06

\$`Parasitoid species richness`\$M2

Nonlinear regression model

model: response ~ d + a \* sowndiv/(b + sowndiv)

data: DF

a	b	d
---	---	---

1.4177 103.3241 0.3831

residual sum-of-squares: 1.44

Number of iterations to convergence: 8

Achieved convergence tolerance: 6.492e-06

\$`Parasitoid species richness`\$E2



```
Nonlinear regression model
  model: response ~ a + b * exp(sowndiv)
  data: DF
      a      b
4.638e-01 3.885e-27
residual sum-of-squares: 1.680
```

```
Number of iterations to convergence: 4
Achieved convergence tolerance: 5.057e-09
```

```
$`Parasitoid species richness`$E4
Nonlinear regression model
  model: response ~ a + exp(sowndiv)
  data: DF
a
1
residual sum-of-squares: 5.217e+52
```

```
Number of iterations to convergence: 0
Achieved convergence tolerance: 8.031e-20
```

```
$`Parasitoid species richness`$E5
Nonlinear regression model
  model: response ~ b * exp(sowndiv)
  data: DF
      b
7.946e-27
residual sum-of-squares: 11.57
```

```
Number of iterations to convergence: 4
Achieved convergence tolerance: 8.214e-09
```

```
$`Parasitoid species richness`$Pa1
Nonlinear regression model
  model: response ~ a + b * sowndiv^c
  data: DF
      a      b      c
0.35598 0.03326 0.68231
residual sum-of-squares: 1.433
```

```
Number of iterations to convergence: 7
Achieved convergence tolerance: 1.989e-06
```

```
$`Parasitoid species richness`$Pa2
Nonlinear regression model
  model: response ~ a + b * sowndiv
  data: DF
      a      b
0.40395 0.00876
residual sum-of-squares: 1.457
```

```
Number of iterations to convergence: 1
Achieved convergence tolerance: 5.614e-10
```

\$`Parasitoid species richness`\$Pa3

Nonlinear regression model

model: response ~ a + sowndiv<sup>c</sup>

data: DF

a c

-0.65174 0.08668

residual sum-of-squares: 1.553

Number of iterations to convergence: 8

Achieved convergence tolerance: 6.311e-06

\$`Parasitoid species richness`\$Pa4

Nonlinear regression model

model: response ~ b \* sowndiv<sup>c</sup>

data: DF

b c

0.3494 0.2052

residual sum-of-squares: 1.512

Number of iterations to convergence: 7

Achieved convergence tolerance: 1.041e-06

\$`Parasitoid species richness`\$Pa5

Nonlinear regression model

model: response ~ sowndiv<sup>c</sup>

data: DF

c

-0.2351

residual sum-of-squares: 9.827

Number of iterations to convergence: 12

Achieved convergence tolerance: 2.209e-06

\$`Parasitoid species richness`\$AS1

Nonlinear regression model

model: response ~ SSasym(sowndiv, Asym, R0, lrc)

data: DF

Asym R0 lrc

1.2497 0.3842 -4.1777

residual sum-of-squares: 1.440

Number of iterations to convergence: 2

Achieved convergence tolerance: 4.802e-06

\$`Parasitoid species richness`\$AS2

Nonlinear regression model

model: response ~ SSasymOff(sowndiv, Asym, lrc, c0)

data: DF

Asym lrc c0

1.250 -4.178 -23.958

residual sum-of-squares: 1.440

Number of iterations to convergence: 2

Achieved convergence tolerance: 4.821e-06

```
$`Parasitoid species richness`$AS3
Nonlinear regression model
  model: response ~ SSasympOrig(sowndiv, Asym, lrc)
  data: DF
      Asym      lrc
0.568112 -0.004174
residual sum-of-squares: 2.031
```

```
Number of iterations to convergence: 12
Achieved convergence tolerance: 5.773e-06
```

```
$`Parasitoid species richness`$LG2
Nonlinear regression model
  model: response ~ SSlogis(sowndiv, Asym, xmid, scal)
  data: DF
      Asym   xmid   scal
0.9936  9.5018 21.6578
residual sum-of-squares: 1.444
```

```
Number of iterations to convergence: 2
Achieved convergence tolerance: 4.368e-07
```

```
$`Pollinator species richness`
$`Pollinator species richness`$L0
```

```
Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
    data = DF)
```

```
Coefficients:
  (Intercept)      blockB2      blockB3      blockB4
sowndiv
  3.774504    -0.146067    -0.252304    -0.065976
0.048946
  funcgr      grass      leg  sowndiv:funcgr
sowndiv:grass
 -0.604833    -1.387454    -1.700949    -0.008840
0.003963
  sowndiv:leg  funcgr:grass  funcgr:leg  grass:leg
 -0.012843    0.174636    0.232653    0.633571
```

```
$`Pollinator species richness`$L2
```

```
Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)
```

```
Coefficients:
  (Intercept)      sowndiv      funcgr      leg
  0.875319    0.005249   -0.032371   -0.288501
```

```
$`Pollinator species richness`$M1
Nonlinear regression model
  model: response ~ a * sowndiv/(b + sowndiv)
  data: DF
      a      b
0.6529 1.7491
residual sum-of-squares: 2.138
```

```
Number of iterations to convergence: 7
Achieved convergence tolerance: 2.771e-06
```

```
$`Pollinator species richness`$M1a
Nonlinear regression model
  model: response ~ SSmicmen(sowndiv, Vm, k)
  data: DF
      Vm      k
0.6529 1.7491
residual sum-of-squares: 2.138
```

```
Number of iterations to convergence: 5
Achieved convergence tolerance: 2.336e-06
```

```
$`Pollinator species richness`$M2
Nonlinear regression model
  model: response ~ d + a * sowndiv/(b + sowndiv)
  data: DF
      a      b      d
0.5437 5.1878 0.1811
residual sum-of-squares: 2.088
```

```
Number of iterations to convergence: 4
Achieved convergence tolerance: 4.133e-06
```

```
$`Pollinator species richness`$E2
Nonlinear regression model
  model: response ~ a + b * exp(sowndiv)
  data: DF
      a      b
4.203e-01 2.157e-27
residual sum-of-squares: 2.897
```

```
Number of iterations to convergence: 4
Achieved convergence tolerance: 4.189e-08
```

```
$`Pollinator species richness`$E4
Nonlinear regression model
  model: response ~ a + exp(sowndiv)
  data: DF
a
1
residual sum-of-squares: 5.217e+52
```

```
Number of iterations to convergence: 0
Achieved convergence tolerance: 8.031e-20
```

```
$`Pollinator species richness`$E5
Nonlinear regression model
  model: response ~ b * exp(sowndiv)
  data: DF
      b
5.838e-27
residual sum-of-squares: 11.02

Number of iterations to convergence: 4
Achieved convergence tolerance: 1.382e-08

$`Pollinator species richness`$Pa2
Nonlinear regression model
  model: response ~ a + b * sowndiv
  data: DF
      a      b
0.364358 0.006952
residual sum-of-squares: 2.524

Number of iterations to convergence: 1
Achieved convergence tolerance: 2.732e-09

$`Pollinator species richness`$Pa3
Nonlinear regression model
  model: response ~ a + sowndiv^c
  data: DF
      a      c
-0.71962 0.09106
residual sum-of-squares: 2.120

Number of iterations to convergence: 7
Achieved convergence tolerance: 5.532e-06

$`Pollinator species richness`$Pa4
Nonlinear regression model
  model: response ~ b * sowndiv^c
  data: DF
      b      c
0.2985 0.2243
residual sum-of-squares: 2.152

Number of iterations to convergence: 8
Achieved convergence tolerance: 3.038e-06

$`Pollinator species richness`$Pa5
Nonlinear regression model
  model: response ~ sowndiv^c
  data: DF
      c
-0.2713
residual sum-of-squares: 12.48

Number of iterations to convergence: 11
```

Achieved convergence tolerance: 9.727e-06

\$`Pollinator species richness`\$AS1

Nonlinear regression model

model: response ~ SSasymp(sowndiv, Asym, R0, lrc)

data: DF

Asym R0 lrc

0.6510 0.2154 -1.9354

residual sum-of-squares: 2.089

Number of iterations to convergence: 5

Achieved convergence tolerance: 2.955e-06

\$`Pollinator species richness`\$AS2

Nonlinear regression model

model: response ~ SSasympOff(sowndiv, Asym, lrc, c0)

data: DF

Asym lrc c0

0.651 -1.935 -2.783

residual sum-of-squares: 2.089

Number of iterations to convergence: 5

Achieved convergence tolerance: 2.969e-06

\$`Pollinator species richness`\$AS3

Nonlinear regression model

model: response ~ SSasympOrig(sowndiv, Asym, lrc)

data: DF

Asym lrc

0.5931 -0.9086

residual sum-of-squares: 2.259

Number of iterations to convergence: 9

Achieved convergence tolerance: 5.317e-06

\$`Pollinator species richness`\$LG2

Nonlinear regression model

model: response ~ SSlogis(sowndiv, Asym, xmid, scal)

data: DF

Asym xmid scal

0.6234 1.8274 3.3834

residual sum-of-squares: 2.097

Number of iterations to convergence: 7

Achieved convergence tolerance: 3.943e-06

\$`Invader species richness`

\$`Invader species richness`\$L0

Call:

lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,

data = DF)

Coefficients:

(Intercept)	blockB2	blockB3	blockB4	
sowndiv				
-0.8696588	-0.0741752	-0.0763104	-0.0870208	
0.0287076				
funcgr	grass	leg	sowndiv:funcgr	
sowndiv:grass				
0.1641398	0.8386769	0.4239302	-0.0005527	-
0.0206278				
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg	
-0.0100043	-0.0929594	-0.0273729	-0.2326095	

\$`Invader species richness`\$L02

Generalized least squares fit by maximum likelihood

Model: response ~ block + (sowndiv + funcgr + grass + leg)^2

Data: DF

Log-likelihood: 49.34961

Coefficients:

(Intercept)	blockB2	blockB3	blockB4	
sowndiv				
-0.8755590223	-0.0364875483	-0.0259437467	-0.0313083836	
0.0174771973				
funcgr	grass	leg	sowndiv:funcgr	
sowndiv:grass				
0.1679137338	0.8850495455	0.3960277132	0.0005156306	-
0.0171791223				
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg	
-0.0062638686	-0.1182599297	-0.0151106133	-0.2504513006	

Variance function:

Structure: Exponential of variance covariate

Formula: ~fitted(.)

Parameter estimates:

expon

2.677272

Degrees of freedom: 82 total; 68 residual

Residual standard error: 0.05314511

\$`Invader species richness`\$L011

Generalized least squares fit by maximum likelihood

Model: response ~ block + (sowndiv + funcgr + grass + leg)^2

Data: DF

Log-likelihood: 47.23053

Coefficients:

(Intercept)	blockB2	blockB3	blockB4	
sowndiv				
-1.059376314	-0.021027002	0.001390864	-0.009293654	
0.028430914				
funcgr	grass	leg	sowndiv:funcgr	
sowndiv:grass				
0.189198945	0.965782179	0.421379116	-0.001073868	-
0.019028230				

sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg
-0.008825354	-0.134342737	-0.003999912	-0.265886656

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.3902477

Degrees of freedom: 82 total; 68 residual

Residual standard error: 0.2427882

\$`Invader species richness`\$L021

Generalized least squares fit by maximum likelihood

Model: response ~ block + (sowndiv + funcgr + grass + leg)^2

Data: DF

Log-likelihood: 52.31982

Coefficients:

(Intercept)	blockB2	blockB3	blockB4	
sowndiv				
-0.957393444	0.013686513	0.100197677	0.031931240	
0.009492330				
funcgr	grass	leg	sowndiv:funcgr	
sowndiv:grass				-
0.164051251	0.913646299	0.342664292	0.001263172	
0.015253015				
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg	
-0.002851171	-0.131801439	0.005157409	-0.234921059	

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.08868277

Degrees of freedom: 82 total; 68 residual

Residual standard error: 0.2737306

\$`Invader species richness`\$L2

Call:

lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:

(Intercept)	sowndiv	funcgr	leg
0.856929	-0.005806	-0.101818	-0.168073

\$`Invader species richness`\$L21

Generalized least squares fit by maximum likelihood

Model: response ~ sowndiv + funcgr + leg

Data: DF

Log-likelihood: 30.44476



Coefficients:  
(Intercept)        sowndiv        funcgr        leg  
0.772691168 -0.003966816 -0.090492733 -0.140033771

Variance function:  
Structure: Power of variance covariate  
Formula: ~fitted(.)  
Parameter estimates:  
  power  
0.740228  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.4013454

\$`Invader species richness`\$L22  
Generalized least squares fit by maximum likelihood  
  Model: response ~ sowndiv + funcgr + leg  
  Data: DF  
  Log-likelihood: 31.62189

Coefficients:  
(Intercept)        sowndiv        funcgr        leg  
0.678468103 -0.004035291 -0.074440144 -0.110156946

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~fitted(.)  
Parameter estimates:  
  expon  
4.647493  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.03661918

\$`Invader species richness`\$L211  
Generalized least squares fit by maximum likelihood  
  Model: response ~ sowndiv + funcgr + leg  
  Data: DF  
  Log-likelihood: 29.75327

Coefficients:  
(Intercept)        sowndiv        funcgr        leg  
0.729383569 -0.004077178 -0.078861611 -0.154818799

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
  power  
-0.3722554  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.2925442

\$`Invader species richness`\$L222  
Generalized least squares fit by maximum likelihood

Model: response ~ sowndiv + funcgr + leg  
 Data: DF  
 Log-likelihood: 27.85592

## Coefficients:

(Intercept)	sowndiv	funcgr	leg
0.801428372	-0.003787894	-0.095387170	-0.161872261

## Variance function:

Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:

expon  
 -0.03068574  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2242045

## \$`Invader species richness`\$M1

## Nonlinear regression model

model: response ~ a \* sowndiv/(b + sowndiv)  
 data: DF

a	b
0.2614	-0.5167

residual sum-of-squares: 3.486

Number of iterations to convergence: 8  
 Achieved convergence tolerance: 5.604e-06

## \$`Invader species richness`\$M1a

## Nonlinear regression model

model: response ~ SSmicmen(sowndiv, Vm, k)  
 data: DF

Vm	k
0.2614	-0.5167

residual sum-of-squares: 3.486

Number of iterations to convergence: 6  
 Achieved convergence tolerance: 4.148e-06

## \$`Invader species richness`\$M2

## Nonlinear regression model

model: response ~ d + a \* sowndiv/(b + sowndiv)  
 data: DF

a	b	d
-0.6166	5.3995	0.6237

residual sum-of-squares: 2.838

Number of iterations to convergence: 9  
 Achieved convergence tolerance: 8.74e-07

## \$`Invader species richness`\$M211

## Generalized nonlinear least squares fit

Model: response ~ d + a \* sowndiv/(b + sowndiv)  
 Data: DF

Log-likelihood: 32.39396

Coefficients:

	a	b	d
	-0.6148211	6.4549092	0.6007534

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

	power
	-0.3712023

Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.288151

\$`Invader species richness`\$M222

Generalized nonlinear least squares fit

Model: response ~ d + a \* sowndiv/(b + sowndiv)

Data: DF

Log-likelihood: 30.84111

Coefficients:

	a	b	d
	-0.6273309	6.7207306	0.6022064

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

	expon
	-0.03227654

Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.2232846

\$`Invader species richness`\$M3

Generalized nonlinear least squares fit

Model: response ~ a \* sowndiv/(b + sowndiv)

Data: DF

Log-likelihood: 14.23710

Coefficients:

a.(Intercept)	a.leg	b.(Intercept)	b.leg
0.31338494	-0.03713824	-0.60983174	0.04202515

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.2085542

\$`Invader species richness`\$M311

Generalized nonlinear least squares fit

Model: response ~ a \* sowndiv/(b + sowndiv)

Data: DF

Log-likelihood: 17.32547

Coefficients:

a.(Intercept)	a.leg	b.(Intercept)	b.leg
0.24293979	-0.01112464	-0.72898638	0.08093060

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.1836267

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.2637877

\$`Invader species richness`\$M321

Generalized nonlinear least squares fit

Model: response ~ a \* sowndiv/(b + sowndiv)

Data: DF

Log-likelihood: 14.33456

Coefficients:

a.(Intercept)	a.leg	b.(Intercept)	b.leg
0.29736029	-0.02995577	-0.63499497	0.05284561

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.002618793

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.2130429

\$`Invader species richness`\$M4

Generalized nonlinear least squares fit

Model: response ~ a \* sowndiv/(b + sowndiv)

Data: DF

Log-likelihood: 25.14466

Coefficients:

a.(Intercept)	a.grass	b.(Intercept)	b.grass
-0.02753018	0.21050859	-0.70480736	0.18272411

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1825784

\$`Invader species richness`\$M422

Generalized nonlinear least squares fit

Model: response ~ a \* sowndiv/(b + sowndiv)

Data: DF

Log-likelihood: 26.25377

Coefficients:

a.(Intercept)	a.grass	b.(Intercept)	b.grass
-0.06552824	0.22344803	-0.82735139	0.23278602

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.01025615  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1967053

\$`Invader species richness`\$M5  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: -38.46439

Coefficients:  
 a.(Intercept)      a.funcgr    b.(Intercept)      b.funcgr  
     -1.1594272      0.3807862      -78.8806130      23.4563579

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.3965887

\$`Invader species richness`\$M511  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 27.24935

Coefficients:  
 a.(Intercept)      a.funcgr    b.(Intercept)      b.funcgr  
     0.33888495      -0.05975709      0.23481253      -0.70373143

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.3034175  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2792091

\$`Invader species richness`\$M522  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 24.79522

Coefficients:  
 a.(Intercept)      a.funcgr    b.(Intercept)      b.funcgr  
     0.37237642      -0.07647321      0.35142898      -0.77577462

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv

Parameter estimates:  
 expon  
 -0.02749054  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2321671

\$`Invader species richness`\$M6  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 24.8594

Coefficients:  

a.(Intercept)	a.funcgr	a.leg	b.(Intercept)	b.funcgr
0.66146237	-0.09926636	-0.14154427	0.43150520	-0.63514914
	b.leg			
	-0.11597899			

Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1856097

\$`Invader species richness`\$M611  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 32.77305

Coefficients:  

a.(Intercept)	a.funcgr	a.leg	b.(Intercept)	b.funcgr
0.5803347	-0.0903548	-0.1176348	0.3589807	-0.7072431
	b.leg			
	-0.0673866			

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.2949823  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2611419

\$`Invader species richness`\$M622  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 29.62458

Coefficients:  

a.(Intercept)	a.funcgr	a.leg	b.(Intercept)	b.funcgr
0.62153896	-0.10701614	-0.12245165	0.50662297	-0.77955051
	b.leg			
	-0.08640912			

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.02533785  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2176894

\$`Invader species richness`\$M7  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 29.21946

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
0.06034288	-0.02424396	0.15957061	0.07991952	-0.58888938
	b.grass			
	0.06032706			

Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1759984

\$`Invader species richness`\$M711  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 36.07311

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
0.08075086	-0.02780305	0.13343584	0.17854639	-0.67847707
	b.grass			
	0.02333110			

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.2709792  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2420598

\$`Invader species richness`\$M722  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 33.10838

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
0.09730423	-0.04009736	0.13982871	0.24214926	-0.72896584

b.grass  
0.03768198

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.02274148  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.2040353

\$`Invader species richness`\$M81  
Generalized nonlinear least squares fit  
Model: response ~ a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 25.50035

Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
-0.01308350	0.20979853	-0.01034301	-0.89517590	0.22254734
	b.leg			
	0.06583228			

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1841646

\$`Invader species richness`\$M821  
Generalized nonlinear least squares fit  
Model: response ~ a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 30.05757

Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
-0.052966270	0.198753104	0.006670851	-1.076495311	0.239135801
	b.leg			
	0.115837171			

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
-0.2230148  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.2425815

\$`Invader species richness`\$M832  
Generalized nonlinear least squares fit  
Model: response ~ a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 26.65086



Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
-0.10033544	0.22814802	0.01843387	-1.10353748	0.27707688
	b.leg			
	0.12433801			

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.01165125  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2007036

\$`Invader species richness`\$M91  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 29.6004

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
0.230361602	-0.045192955	0.125533370	-0.050483230	0.309723030
	b.funcgr	b.grass	b.leg	
-0.608686373	0.004682253	-0.062427634		

Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.1775342

\$`Invader species richness`\$M921  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 36.55591

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
0.23581701	-0.04714367	0.10381128	-0.04741346	0.36776081
	b.funcgr	b.grass	b.leg	
-0.69645559	-0.01493465	-0.05908719		

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.27264  
 Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.2444710

\$`Invader species richness`\$M932  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)

Data: DF  
Log-likelihood: -20.1709

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
0.154742277	-0.012688615	-0.068472733	0.009060244	3.091674011
b.funcgr	b.grass	b.leg		
-0.875700261	-3.081295756	0.068947882		

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.04443995  
Degrees of freedom: 82 total; 74 residual  
Residual standard error: 0.4770702

\$`Invader species richness`\$M111  
Generalized nonlinear least squares fit  
Model: response ~ d + a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 32.75786

Coefficients:

a.(Intercept)	a.grass	b.(Intercept)	b.grass	d.(Intercept)
0.2105159	-0.5871141	0.7620374	9.5745325	0.1071789
d.grass				
0.2656661				

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1685654

\$`Invader species richness`\$M1132  
Generalized nonlinear least squares fit  
Model: response ~ d + a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 41.0249

Coefficients:

a.(Intercept)	a.grass	b.(Intercept)	b.grass	d.(Intercept)
0.17213565	-0.56687186	9.97150692	4.93267526	0.06837465
d.grass				
0.28511332				

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.02970084  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1966644

```
$`Invader species richness`$M121
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 22.14295
```

```
Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr d.(Intercept)
-0.68750113      0.04952297    10.54774181    -1.11372183    0.61790043
  d.funcgr
-0.02922212
```

```
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1918615
```

```
$`Invader species richness`$M1221
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 33.3862
```

```
Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr d.(Intercept)
-0.78583177      0.09067713    9.63876241    1.28935836    0.65653564
  d.funcgr
-0.06926793
```

```
Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
-0.3772727
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2928772
```

```
$`Invader species richness`$M1232
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 31.48695
```

```
Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr d.(Intercept)
-0.76996288      0.08060100    10.59586748    0.58532421    0.64321828
  d.funcgr
-0.05947297
```

```
Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
-0.03223497
```

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.2257823

\$`Invader species richness`\$M131  
Generalized nonlinear least squares fit  
Model: response ~ d + a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 28.67949

Coefficients:

a.(Intercept)	a.funcgr	a.leg	b.(Intercept)	b.funcgr
-2.6141507	0.3664406	0.7370165	81.3561071	-7.1368400
b.leg	d.(Intercept)	d.funcgr	d.leg	
-30.6265476	0.9753803	-0.1203790	-0.1568531	

Degrees of freedom: 82 total; 73 residual  
Residual standard error: 0.1807648

\$`Invader species richness`\$M1321  
Generalized nonlinear least squares fit  
Model: response ~ d + a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 39.9969

Coefficients:

a.(Intercept)	a.funcgr	a.leg	b.(Intercept)	b.funcgr
0.61517821	-0.14172470	-0.49427271	-15.68682841	5.87811699
b.leg	d.(Intercept)	d.funcgr	d.leg	
7.67227313	0.50431680	-0.03986849	0.03842124	

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
-0.3755647

Degrees of freedom: 82 total; 73 residual  
Residual standard error: 0.2749904

\$`Invader species richness`\$M1332  
Generalized nonlinear least squares fit  
Model: response ~ d + a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 38.25412

Coefficients:

a.(Intercept)	a.funcgr	a.leg	b.(Intercept)	b.funcgr
-2.4565512	0.3408683	0.6925005	77.5155909	-6.3746884
b.leg	d.(Intercept)	d.funcgr	d.leg	
-29.6652322	0.9838190	-0.1241351	-0.1587125	

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv

Parameter estimates:  
 expon  
 -0.03131458  
 Degrees of freedom: 82 total; 73 residual  
 Residual standard error: 0.2104567

\$`Invader species richness`\$M141  
 Generalized nonlinear least squares fit  
 Model: response ~ d + a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 33.08728

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
-0.042606968	-0.020707395	-0.346630180	12.216629190	-1.532412675
b.grass	d.(Intercept)	d.funcgr	d.grass	
0.443001572	-0.002119850	0.044553531	0.306208239	

Degrees of freedom: 82 total; 73 residual  
 Residual standard error: 0.1713046

\$`Invader species richness`\$M1432  
 Generalized nonlinear least squares fit  
 Model: response ~ d + a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 41.58411

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
0.346249988	-0.028277111	-0.700274393	-23.087422778	2.758196149
b.grass	d.(Intercept)	d.funcgr	d.grass	
22.083331706	0.305506157	-0.009116099	0.168999831	

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.02958036  
 Degrees of freedom: 82 total; 73 residual  
 Residual standard error: 0.1990949

\$`Invader species richness`\$M151  
 Generalized nonlinear least squares fit  
 Model: response ~ d + a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 33.97925

Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
-0.074534284	-0.477019360	0.115727765	22.376641570	2.726468809
b.leg	d.(Intercept)	d.grass	d.leg	
-9.756980404	0.094377905	0.288504761	-0.001676065	

Degrees of freedom: 82 total; 73 residual  
Residual standard error: 0.1694513

\$`Invader species richness`\$M1521  
Generalized nonlinear least squares fit  
Model: response ~ d + a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 45.848

Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
0.03156529	-0.55700289	0.11398264	26.52481431	3.80375048
b.leg	d.(Intercept)	d.grass	d.leg	
-12.85946621	0.02898520	0.30385442	0.02362958	

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
-0.3671795  
Degrees of freedom: 82 total; 73 residual  
Residual standard error: 0.2528845

\$`Invader species richness`\$M1532  
Generalized nonlinear least squares fit  
Model: response ~ d + a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 42.51194

Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
-0.027212016	-0.520447833	0.121713545	24.535028423	3.243172328
b.leg	d.(Intercept)	d.grass	d.leg	
-11.259857028	0.069752128	0.294602237	0.006246683	

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.02970589  
Degrees of freedom: 82 total; 73 residual  
Residual standard error: 0.1970671

\$`Invader species richness`\$M161  
Generalized nonlinear least squares fit  
Model: response ~ d + a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 34.50523

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
-2.309110462	0.350051853	-0.139943157	0.637271542	154.449334110

b.funcgr	b.grass	b.leg	d.(Intercept)	d.funcgr
-17.370532774	-24.792560766	-36.930582097	0.101832000	-0.009206486
d.grass	d.leg			
0.295591080	-0.023308855			

Degrees of freedom: 82 total; 70 residual  
Residual standard error: 0.1719379

\$`Invader species richness`\$E2  
Nonlinear regression model  
model: response ~ a + b \* exp(sowndiv)  
data: DF  
a b  
3.587e-01 -2.821e-27  
residual sum-of-squares: 4.103

Number of iterations to convergence: 4  
Achieved convergence tolerance: 1.286e-08

\$`Invader species richness`\$E4  
Nonlinear regression model  
model: response ~ a + exp(sowndiv)  
data: DF  
a  
1  
residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0  
Achieved convergence tolerance: 6.17e-20

\$`Invader species richness`\$E5  
Nonlinear regression model  
model: response ~ b \* exp(sowndiv)  
data: DF  
b  
3.199e-28  
residual sum-of-squares: 14.14

Number of iterations to convergence: 4  
Achieved convergence tolerance: 2.304e-08

\$`Invader species richness`\$E21  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* exp(sowndiv)  
Data: DF  
Log-likelihood: 16.35315

Coefficients:  
a b  
2.618194e-01 -1.972752e-27

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv

Parameter estimates:  
 power  
 -0.450275  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.3915858

\$`Invader species richness`\$E22  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* exp(sowndiv)  
 Data: DF  
 Log-likelihood: 13.98649

Coefficients:  
 a b  
 3.124052e-01 -2.415707e-27

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.03410473  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.2768284

\$`Invader species richness`\$E31  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 23.21724

Coefficients:  
 a c  
 -0.6550308 -0.0068674

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.3996771  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.3340797

\$`Invader species richness`\$E32  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 21.20065

Coefficients:  
 a c  
 -0.615932071 -0.007323298



Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.03278747  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.2506634

\$`Invader species richness`\$E41  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -1768.39

Coefficients:  
    a  
-2.208674

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
14.88650  
Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.1426569

\$`Invader species richness`\$E42  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -801.4686

Coefficients:  
    a  
-2.857788

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
1.014251  
Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.7071498

\$`Invader species richness`\$E51  
Generalized nonlinear least squares fit  
Model: response ~ b \* exp(sowndiv)  
Data: DF  
Log-likelihood: -1715.803

Coefficients:

b  
0.1463439

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
14.39585  
Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.1556430

\$`Invader species richness`\$E52  
Generalized nonlinear least squares fit  
Model: response ~ b \* exp(sowndiv)  
Data: DF  
Log-likelihood: -29.16024

Coefficients:  
b  
3.198725e-28

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.04616619  
Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.5164188

\$`Invader species richness`\$E61  
Generalized nonlinear least squares fit  
Model: response ~ exp(c \* sowndiv)  
Data: DF  
Log-likelihood: 8.6749

Coefficients:  
c  
-0.2294122

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
-0.3137089  
Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.3489355

\$`Invader species richness`\$E62  
Generalized nonlinear least squares fit  
Model: response ~ exp(c \* sowndiv)  
Data: DF

Log-likelihood: 7.984434

Coefficients:

c  
-0.2886913

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon  
-0.02739641

Degrees of freedom: 82 total; 81 residual

Residual standard error: 0.2794404

\$`Invader species richness`\$Ea10

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF

Log-likelihood: -4912.516

Coefficients:

a.(Intercept)	a.leg
-2963126	911706

Degrees of freedom: 82 total; 80 residual

Residual standard error: 2.553606e+25

\$`Invader species richness`\$Ea12

Generalized nonlinear least squares fit

Model: response ~ exp(c \* sowndiv)

Data: DF

Log-likelihood: 9.940523

Coefficients:

c.(Intercept)	c.leg
0.07027172	-0.27978125

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.2170086

\$`Invader species richness`\$Ea921

Generalized nonlinear least squares fit

Model: response ~ a + exp(c \* sowndiv)

Data: DF

Log-likelihood: 25.08048

Coefficients:

a.(Intercept)	a.leg	c.(Intercept)	c.leg
-0.65560671	0.05808522	0.01117756	-0.01890015

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:  
 expon  
 -0.03262556  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2417888

\$`Invader species richness`\$Ea1011  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -1768.089

Coefficients:  
 a.(Intercept)           a.leg  
 -2.09791148    -0.06329274

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 14.88791  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.1427223

\$`Invader species richness`\$Ea1021  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -801.392

Coefficients:  
 a.(Intercept)           a.leg  
 -3.557476           0.403380

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 1.014299  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.7105965

\$`Invader species richness`\$Ea121  
 Generalized nonlinear least squares fit  
 Model: response ~ exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 14.62785

Coefficients:  
 c.(Intercept)           c.leg  
 0.04724133    -0.22411372

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.2598078  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.3014128

\$`Invader species richness`\$Ea1221  
 Generalized nonlinear least squares fit  
 Model: response ~ exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 15.01052

Coefficients:  
 c.(Intercept)           c.leg  
     0.09369032     -0.28107660

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.0261203  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.2552798

\$`Invader species richness`\$Eb16  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -4912.516

Coefficients:  
 a.(Intercept)           a.grass  
     -3508714           1286426

Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 2.553606e+25

\$`Invader species richness`\$Eb18  
 Generalized nonlinear least squares fit  
 Model: response ~ exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 5.873459

Coefficients:  
 c.(Intercept)           c.grass  
     -0.7107069        0.2352284

Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.2280433

\$`Invader species richness`\$Eb1511  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 42.18982

Coefficients:  
 a.(Intercept)            a.grass   c.(Intercept)            c.grass  
 -1.11257729        0.36126322        0.02479703        -0.02891492

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.3590787  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2527482

\$`Invader species richness`\$Eb1521  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 39.69403

Coefficients:  
 a.(Intercept)            a.grass   c.(Intercept)            c.grass  
 -1.09315945        0.35459464        0.02532085        -0.02961015

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.02997079  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1977609

\$`Invader species richness`\$Eb1611  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -1765.168

Coefficients:  
 a.(Intercept)            a.grass  
 -2.5613818            0.2015474

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 14.90156

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.1349648

\$`Invader species richness`\$Eb1621  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -801.2233

Coefficients:  
a.(Intercept)           a.grass  
-4.1066329           0.7200957

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
  expon  
1.014469

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.7081031

\$`Invader species richness`\$Eb1811  
Generalized nonlinear least squares fit  
Model: response ~ exp(c \* sowndiv)  
Data: DF  
Log-likelihood: 12.40135

Coefficients:  
c.(Intercept)           c.grass  
-0.4722994           0.1557393

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
  power  
-0.3227594

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.3400491

\$`Invader species richness`\$Eb1821  
Generalized nonlinear least squares fit  
Model: response ~ exp(c \* sowndiv)  
Data: DF  
Log-likelihood: 10.93501

Coefficients:  
c.(Intercept)           c.grass  
-0.6457749           0.2191184

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv

Parameter estimates:  
 expon  
 -0.02658537  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.2693615

\$`Invader species richness`\$Ec22  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -4912.516

Coefficients:  
 a.(Intercept)      a.funcgr  
                   252096.1      -912137.6

Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 2.553606e+25

\$`Invader species richness`\$Ec24  
 Generalized nonlinear least squares fit  
 Model: response ~ exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 4.719322

Coefficients:  
 c.(Intercept)      c.funcgr  
                   -0.4535248      0.0614036

Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.2312757

\$`Invader species richness`\$Ec2121  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 30.93506

Coefficients:  
 a.(Intercept)      a.funcgr      c.(Intercept)      c.funcgr  
                   -0.361463110      -0.091661133      -0.039336297      0.008713791

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.03234552  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2245870

\$`Invader species richness`\$Ec2211  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)



Data: DF  
Log-likelihood: -1768.39

Coefficients:  
a.(Intercept)      a.funcgr  
    2.478558      -4.687232

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
14.88650  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.1435456

\$`Invader species richness`\$Ec2221  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -794.6692

Coefficients:  
a.(Intercept)      a.funcgr  
    3.874402      -6.339405

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
1.021634  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.6147121

\$`Invader species richness`\$Ec2411  
Generalized nonlinear least squares fit  
Model: response ~ exp(c \* sowndiv)  
Data: DF  
Log-likelihood: 9.415064

Coefficients:  
c.(Intercept)      c.funcgr  
    -0.31494618      0.03079770

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
-0.2776935  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.3298388

```

$`Invader species richness`$Ec2421
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 9.885686

Coefficients:
c.(Intercept)      c.funcgr
   -0.4188951      0.0572270

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
  -0.0268367
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2734199

```

```

$`Invader species richness`$Ed28
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr      a.leg
   872779.7      -990730.7      -307654.9

Degrees of freedom: 82 total; 79 residual
Residual standard error: 2.569717e+25

```

```

$`Invader species richness`$Ed2811
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1768.089

Coefficients:
a.(Intercept)      a.funcgr      a.leg
   2.60514365      -4.70305511      -0.06329275

```

```

Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
  14.88791
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1436228

```

```

$`Invader species richness`$Ed2821
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)

```

Data: DF  
 Log-likelihood: -794.6631

Coefficients:  
 a.(Intercept)      a.funcgr      a.leg  
                   4.0755148      -6.3644827      -0.1005894

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 1.021644  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.6184893

\$`Invader species richness`\$Ed3021  
 Generalized nonlinear least squares fit  
 Model: response ~ exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 15.31406

Coefficients:  
 c.(Intercept)      c.funcgr      c.leg  
                   0.18948785      -0.02097112      -0.31658809

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.02635913  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.2564666

\$`Invader species richness`\$Ee40  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -4912.516

Coefficients:  
 a.(Intercept)      a.funcgr      a.grass  
                   -335850.7      -839615.5      296563.5

Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 2.569717e+25

\$`Invader species richness`\$Ee341  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -1765.168

Coefficients:  
a.(Intercept)      a.funcgr      a.grass  
2.0754633      -4.6368451      0.2015474

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
14.90156  
Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.1358163

\$`Invader species richness`\$Ee342  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -794.6393

Coefficients:  
a.(Intercept)      a.funcgr      a.grass  
3.4300182      -6.2835356      0.2220201

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
1.021687  
Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.6180783

\$`Invader species richness`\$Ef40  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -4912.516

Coefficients:  
a.(Intercept)      a.grass      a.leg  
-5251826      1394677      1054750

Degrees of freedom: 82 total; 79 residual  
Residual standard error: 2.569717e+25

\$`Invader species richness`\$Ef3721  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* exp(c \* sowndiv)  
Data: DF  
Log-likelihood: -2712.751

Coefficients:  
a.(Intercept)      a.grass      a.leg      b.(Intercept)      b.grass  
1.419691e-01      2.012095e-01      8.611878e-03      1.071776e-04      4.652869e-05

	b.leg	c.(Intercept)	c.grass	c.leg
	-1.006911e-04	9.999935e-01	9.999970e-01	1.000006e+00

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

4.423157

Degrees of freedom: 82 total; 73 residual

Residual standard error: 0.001924846

\$`Invader species richness`\$Ef3911

Generalized nonlinear least squares fit

Model: response ~ a + exp(c \* sowndiv)

Data: DF

Log-likelihood: 43.4042

Coefficients:

a.(Intercept)	a.grass	a.leg	c.(Intercept)	c.grass
-1.057936251	0.342852252	-0.011580879	0.027034455	-0.027627968
				c.leg
				-0.004010485

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.3622474

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.2534778

\$`Invader species richness`\$Ef3921

Generalized nonlinear least squares fit

Model: response ~ a + exp(c \* sowndiv)

Data: DF

Log-likelihood: 40.65308

Coefficients:

a.(Intercept)	a.grass	a.leg	c.(Intercept)	c.grass
-1.045465471	0.333136267	-0.002225989	0.028542689	-0.027713348
				c.leg
				-0.005629043

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.02983964

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.1977937

```
$`Invader species richness`$Ef4011
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1765.167
```

```
Coefficients:
a.(Intercept)      a.grass      a.leg
-2.571592378      0.203006099      0.004375961
```

```
Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
14.90156
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1358126
```

```
$`Invader species richness`$Ef4021
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -800.985
```

```
Coefficients:
a.(Intercept)      a.grass      a.leg
-5.8867231         0.9899655      0.7564188
```

```
Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
1.014643
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.7094427
```

```
$`Invader species richness`$Ef4211
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 17.78622
```

```
Coefficients:
c.(Intercept)      c.grass      c.leg
-0.1508073         0.1095076     -0.1949573
```

```
Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
-0.2899755
```

Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.3052221

\$`Invader species richness`\$Ef4221  
Generalized nonlinear least squares fit  
Model: response ~ exp(c \* sowndiv)  
Data: DF  
Log-likelihood: 16.9982

Coefficients:  
c.(Intercept)            c.grass            c.leg  
                 -0.1003633        0.1106902        -0.2632032

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
          expon  
-0.02590937

Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.2502846

\$`Invader species richness`\$Eg46  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -4912.516

Coefficients:  
a.(Intercept)            a.funcgr            a.grass            a.leg  
                 292091.9           -918391.5           183181.4           -199834.2

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 2.586137e+25

\$`Invader species richness`\$Eg4611  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -1765.167

Coefficients:  
a.(Intercept)            a.funcgr            a.grass            a.leg  
                 2.063794081        -4.635386417        0.203006089        0.004375951

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
          power  
14.90156  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1366804

```
$`Invader species richness`$Eg4621
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -794.6391
```

```
Coefficients:
a.(Intercept)      a.funcgr      a.grass      a.leg
  3.47998058      -6.28977955      0.21509253      -0.01805433
```

```
Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
  1.021688
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.6220253
```

```
$`Invader species richness`$Pa2
Nonlinear regression model
  model: response ~ a + b * sowndiv
  data: DF
      a      b
  0.417129 -0.008632
residual sum-of-squares: 3.507
```

```
Number of iterations to convergence: 1
Achieved convergence tolerance: 2.236e-09
```

```
$`Invader species richness`$Pa3
Nonlinear regression model
  model: response ~ a + sowndiv^c
  data: DF
      a      c
 -0.4553 -0.1624
residual sum-of-squares: 2.866
```

```
Number of iterations to convergence: 9
Achieved convergence tolerance: 3.763e-07
```

```
$`Invader species richness`$Pa4
Nonlinear regression model
  model: response ~ b * sowndiv^c
  data: DF
      b      c
  0.5529 -0.3708
residual sum-of-squares: 2.926
```

```
Number of iterations to convergence: 9
Achieved convergence tolerance: 4.003e-06
```

```
$`Invader species richness`$Pa5
Nonlinear regression model
```



```

model: response ~ sowndiv^c
data: DF
      c
-0.7758
residual sum-of-squares: 6.844

Number of iterations to convergence: 11
Achieved convergence tolerance: 1.481e-06

```

```

$`Invader species richness`$Pb21
Generalized nonlinear least squares fit
Model: response ~ a + b * sowndiv
Data: DF
Log-likelihood: 12.88056

```

```

Coefficients:
      a          b
0.417129359 -0.008631752

```

```

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2093658

```

```

$`Invader species richness`$Pb31
Generalized nonlinear least squares fit
Model: response ~ a + sowndiv^c
Data: DF
Log-likelihood: 21.15601

```

```

Coefficients:
      a          c
-0.4553454 -0.1624136

```

```

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1892678

```

```

$`Invader species richness`$Pb41
Generalized nonlinear least squares fit
Model: response ~ b * sowndiv^c
Data: DF
Log-likelihood: 20.30381

```

```

Coefficients:
      b          c
0.5529273 -0.3707754

```

```

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1912450

```

```

$`Invader species richness`$Pb51
Generalized nonlinear least squares fit
Model: response ~ sowndiv^c
Data: DF
Log-likelihood: -14.53352

```

Coefficients:

c  
-0.7758186

Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.2906704

\$`Invader species richness`\$Pc221  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 22.21624

Coefficients:

a                      b  
0.326729178 -0.005179762

Variance function:

Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:

power  
-0.4159826

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.3464691

\$`Invader species richness`\$Pc231  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 20.10696

Coefficients:

a                      b  
0.369223372 -0.005640003

Variance function:

Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:

expon  
-0.03318851

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.2549052

\$`Invader species richness`\$Pc321  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 32.50991

Coefficients:

a                      c  
-0.4387390 -0.1772267

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.3794411  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.2894586

\$`Invader species richness`\$Pc331  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 30.55208

Coefficients:  
     a                    c  
 -0.4448249 -0.1766571

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.03242523  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.2229526

\$`Invader species richness`\$Pc421  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 30.11980

Coefficients:  
     b                    c  
 0.5960487 -0.4465598

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.3417814  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.2818151

\$`Invader species richness`\$Pc431  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 26.00437

Coefficients:

	b	c
	0.5839645	-0.4759169

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

	expon
	-0.02546366

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.2219942

\$`Invader species richness`\$Pc521

Generalized nonlinear least squares fit

Model: response ~ sowndiv^c

Data: DF

Log-likelihood: 15.82466

Coefficients:

	c
	-0.695587

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

	power
	-0.5683133

Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.4666951

\$`Invader species richness`\$Pc531

Generalized nonlinear least squares fit

Model: response ~ sowndiv^c

Data: DF

Log-likelihood: 1.713970

Coefficients:

	c
	-0.762298

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

	expon
	-0.04135571

Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.3400537

\$`Invader species richness`\$Pd61

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv^c

Data: DF  
Log-likelihood: 22.04046

Coefficients:

a.(Intercept)	a.funcgr	b.(Intercept)	b.funcgr	c.(Intercept)
0.69693583	-0.01204201	-0.11754105	-0.03675916	0.50035632
	c.funcgr			
	-0.07337373			

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1921015

\$`Invader species richness`\$Pd71  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 21.33612

Coefficients:

a.(Intercept)	a.funcgr	b.(Intercept)	b.funcgr
0.630167330	-0.089314529	-0.033176218	0.007268427

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1912584

\$`Invader species richness`\$Pd81  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 21.68425

Coefficients:

a.(Intercept)	a.funcgr	c.(Intercept)	c.funcgr
-0.458342103	-0.003366539	-0.118504949	-0.013242964

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1904481

\$`Invader species richness`\$Pd91  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 21.63043

Coefficients:

b.(Intercept)	b.funcgr	c.(Intercept)	c.funcgr
0.47145739	0.06381308	-0.15277006	-0.11400496

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1905732

\$`Invader species richness`\$Pd101  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c

Data: DF  
Log-likelihood: -14.52953

Coefficients:  
c.(Intercept)      c.funcgr  
-0.79368895      0.00765095

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.2924672

\$`Invader species richness`\$Pe621  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv^c  
Data: DF  
Log-likelihood: 33.50194

Coefficients:  
a.(Intercept)      a.funcgr    b.(Intercept)      b.funcgr    c.(Intercept)  
0.84230527      -0.04263488      -0.24458503      -0.01422285      0.36393765  
c.funcgr  
-0.04553150

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
-0.3803518  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.2938040

\$`Invader species richness`\$Pe631  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv^c  
Data: DF  
Log-likelihood: 31.4902

Coefficients:  
a.(Intercept)      a.funcgr    b.(Intercept)      b.funcgr    c.(Intercept)  
0.73732804      -0.03098583      -0.15141668      -0.02259400      0.46596031  
c.funcgr  
-0.06338947

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.03229696  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.2258936

\$`Invader species richness`\$Pe721  
Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 32.44078

## Coefficients:

a.(Intercept)	a.funcgr	b.(Intercept)	b.funcgr
0.611738355	-0.089326220	-0.029794959	0.006534511

## Variance function:

Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.3795758  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2934520

\$`Invader species richness`\$Pe731  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 30.7238

## Coefficients:

a.(Intercept)	a.funcgr	b.(Intercept)	b.funcgr
0.62704760	-0.09164936	-0.03132883	0.00689777

## Variance function:

Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.03239339  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2252589

\$`Invader species richness`\$Pe821  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 33.06976

## Coefficients:

a.(Intercept)	a.funcgr	c.(Intercept)	c.funcgr
-0.417567066	-0.021645713	-0.161038712	0.003049373

## Variance function:

Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.3794307  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.291147

\$`Invader species richness`\$Pe831  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 30.05476

Coefficients:  
 a.(Intercept)      a.funcgr    c.(Intercept)      c.funcgr  
 -0.58354769      0.11546947      -0.02176777      -0.10861881

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.03220079  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2267291

\$`Invader species richness`\$Pe921  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 32.27755

Coefficients:  
 b.(Intercept)      b.funcgr    c.(Intercept)      c.funcgr  
 0.48810276      0.06741560      -0.22497351      -0.09829296

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.3619244  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2864316

\$`Invader species richness`\$Pe931  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 30.40131

Coefficients:  
 b.(Intercept)      b.funcgr    c.(Intercept)      c.funcgr  
 0.4266011      0.1103235      -0.1481938      -0.1438805

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon



-0.03162179  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2246534

\$`Invader species richness`\$Pe1021  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: 16.10336

Coefficients:  
 c.(Intercept) c.funcgr  
 -0.62441777 -0.02542857

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.5766707  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.4738524

\$`Invader species richness`\$Pe1031  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: 1.832112

Coefficients:  
 c.(Intercept) c.funcgr  
 -0.68495826 -0.02409634

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.04166035  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.3425747

\$`Invader species richness`\$Pf111  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 32.75374

Coefficients:  
 a.(Intercept) a.grass b.(Intercept) b.grass c.(Intercept)  
 1.5069269 -0.4201459 -1.3917740 0.6582016 -0.4827015  
 c.grass  
 0.5693927

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1685738

\$`Invader species richness`\$Pf121  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 31.16652

Coefficients:  
a.(Intercept)            a.grass b.(Intercept)            b.grass  
-0.05405562        0.32841511        0.01721410        -0.02175244

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1696508

\$`Invader species richness`\$Pf131  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 31.35253

Coefficients:  
a.(Intercept)            a.grass c.(Intercept)            c.grass  
-0.87486993        0.24422907        -0.03644039        -0.05248520

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1692664

\$`Invader species richness`\$Pf141  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 30.66643

Coefficients:  
b.(Intercept)            b.grass c.(Intercept)            c.grass  
0.14854720        0.23238258        -0.39446566        0.07229237

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1706886

\$`Invader species richness`\$Pf151  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -12.32948

Coefficients:  
c.(Intercept)            c.grass  
-1.4005608        0.4061233

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.2847246

\$`Invader species richness`\$Pg171  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 15.86537

Coefficients:  
 a.(Intercept)            a.leg b.(Intercept)            b.leg  
 0.412542457    0.022516667    0.006604696    -0.014723930

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2044538

\$`Invader species richness`\$Pg181  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 24.38817

Coefficients:  
 a.(Intercept)            a.leg c.(Intercept)            c.leg  
 -0.15811003    -0.17428692    -0.30971908    0.07706301

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1842706

\$`Invader species richness`\$Pg191  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 23.54685

Coefficients:  
 b.(Intercept)            b.leg c.(Intercept)            c.leg  
 0.87570692    -0.18786335    -0.47217817    0.03754091

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1861709

\$`Invader species richness`\$Pg201  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -12.82061

Coefficients:  
 c.(Intercept)            c.leg  
 -0.2798797    -0.3739393

Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.2864351

\$`Invader species richness`\$Ph221

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv

Data: DF

Log-likelihood: 26.75476

Coefficients:

a.(Intercept)	a.funcgr	a.leg	b.(Intercept)	b.funcgr
1.015514463	-0.137610858	-0.193372861	-0.045353257	0.008690782
	b.leg			
	0.006499813			

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.1813687

\$`Invader species richness`\$Ph231

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv^c

Data: DF

Log-likelihood: 27.19862

Coefficients:

a.(Intercept)	a.funcgr	a.leg	c.(Intercept)	c.funcgr
-0.136405780	-0.043468172	-0.162036429	-0.108570009	-0.015545757
	c.leg			
	-0.001374916			

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.1803896

\$`Invader species richness`\$Ph241

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv^c

Data: DF

Log-likelihood: 28.54119

Coefficients:

b.(Intercept)	b.funcgr	b.leg	c.(Intercept)	c.funcgr
0.73575274	0.04165656	-0.13995582	0.35646033	-0.19782181
	c.leg			
	-0.24241006			

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.1774602

\$`Invader species richness`\$Ph251

Generalized nonlinear least squares fit

Model: response ~ sowndiv^c

Data: DF

Log-likelihood: -11.81655

Coefficients:

c.(Intercept)	c.funcgr	c.leg
0.2735073	-0.1332462	-0.5562679

Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.2847344

\$`Invader species richness`\$Pi271  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 32.08462

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
0.063678443	-0.018592589	0.282757047	-0.005044938	0.003682476
	b.grass			
	-0.013778975			

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1699550

\$`Invader species richness`\$Pi281  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 32.13330

Coefficients:

a.(Intercept)	a.funcgr	a.grass	c.(Intercept)	c.funcgr
-1.00108667	0.05983559	0.27361119	0.01532652	-0.02767011
	c.grass			
	-0.06655799			

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1698542

\$`Invader species richness`\$Pi291  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 32.43288

Coefficients:

b.(Intercept)	b.funcgr	b.grass	c.(Intercept)	c.funcgr
-0.09063530	0.13572666	0.27853058	-0.27181359	-0.10501154
	c.grass			
	0.06788672			

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1692347

\$`Invader species richness`\$Pi301  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -11.61194

Coefficients:  
 c.(Intercept)      c.funcgr      c.grass  
                  -1.8166817      0.1212961      0.5041612

Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.2840248

\$`Invader species richness`\$Pj321  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 32.13525

Coefficients:  
 a.(Intercept)      a.grass      a.leg      b.(Intercept)      b.grass  
                  -0.020635335      0.311193310      0.002453275      0.021968754      -0.020077170  
                  b.leg  
                  -0.006507661

Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1698501

\$`Invader species richness`\$Pj331  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 32.59551

Coefficients:  
 a.(Intercept)      a.grass      a.leg      c.(Intercept)      c.grass  
                  -0.67654278      0.21960945      -0.09267028      -0.10761020      -0.04680049  
                  c.leg  
                  0.03035498

Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1688994

\$`Invader species richness`\$Pj341  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 31.93707

Coefficients:  
 b.(Intercept)      b.grass      b.leg      c.(Intercept)      c.grass  
                  0.3808502517      0.1930088170      -0.0958376885      -0.5051045589      0.1167130758  
                  c.leg  
                  -0.0004397458

Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1702611

\$`Invader species richness`\$Pj351  
 Generalized nonlinear least squares fit

Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -11.07876

Coefficients:  
 c.(Intercept)          c.grass          c.leg  
   -0.8507797          0.3308007        -0.3173230

Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.282184

\$`Invader species richness`\$Pk371  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 32.69562

Coefficients:  
 a.(Intercept)          a.funcgr          a.grass          a.leg b.(Intercept)  
   0.2463421302 -0.0414611831    0.2505014302 -0.0592709971 -0.0035913038  
           b.funcgr          b.grass          b.leg  
   0.0034729818 -0.0141514205 -0.0002398164

Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.1709578

\$`Invader species richness`\$Pk381  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 32.85072

Coefficients:  
 a.(Intercept)          a.funcgr          a.grass          a.leg c.(Intercept)  
   -0.84184688    0.04090840    0.24590219    -0.05280485    0.06788732  
           c.funcgr          c.grass          c.leg  
   -0.03505635    -0.07750161    -0.01423810

Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.1706348

\$`Invader species richness`\$Pk391  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 33.93438

Coefficients:  
 b.(Intercept)          b.funcgr          b.grass          b.leg c.(Intercept)  
   0.02826615    0.12008834    0.25839679    -0.03975164    0.34677209  
           c.funcgr          c.grass          c.leg  
   -0.18977842    -0.04771701    -0.18335220

Degrees of freedom: 82 total; 74 residual

Residual standard error: 0.1683946

\$`Invader species richness`\$Pk401  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -11.07875

Coefficients:  
c.(Intercept)      c.funcgr      c.grass      c.leg  
-0.855308355    0.000730808    0.331740345    -0.316246224

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.2839871

\$`Invader species richness`\$Pm1131  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv^c  
Data: DF  
Log-likelihood: 41.11341

Coefficients:  
a.(Intercept)      a.grass    b.(Intercept)      b.grass    c.(Intercept)  
0.9651428      -0.1447366      -0.8585680      0.3875217      -0.3746046  
c.grass  
0.4988814

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.02975738

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1965476

\$`Invader species richness`\$Pm1221  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 41.79731

Coefficients:  
a.(Intercept)      a.grass    b.(Intercept)      b.grass  
-0.09996902      0.34329718      0.01731705      -0.02086094

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
-0.3609832

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.25468



\$`Invader species richness`\$Pm1231  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 39.35593

Coefficients:  
 a.(Intercept)          a.grass b.(Intercept)          b.grass  
 -0.08537011      0.34165769      0.01796586      -0.02165696

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.03003527  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1986879

\$`Invader species richness`\$Pm1321  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 42.10798

Coefficients:  
 a.(Intercept)          a.grass c.(Intercept)          c.grass  
 -0.86106131      0.25360980      -0.02570178      -0.07694270

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.3526547  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2505992

\$`Invader species richness`\$Pm1331  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 39.37394

Coefficients:  
 a.(Intercept)          a.grass c.(Intercept)          c.grass  
 -0.84042252      0.23107728      -0.05223669      -0.05297478

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon

-0.02975453  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1981661

\$`Invader species richness`\$Pm1421  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 40.15399

Coefficients:  

b.(Intercept)	b.grass	c.(Intercept)	c.grass
0.21660160	0.21522733	-0.50179903	0.09355505

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.3258341  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2466244

\$`Invader species richness`\$Pm1431  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 36.62846

Coefficients:  

b.(Intercept)	b.grass	c.(Intercept)	c.grass
0.2439211	0.1887773	-0.6599966	0.1895947

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.02665412  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1995308

\$`Invader species richness`\$Pm1521  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: 20.26987

Coefficients:  

c.(Intercept)	c.grass
-1.0048581	0.2288813

Variance function:  
 Structure: Power of variance covariate

Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.5877286  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.4578314

\$`Invader species richness`\$Pm1531  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: 3.926738

Coefficients:  
 c.(Intercept)           c.grass  
     -1.0886432           0.2597931

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.04147372  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.3334000

\$`Invader species richness`\$Pn1721  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 26.04545

Coefficients:  
 a.(Intercept)           a.leg b.(Intercept)           b.leg  
     0.286090424   0.059738925   0.006601245   -0.011968258

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.4077572  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.3308098

\$`Invader species richness`\$Pn1731  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 24.01991

Coefficients:  
 a.(Intercept)           a.leg b.(Intercept)           b.leg  
     0.324673516   0.059356680   0.008611559   -0.014459520

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.03297544  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2456733

\$`Invader species richness`\$Pn1821  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 35.50666

Coefficients:  
 a.(Intercept)           a.leg c.(Intercept)           c.leg  
 -0.11753302   -0.19465764   -0.34878051   0.09663866

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.3694779  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2784767

\$`Invader species richness`\$Pn1831  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 33.49728

Coefficients:  
 a.(Intercept)           a.leg c.(Intercept)           c.leg  
 -0.13300881   -0.18714082   -0.34491949   0.09516301

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.03168886  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2164542

\$`Invader species richness`\$Pn1921  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 33.48263

Coefficients:  
 b.(Intercept)            b.leg c.(Intercept)            c.leg  
           1.0260803        -0.2583930        -0.6270084            0.1014506

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           power  
 -0.3398739  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2731628

\$`Invader species richness`\$Pn1931  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 29.51901

Coefficients:  
 b.(Intercept)            b.leg c.(Intercept)            c.leg  
           1.0035289        -0.2507705        -0.7209066            0.1560956

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           expon  
 -0.02652077  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2173534

\$`Invader species richness`\$Pn2021  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: 17.17423

Coefficients:  
 c.(Intercept)            c.leg  
           -0.5051655        -0.1516705

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           power  
 -0.5555069  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.4532378

\$`Invader species richness`\$Pn2031  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c

Data: DF  
Log-likelihood: 2.42626

Coefficients:  
c.(Intercept)           c.leg  
-0.5379375       -0.1932928

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.04034197  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.3362736

\$`Invader species richness`\$Pp2121  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv^c  
Data: DF  
Log-likelihood: 45.01433

Coefficients:  
a.(Intercept)       a.funcgr           a.leg b.(Intercept)       b.funcgr  
-1.95173396       1.11905981       1.76976177       2.85281801       -1.19574945  
          b.leg c.(Intercept)       c.funcgr           c.leg  
-1.93423489       0.14782170       -0.02204228       -0.03605776

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
-0.4191833  
Degrees of freedom: 82 total; 73 residual  
Residual standard error: 0.2759731

\$`Invader species richness`\$Pp2221  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 38.79377

Coefficients:  
a.(Intercept)       a.funcgr           a.leg b.(Intercept)       b.funcgr  
1.047892157       -0.143963401       -0.219425587       -0.046799270       0.008552152  
          b.leg  
0.008962449

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power

-0.3837133  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2768204

\$`Invader species richness`\$Pp2231  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 35.89476

Coefficients:  
 a.(Intercept)      a.funcgr              a.leg    b.(Intercept)      b.funcgr  
   1.028413569    -0.141983328    -0.201329427    -0.045879104    0.008625761  
                   b.leg  
   0.007658880

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
   expon  
 -0.03134643  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2123401

\$`Invader species richness`\$Pp2321  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 39.06248

Coefficients:  
 a.(Intercept)      a.funcgr              a.leg    c.(Intercept)      c.funcgr  
 -0.76983833    0.15946999    0.08906809    0.51380812    -0.21841989  
                   c.leg  
 -0.24089121

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
   power  
 -0.4059511  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2851758

\$`Invader species richness`\$Pp2331  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 35.75659

Coefficients:  
 a.(Intercept)      a.funcgr              a.leg    c.(Intercept)      c.funcgr

-0.53589463    0.12921000    -0.03662687    0.32848914    -0.19235283  
                   c.leg  
 -0.14004891

## Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.03082321

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.2117449

\$`Invader species richness`\$Pp2421

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv^c

Data: DF

Log-likelihood: 40.80514

## Coefficients:

b.(Intercept)	b.funcgr	b.leg	c.(Intercept)	c.funcgr
0.80200830	0.03207266	-0.16386580	0.22911335	-0.16930646
	c.leg			
	-0.20922018			

## Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.3747754

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.2665524

\$`Invader species richness`\$Pp2431

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv^c

Data: DF

Log-likelihood: 37.35203

## Coefficients:

b.(Intercept)	b.funcgr	b.leg	c.(Intercept)	c.funcgr
0.72666925	0.06202786	-0.14544917	0.34145225	-0.20801137
	c.leg			
	-0.23748846			

## Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.03058375

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.2072384



\$`Invader species richness`\$Pp2521  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: 21.66257

Coefficients:  
 c.(Intercept)      c.funcgr      c.leg  
                   0.1232385    -0.1275926    -0.3697904

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           power  
 -0.5943065  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.4574061

\$`Invader species richness`\$Pp2531  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: 4.724891

Coefficients:  
 c.(Intercept)      c.funcgr      c.leg  
                   0.2237150    -0.1351649    -0.4787033

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           expon  
 -0.0413064  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.3317768

\$`Invader species richness`\$Pq2721  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 42.86236

Coefficients:  
 a.(Intercept)      a.funcgr      a.grass    b.(Intercept)      b.funcgr  
                   0.0216840901 -0.0156838964  0.2950118254  0.0002271900    0.0027256163  
                   b.grass  
 -0.0147833010

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv

Parameter estimates:  
 power  
 -0.3577454  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2534586

\$`Invader species richness`\$Pq2731  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 40.4102

Coefficients:  

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
0.052867267	-0.019880909	0.286728538	-0.002336005	0.003215359
	b.grass			
	-0.014258973			

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.02989376  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1984726

\$`Invader species richness`\$Pq2821  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 42.91245

Coefficients:  

a.(Intercept)	a.funcgr	a.grass	c.(Intercept)	c.funcgr
-1.02251732	0.04848752	0.30477802	0.04695039	-0.02056472
	c.grass			
	-0.10413558			

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.3516781  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2510325

\$`Invader species richness`\$Pq2831  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 40.27449

Coefficients:

a.(Intercept)	a.funcgr	a.grass	c.(Intercept)	c.funcgr
-1.00611097	0.05489282	0.28236358	0.03219615	-0.02436188
	c.grass			
	-0.08479484			

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.02969641  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1984648

\$`Invader species richness`\$Pq2921  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 42.60673

Coefficients:

b.(Intercept)	b.funcgr	b.grass	c.(Intercept)	c.funcgr
-0.15357013	0.14499167	0.31840022	-0.23256545	-0.10073780
	c.grass			
	0.01854377			

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.3365072  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2463586

\$`Invader species richness`\$Pq2931  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 40.02634

Coefficients:

b.(Intercept)	b.funcgr	b.grass	c.(Intercept)	c.funcgr
-0.13642706	0.17217708	0.28489160	-0.26222868	-0.12813774
	c.grass			
	0.06373016			

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.02888577

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1976857

\$`Invader species richness`\$Pq3021  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: 20.80111

Coefficients:  
c.(Intercept)      c.funcgr      c.grass  
-1.19832277      0.04239401      0.28550308

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
-0.5807103  
Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.4530002

\$`Invader species richness`\$Pq3031  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: 4.610106

Coefficients:  
c.(Intercept)      c.funcgr      c.grass  
-1.5120005      0.0805158      0.3962009

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.04112049  
Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.3317117

\$`Invader species richness`\$Pr3221  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 43.17197

Coefficients:  
a.(Intercept)      a.grass      a.leg      b.(Intercept)      b.grass  
-0.0602757517      0.3241895920      0.0004919155      0.0201846284      -0.0195088148  
    b.leg  
-0.0045281774

Variance function:

Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.3639944  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2548568

\$`Invader species richness`\$Pr3231  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 40.43608

Coefficients:  
 a.(Intercept)           a.grass           a.leg b.(Intercept)           b.grass  
 -0.051643557   0.320972804   0.006663600   0.021493251   -0.019924581  
                   b.leg  
 -0.005575996

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.02990988  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1984375

\$`Invader species richness`\$Pr3321  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 44.00296

Coefficients:  
 a.(Intercept)           a.grass           a.leg c.(Intercept)           c.grass  
 -0.64673095   0.25161842   -0.13056007   -0.10328940   -0.08858918  
                   c.leg  
 0.05405993

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.3619205  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2515116

\$`Invader species richness`\$Pr3331  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF

Log-likelihood: 40.83264

Coefficients:

a.(Intercept)	a.grass	a.leg	c.(Intercept)	c.grass
-0.63772965	0.21995538	-0.11218681	-0.12471634	-0.05889420
	c.leg			
	0.04572847			

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.02972233

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.1971624

\$`Invader species richness`\$Pr3421

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv^c

Data: DF

Log-likelihood: 42.00789

Coefficients:

b.(Intercept)	b.grass	b.leg	c.(Intercept)	c.grass
0.56710471	0.15769048	-0.15088913	-0.67074397	0.14296676
	c.leg			
	0.03451621			

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.3331444

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.2469285

\$`Invader species richness`\$Pr3431

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv^c

Data: DF

Log-likelihood: 38.21659

Coefficients:

b.(Intercept)	b.grass	b.leg	c.(Intercept)	c.grass
0.57166068	0.14032134	-0.14546260	-0.83014736	0.21995668
	c.leg			
	0.06170711			

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon  
 -0.02706913  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1989696

\$`Invader species richness`\$Pr3521  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: 22.13663

Coefficients:  
 c.(Intercept)          c.grass                  c.leg  
                  -0.8066883          0.2339641          -0.1631919

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
                  power  
 -0.5823131  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.4467438

\$`Invader species richness`\$Pr3531  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: 5.287322

Coefficients:  
 c.(Intercept)          c.grass                  c.leg  
                  -0.8314496          0.2877868          -0.2493132

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
                  expon  
 -0.04104642  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.3287743

\$`Invader species richness`\$Ps3621  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 50.29523

Coefficients:  
 a.(Intercept)          a.funcgr                  a.grass                  a.leg    b.(Intercept)  
                  -1.93245484          0.46808645          0.66797466          0.71820200          1.89919696  
                  b.funcgr                  b.grass                  b.leg    c.(Intercept)          c.funcgr  
                  -0.43400756          -0.37339881          -0.71112282          0.36881258          -0.05554374

```

      c.grass      c.leg
0.02980064    -0.09457733

```

```

Variance function:
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
  power
-0.3973175
Degrees of freedom: 82 total; 70 residual
Residual standard error: 0.2558069

```

```

$`Invader species richness`$Ps3721
Generalized nonlinear least squares fit
Model: response ~ a + b * sowndiv
Data: DF
Log-likelihood: 43.72664

```

```

Coefficients:
a.(Intercept)      a.funcgr      a.grass      a.leg b.(Intercept)
0.247874044    -0.043994698    0.252801742    -0.071385823    -0.002507854
      b.funcgr      b.grass      b.leg
0.003031539    -0.014188951    0.000927611

```

```

Variance function:
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
  power
-0.3613453
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.2555298

```

```

$`Invader species richness`$Ps3731
Generalized nonlinear least squares fit
Model: response ~ a + b * sowndiv
Data: DF
Log-likelihood: 41.0468

```

```

Coefficients:
a.(Intercept)      a.funcgr      a.grass      a.leg b.(Intercept)
0.2509668132    -0.0447050217    0.2512739250    -0.0637999771    -0.0032650952
      b.funcgr      b.grass      b.leg
0.0033036923    -0.0141289557    0.0004530692

```

```

Variance function:
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
  expon
-0.02982247
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1994592

```



\$`Invader species richness`\$Ps3821  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 42.52694

## Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	c.(Intercept)
-1.4206838	0.2359320	0.2350012	0.1785560	0.7868325
	c.funcgr	c.grass	c.leg	
-0.2416403	-0.1205433	-0.2613907		

## Variance function:

Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.3713957  
 Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.2631937

\$`Invader species richness`\$Ps3831  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 41.02693

## Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	c.(Intercept)
-0.797182802	0.028202889	0.247579123	-0.069327702	0.031423223
	c.funcgr	c.grass	c.leg	
-0.024083720	-0.087149929	0.002907419		

## Variance function:

Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.02962511  
 Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.1991698

\$`Invader species richness`\$Ps3921  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 44.98124

## Coefficients:

b.(Intercept)	b.funcgr	b.grass	b.leg	c.(Intercept)
-0.04234246	0.12645110	0.29868719	-0.03496212	0.42487645
	c.funcgr	c.grass	c.leg	
-0.18819367	-0.09951096	-0.19959094		

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.3494143  
 Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.2472318

\$`Invader species richness`\$Ps3931  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 41.81318

Coefficients:

b.(Intercept)	b.funcgr	b.grass	b.leg	c.(Intercept)
-0.003032876	0.146549743	0.264252712	-0.041997471	0.406415523
	c.funcgr	c.grass	c.leg	
	-0.214042602	-0.063073641	-0.197580226	

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.02895602  
 Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.1961393

\$`Invader species richness`\$Ps4021  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: 22.55772

Coefficients:

c.(Intercept)	c.funcgr	c.grass	c.leg
-0.40630104	-0.06072173	0.15047459	-0.25805065

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.5910483  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.4531339

\$`Invader species richness`\$Ps4031  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: 5.328999

```

Coefficients:
c.(Intercept)      c.funcgr      c.grass      c.leg
-0.59909992    -0.03260645    0.23542643    -0.30395859

```

```

Variance function:
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
  expon
-0.04111847
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.3309116

```

```

$`Invader species richness`$AS1
Nonlinear regression model
  model: response ~ SSasym(sowndiv, Asym, R0, lrc)
  data: DF
      Asym      R0      lrc
0.09845  0.58229 -1.94556
residual sum-of-squares: 2.865

```

```

Number of iterations to convergence: 10
Achieved convergence tolerance: 5.436e-06

```

```

$`Invader species richness`$BIEXP
Nonlinear regression model
  model: response ~ SSbiexp(sowndiv, A1, lrc1, A2, lrc2)
  data: DF
      A1  lrc1  A2  lrc2
0.3523 -1.2446 0.2747 -3.5169
residual sum-of-squares: 2.829

```

```

Number of iterations to convergence: 14
Achieved convergence tolerance: 7.195e-06

```

```

$`Pathogen species richness`
$`Pathogen species richness`$L0

```

```

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

```

```

Coefficients:
(Intercept)      blockB2      blockB3      blockB4
sowndiv
  0.224259    0.114006    0.025244    0.027118
0.055516
  funcgr      grass      leg  sowndiv:funcgr
sowndiv:grass
  0.101548    0.177569   -0.053095   -0.010251
0.001817
  sowndiv:leg  funcgr:grass  funcgr:leg  grass:leg

```

-0.013620            -0.084607            0.059833            -0.069480

\$`Pathogen species richness`\$L01

Generalized least squares fit by maximum likelihood

Model: response ~ block + (sowndiv + funcgr + grass + leg)^2

Data: DF

Log-likelihood: 25.79086

Coefficients:

(Intercept)	blockB2	blockB3	blockB4
sowndiv			
0.195712422	0.110276383	0.017650003	0.025469852
0.054185791			
funcgr	grass	leg	sowndiv:funcgr
sowndiv:grass			
0.109607530	0.193109544	-0.027974670	-0.009994719
0.001547305			
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg
-0.013094391	-0.084367639	0.052372703	-0.080035890

Variance function:

Structure: Power of variance covariate

Formula: ~fitted(.)

Parameter estimates:

power

-0.2091725

Degrees of freedom: 82 total; 68 residual

Residual standard error: 0.1533704

\$`Pathogen species richness`\$L02

Generalized least squares fit by maximum likelihood

Model: response ~ block + (sowndiv + funcgr + grass + leg)^2

Data: DF

Log-likelihood: 25.78197

Coefficients:

(Intercept)	blockB2	blockB3	blockB4
sowndiv			
0.183702193	0.109027386	0.016928353	0.023977400
0.053623966			
funcgr	grass	leg	sowndiv:funcgr
sowndiv:grass			
0.112771926	0.199238813	-0.022587638	-0.009925503
0.001536858			
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg
-0.012821702	-0.085125766	0.051023361	-0.082313634

Variance function:

Structure: Exponential of variance covariate

Formula: ~fitted(.)

Parameter estimates:

expon

-0.4080875

Degrees of freedom: 82 total; 68 residual  
Residual standard error: 0.2192983

\$`Pathogen species richness`\$L011

Generalized least squares fit by maximum likelihood

Model: response ~ block + (sowndiv + funcgr + grass + leg)^2

Data: DF

Log-likelihood: 26.26706

Coefficients:

(Intercept)	blockB2	blockB3	blockB4
sowndiv			
0.1507478581	0.0928332638	0.0058362452	0.0116110166
0.0544964140			
funcgr	grass	leg	sowndiv:funcgr
sowndiv:grass			
0.1200501041	0.2153571331	0.0050773122	-0.0098785536
0.0006030371			
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg
-0.0128101203	-0.0824406715	0.0422156139	-0.0904535104

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.09880364

Degrees of freedom: 82 total; 68 residual

Residual standard error: 0.2033989

\$`Pathogen species richness`\$L021

Generalized least squares fit by maximum likelihood

Model: response ~ block + (sowndiv + funcgr + grass + leg)^2

Data: DF

Log-likelihood: 25.96710

Coefficients:

(Intercept)	blockB2	blockB3	blockB4
sowndiv			
0.234501006	0.094153237	0.012429609	0.005426761
0.054255056			
funcgr	grass	leg	sowndiv:funcgr
sowndiv:grass			
0.100839744	0.173745379	-0.047992274	-0.009938857
0.001101670			
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg
-0.012799493	-0.078541763	0.054459014	-0.068391197

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.006230011

Degrees of freedom: 82 total; 68 residual  
Residual standard error: 0.1859786

\$`Pathogen species richness`\$L2

Call:

lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:

(Intercept)	sowndiv	funcgr	leg
0.530198	0.004257	0.046881	-0.092814

\$`Pathogen species richness`\$L21

Generalized least squares fit by maximum likelihood

Model: response ~ sowndiv + funcgr + leg

Data: DF

Log-likelihood: 18.34620

Coefficients:

(Intercept)	sowndiv	funcgr	leg
0.536849843	0.003927728	0.045721903	-0.093260869

Variance function:

Structure: Power of variance covariate

Formula: ~fitted(.)

Parameter estimates:

power  
-0.255895

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1634570

\$`Pathogen species richness`\$L22

Generalized least squares fit by maximum likelihood

Model: response ~ sowndiv + funcgr + leg

Data: DF

Log-likelihood: 18.32808

Coefficients:

(Intercept)	sowndiv	funcgr	leg
0.536678756	0.003881564	0.045954940	-0.093528411

Variance function:

Structure: Exponential of variance covariate

Formula: ~fitted(.)

Parameter estimates:

expon  
-0.4537556

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.2460587

\$`Pathogen species richness`\$L211

Generalized least squares fit by maximum likelihood

Model: response ~ sowndiv + funcgr + leg

Data: DF  
Log-likelihood: 19.13973

Coefficients:  
(Intercept)        sowndiv        funcgr        leg  
0.569649550    0.003767531    0.037279288    -0.095455025

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
-0.1200674  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.2289847

\$`Pathogen species richness`\$L222  
Generalized least squares fit by maximum likelihood  
Model: response ~ sowndiv + funcgr + leg  
Data: DF  
Log-likelihood: 18.72840

Coefficients:  
(Intercept)        sowndiv        funcgr        leg  
0.541165282    0.003540669    0.045253681    -0.093020815

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.007423418  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.2052347

\$`Pathogen species richness`\$M1  
Nonlinear regression model  
model: response ~ a \* sowndiv/(b + sowndiv)  
data: DF  
    a        b  
0.7295 1.2863  
residual sum-of-squares: 2.919

Number of iterations to convergence: 4  
Achieved convergence tolerance: 7.176e-08

\$`Pathogen species richness`\$M1a  
Nonlinear regression model  
model: response ~ SSmicmen(sowndiv, Vm, k)  
data: DF  
    Vm        k  
0.7295 1.2863  
residual sum-of-squares: 2.919

Number of iterations to convergence: 3  
 Achieved convergence tolerance: 8e-08

\$`Pathogen species richness`\$M2  
 Nonlinear regression model  
 model: response ~ d + a \* sowndiv/(b + sowndiv)  
 data: DF  
 a b d  
 0.7583 1.1735 -0.0324  
 residual sum-of-squares: 2.918

Number of iterations to convergence: 7  
 Achieved convergence tolerance: 1.997e-06

\$`Pathogen species richness`\$M211  
 Generalized nonlinear least squares fit  
 Model: response ~ d + a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 21.01517

Coefficients:  
 a b d  
 0.69046934 1.54479976 0.05044647

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.08482043  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.2163923

\$`Pathogen species richness`\$M222  
 Generalized nonlinear least squares fit  
 Model: response ~ d + a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 20.87344

Coefficients:  
 a b d  
 0.67766109 1.74522509 0.07557819

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.006247317  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.2016500

\$`Pathogen species richness`\$M3  
 Generalized nonlinear least squares fit



Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 23.45475

## Coefficients:

a.(Intercept)	a.leg	b.(Intercept)	b.leg
0.88239609	-0.12900952	0.91679567	0.08326084

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1863801

\$`Pathogen species richness`\$M311  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 24.29779

## Coefficients:

a.(Intercept)	a.leg	b.(Intercept)	b.leg
0.89597525	-0.13590317	1.02211041	0.02907177

## Variance function:

Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.09821594

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2134317

\$`Pathogen species richness`\$M321  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 24.04015

## Coefficients:

a.(Intercept)	a.leg	b.(Intercept)	b.leg
0.908120436	-0.141493054	1.075816216	0.005721646

## Variance function:

Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.006630205

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1958937

\$`Pathogen species richness`\$M4  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 20.46183

Coefficients:  
 a.(Intercept)            a.grass b.(Intercept)            b.grass  
           0.75004538    -0.01800059        1.22508376        0.01495586

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1933085

\$`Pathogen species richness`\$M411  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 21.07146

Coefficients:  
 a.(Intercept)            a.grass b.(Intercept)            b.grass  
           0.76638844    -0.02643300        1.36367286        -0.05583744

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           power  
 -0.08403693  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2173725

\$`Pathogen species richness`\$M422  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 20.94024

Coefficients:  
 a.(Intercept)            a.grass b.(Intercept)            b.grass  
           0.78756795    -0.03704391        1.49567459        -0.12173999

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           expon  
 -0.006189834  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2026733

\$`Pathogen species richness`\$M5  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 21.60615

Coefficients:  
 a.(Intercept)            a.funcgr b.(Intercept)            b.funcgr

0.60835854 0.03419589 1.10892203 -0.07956287

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1906296

\$`Pathogen species richness`\$M511  
Generalized nonlinear least squares fit  
Model: response ~ a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 22.32114

Coefficients:  
a.(Intercept) a.funcgr b.(Intercept) b.funcgr  
0.60365617 0.03849863 1.05304035 -0.03068223

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:

power  
-0.09127604  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.2163981

\$`Pathogen species richness`\$M522  
Generalized nonlinear least squares fit  
Model: response ~ a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 22.18767

Coefficients:  
a.(Intercept) a.funcgr b.(Intercept) b.funcgr  
0.596166074 0.043341204 1.008864699 0.001562636

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:

expon  
-0.00684901  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.2007463

\$`Pathogen species richness`\$M6  
Generalized nonlinear least squares fit  
Model: response ~ a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 23.49014

Coefficients:  
a.(Intercept) a.funcgr a.leg b.(Intercept) b.funcgr  
0.855541643 0.003707222 -0.120743168 0.964522202 -0.042244691  
b.leg  
0.070577857

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1887351

\$`Pathogen species richness`\$M611  
Generalized nonlinear least squares fit  
Model: response ~ a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 24.31743

Coefficients:  
a.(Intercept)      a.funcgr              a.leg b.(Intercept)      b.funcgr  
0.862485187      0.005912456      -0.125068509      0.959152055      -0.002954550  
                  b.leg  
0.052232132

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
          power  
-0.09770039  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.2160046

\$`Pathogen species richness`\$M622  
Generalized nonlinear least squares fit  
Model: response ~ a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 24.07894

Coefficients:  
a.(Intercept)      a.funcgr              a.leg b.(Intercept)      b.funcgr  
0.84469792      0.01197955      -0.12034963      0.84290563      0.03750713  
                  b.leg  
0.08709348

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
          expon  
-0.00676429  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1985891

\$`Pathogen species richness`\$M7  
Generalized nonlinear least squares fit  
Model: response ~ a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 21.78471

Coefficients:  
a.(Intercept)      a.funcgr              a.grass b.(Intercept)      b.funcgr

0.48550314 0.04852315 0.06425281 0.65431728 -0.02983060  
 b.grass  
 0.24163392

Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1927015

\$`Pathogen species richness`\$M711  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 22.50904

Coefficients:  
 a.(Intercept) a.funcgr a.grass b.(Intercept) b.funcgr  
 0.48991730 0.05181520 0.05957531 0.65509828 0.01362889  
 b.grass  
 0.21182957

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.09163546

Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2188419

\$`Pathogen species richness`\$M722  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 22.35262

Coefficients:  
 a.(Intercept) a.funcgr a.grass b.(Intercept) b.funcgr  
 0.48314400 0.05655999 0.05914080 0.61611042 0.04489032  
 b.grass  
 0.20895339

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.006774529

Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2028321

\$`Pathogen species richness`\$M81  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 23.84253

Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
0.88047550	-0.01380403	-0.12358318	0.22706274	0.26690270
	b.leg			
	0.19935848			

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1879258

\$`Pathogen species richness`\$M821  
Generalized nonlinear least squares fit  
Model: response ~ a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 24.61323

Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
0.90934636	-0.02143111	-0.13268221	0.51115374	0.18673598
	b.leg			
	0.11388326			

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
-0.09438728  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.2141708

\$`Pathogen species richness`\$M832  
Generalized nonlinear least squares fit  
Model: response ~ a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 24.38021

Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
0.93081363	-0.02926342	-0.13811841	0.61481982	0.14632621
	b.leg			
	0.09093443			

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.006473901  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1973682

\$`Pathogen species richness`\$M91  
Generalized nonlinear least squares fit

Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 23.91061

## Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
0.98132531	-0.01338071	-0.03529884	-0.14669233	0.23333440
b.funcgr	b.grass	b.leg		
0.02960461	0.25945375	0.19976449		

Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.1902904

\$`Pathogen species richness`\$M921

Generalized nonlinear least squares fit

Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 24.71568

## Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
1.01336346	-0.01362123	-0.04335969	-0.15665873	0.38789203
b.funcgr	b.grass	b.leg		
0.05556948	0.20694381	0.14449543		

## Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power  
 -0.09665698

Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.2175064

\$`Pathogen species richness`\$M932

Generalized nonlinear least squares fit

Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 24.47693

## Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
0.997733637	-0.008018508	-0.043294519	-0.152740026	0.292929816
b.funcgr	b.grass	b.leg		
0.090844005	0.207175242	0.171292854		

## Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon  
 -0.006653257

Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.2000896

\$`Pathogen species richness`\$M1021  
 Generalized nonlinear least squares fit  
 Model: response ~ d + a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 19.87921

Coefficients:  
 a.(Intercept)            a.leg b.(Intercept)            b.leg d.(Intercept)  
   1.094338819    -0.534239919    10.415251287    -8.348091799    0.003771448  
                           d.leg  
                           0.216517625

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           power  
 -0.1246653  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2373311

\$`Pathogen species richness`\$M111  
 Generalized nonlinear least squares fit  
 Model: response ~ d + a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 20.47412

Coefficients:  
 a.(Intercept)            a.grass b.(Intercept)            b.grass d.(Intercept)  
   1.0203204        -0.1530536        0.5301123        0.3620318        -0.2888120  
                           d.grass  
                           0.1443049

Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1958062

\$`Pathogen species richness`\$M121  
 Generalized nonlinear least squares fit  
 Model: response ~ d + a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 21.63869

Coefficients:  
 a.(Intercept)            a.funcgr b.(Intercept)            b.funcgr d.(Intercept)  
   0.626448150    -0.053486837    1.408719896    0.076505336    0.005106643  
                           d.funcgr  
                           0.082652882

Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1930450

\$`Pathogen species richness`\$M131  
 Generalized nonlinear least squares fit



Model: response ~ d + a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 24.31191

## Coefficients:

a.(Intercept)	a.funcgr	a.leg	b.(Intercept)	b.funcgr
2.3363524	-0.2685684	-0.7611738	-1.0023039	0.3948092
	b.leg	d.(Intercept)	d.funcgr	d.leg
1.0163507	-1.3982048	0.2629219	0.5991636	

Degrees of freedom: 82 total; 73 residual  
 Residual standard error: 0.1906539

\$`Pathogen species richness`\$M1421

Generalized nonlinear least squares fit

Model: response ~ d + a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 20.4803

## Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
-1.38103407	0.12034958	1.15460746	-100.68603647	21.55792892
	b.grass	d.(Intercept)	d.funcgr	d.grass
54.57477040	0.41674560	0.07354225	-0.07493489	

## Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power  
 -0.1045497

Degrees of freedom: 82 total; 73 residual  
 Residual standard error: 0.2333173

\$`Pathogen species richness`\$M151

Generalized nonlinear least squares fit

Model: response ~ d + a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 23.92760

## Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
0.24095993	0.03275615	0.25526709	2.49866161	0.08271573
	b.leg	d.(Intercept)	d.grass	d.leg
-1.01288219	0.70111101	-0.05246082	-0.41280498	

Degrees of freedom: 82 total; 73 residual  
 Residual standard error: 0.1915496

\$`Pathogen species richness`\$M1521

Generalized nonlinear least squares fit

Model: response ~ d + a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 24.74933

```

Coefficients:
a.(Intercept)      a.grass      a.leg b.(Intercept)      b.grass
  0.33283959      0.01398456      0.16317931      3.00339090      0.19059826
      b.leg d.(Intercept)      d.grass      d.leg
 -1.23425023      0.62109081     -0.02955820     -0.32520518

```

```

Variance function:
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
  power
-0.09809096
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.2193678

```

```

$`Pathogen species richness`$M1532
Generalized nonlinear least squares fit
Model: response ~ d + a * sowndiv/(b + sowndiv)
Data: DF
Log-likelihood: 24.55367

```

```

Coefficients:
a.(Intercept)      a.grass      a.leg b.(Intercept)      b.grass
  0.19317628      0.01569938      0.29268537      3.77581777      0.08263089
      b.leg d.(Intercept)      d.grass      d.leg
 -1.64999426      0.79489516     -0.03942170     -0.46985645

```

```

Variance function:
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
  expon
-0.006944733
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.2017713

```

```

$`Pathogen species richness`$E2
Nonlinear regression model
model: response ~ a + b * exp(sowndiv)
data: DF
      a      b
5.154e-01 2.492e-27
residual sum-of-squares: 4.042

```

```

Number of iterations to convergence: 4
Achieved convergence tolerance: 2.424e-08

```

```

$`Pathogen species richness`$E4
Nonlinear regression model
model: response ~ a + exp(sowndiv)
data: DF

```

```

a
1

```

residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0  
Achieved convergence tolerance: 6.17e-20

\$`Pathogen species richness`\$E5  
Nonlinear regression model  
model: response ~ b \* exp(sowndiv)  
data: DF  
b  
7.005e-27  
residual sum-of-squares: 24.76

Number of iterations to convergence: 4  
Achieved convergence tolerance: 1.608e-08

\$`Pathogen species richness`\$E21  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* exp(sowndiv)  
Data: DF  
Log-likelihood: 9.633678

Coefficients:  
a b  
5.573077e-01 2.125137e-27

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
-0.1958362  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.2913176

\$`Pathogen species richness`\$E22  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* exp(sowndiv)  
Data: DF  
Log-likelihood: 8.328561

Coefficients:  
a b  
5.268271e-01 2.392041e-27

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.01058015  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.2423613

```
$`Pathogen species richness`$E31
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 13.18944
```

Coefficients:

```
          a          c
-0.490281292  0.004784538
```

Variance function:

```
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
  power
-0.1722209
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2693448
```

```
$`Pathogen species richness`$E32
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 12.13004
```

Coefficients:

```
          a          c
-0.513583117  0.005033258
```

Variance function:

```
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
  expon
-0.009660512
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2295624
```

```
$`Pathogen species richness`$E41
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1755.331
```

Coefficients:

```
          a
-2.405782
```

Variance function:

```
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
  power
14.94752
```

Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.1111193

\$`Pathogen species richness`\$E42  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -800.847

Coefficients:

a  
-3.036074

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:

expon  
1.014895  
Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.6979394

\$`Pathogen species richness`\$E51  
Generalized nonlinear least squares fit  
Model: response ~ b \* exp(sowndiv)  
Data: DF  
Log-likelihood: -66.11416

Coefficients:

b  
7.005209e-27

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:

power  
0.1312471  
Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.4487092

\$`Pathogen species richness`\$E52  
Generalized nonlinear least squares fit  
Model: response ~ b \* exp(sowndiv)  
Data: DF  
Log-likelihood: -66.86429

Coefficients:

b  
7.005209e-27

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv

Parameter estimates:  
 expon  
 -0.009902272  
 Degrees of freedom: 82 total; 81 residual  
 Residual standard error: 0.5990737

\$`Pathogen species richness`\$E61  
 Generalized nonlinear least squares fit  
 Model: response ~ exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: -53.489

Coefficients:  
 c  
 -0.5083214

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 0.2842085  
 Degrees of freedom: 82 total; 81 residual  
 Residual standard error: 0.3065331

\$`Pathogen species richness`\$E62  
 Generalized nonlinear least squares fit  
 Model: response ~ exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: -49.20415

Coefficients:  
 c  
 -0.08780405

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 0.007136297  
 Degrees of freedom: 82 total; 81 residual  
 Residual standard error: 0.4172705

\$`Pathogen species richness`\$Ea10  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -4912.516

Coefficients:  
 a.(Intercept)                    a.leg  
 -2963125.8                    911705.8

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 2.553606e+25

\$`Pathogen species richness`\$Ea12  
Generalized nonlinear least squares fit  
Model: response ~ exp(c \* sowndiv)  
Data: DF  
Log-likelihood: -40.97958

Coefficients:  
c.(Intercept)           c.leg  
0.5243027           -0.5449271

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.4037977

\$`Pathogen species richness`\$Ea911  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(c \* sowndiv)  
Data: DF  
Log-likelihood: 20.31377

Coefficients:  
a.(Intercept)           a.leg c.(Intercept)           c.leg  
-0.189825083   -0.222785548   -0.007606337   0.011075620

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
-0.1505718

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.2421674

\$`Pathogen species richness`\$Ea921  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(c \* sowndiv)  
Data: DF  
Log-likelihood: 19.51059

Coefficients:  
a.(Intercept)           a.leg c.(Intercept)           c.leg  
-0.20376717   -0.22220757   -0.00828691   0.01191123

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.00892863

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.2111447

```
$`Pathogen species richness`$Ea1011
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1753.602
```

```
Coefficients:
a.(Intercept)      a.leg
-2.2016152        -0.1166667
```

```
Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
14.95561
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1081715
```

```
$`Pathogen species richness`$Ea1021
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -800.7748
```

```
Coefficients:
a.(Intercept)      a.leg
-3.7064321         0.3864636
```

```
Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
1.014938
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.7014101
```

```
$`Pathogen species richness`$Ea121
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -39.14428
```

```
Coefficients:
c.(Intercept)      c.leg
0.04918354        -0.05577394
```

```
Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
-0.3321321
```



Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.6465237

\$`Pathogen species richness`\$Ea1221  
Generalized nonlinear least squares fit  
Model: response ~ exp(c \* sowndiv)  
Data: DF  
Log-likelihood: -39.15422

Coefficients:  
c.(Intercept)           c.leg  
0.4953196           -0.5472460

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
  expon  
0.01249611

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.3547346

\$`Pathogen species richness`\$Eb16  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -4912.516

Coefficients:  
a.(Intercept)           a.grass  
-3508713           1286426

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 2.553606e+25

\$`Pathogen species richness`\$Eb18  
Generalized nonlinear least squares fit  
Model: response ~ exp(c \* sowndiv)  
Data: DF  
Log-likelihood: -46.15873

Coefficients:  
c.(Intercept)           c.grass  
0.3543401           -0.3886778

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.4301244

\$`Pathogen species richness`\$Eb1511  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(c \* sowndiv)  
Data: DF  
Log-likelihood: 16.56897

Coefficients:  
a.(Intercept)            a.grass c.(Intercept)            c.grass  
-0.314801191   -0.143565186   -0.008628612   0.012724463

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
-0.1466571  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.2520143

\$`Pathogen species richness`\$Eb1521  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(c \* sowndiv)  
Data: DF  
Log-likelihood: 15.95644

Coefficients:  
a.(Intercept)            a.grass c.(Intercept)            c.grass  
-0.32409668   -0.14695480   -0.00961705   0.01383765

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.009345214  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.2212876

\$`Pathogen species richness`\$Eb1611  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -1755.297

Coefficients:  
a.(Intercept)            a.grass  
-2.43494852   0.01666667

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
14.94768  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.1117385

\$`Pathogen species richness`\$Eb1621  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)

Data: DF  
Log-likelihood: -800.7262

Coefficients:  
a.(Intercept)           a.grass  
-3.9029772           0.4998053

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
  expon  
1.014988  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.7006931

\$`Pathogen species richness`\$Eb1811  
Generalized nonlinear least squares fit  
Model: response ~ exp(c \* sowndiv)  
Data: DF  
Log-likelihood: -43.07596

Coefficients:  
c.(Intercept)           c.grass  
0.03895951           -0.04672897

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
  power  
-0.3021551  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.6487541

\$`Pathogen species richness`\$Eb1821  
Generalized nonlinear least squares fit  
Model: response ~ exp(c \* sowndiv)  
Data: DF  
Log-likelihood: -46.3727

Coefficients:  
c.(Intercept)           c.grass  
0.07661238           -0.08151570

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
  expon  
-0.02278001  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.524402

```
$`Pathogen species richness`$Ec22
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516
```

```
Coefficients:
a.(Intercept)      a.funcgr
      252095.9      -912137.5
```

```
Degrees of freedom: 82 total; 80 residual
Residual standard error: 2.553606e+25
```

```
$`Pathogen species richness`$Ec24
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -38.38607
```

```
Coefficients:
c.(Intercept)      c.funcgr
      -0.3524317      0.0863926
```

```
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.3912262
```

```
$`Pathogen species richness`$Ec1921
Generalized nonlinear least squares fit
  Model: response ~ a + b * exp(c * sowndiv)
  Data: DF
  Log-likelihood: -2913.733
```

```
Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr c.(Intercept)
      0.792377200      -0.505595531      0.005303375      -0.001325841      0.999668707
      c.funcgr
      1.000082823
```

```
Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
      expon
      4.808426
  Degrees of freedom: 82 total; 76 residual
  Residual standard error: 0.0008009555
```

```
$`Pathogen species richness`$Ec2211
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1755.331
```

```
Coefficients:
```

```
a.(Intercept)      a.funcgr
      2.127493      -4.533275
```

```
Variance function:
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
  power
14.94752
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1118116
```

```
$`Pathogen species richness`$Ec2221
Generalized nonlinear least squares fit
Model: response ~ a + exp(sowndiv)
Data: DF
Log-likelihood: -794.2422
```

```
Coefficients:
a.(Intercept)      a.funcgr
      3.527754      -6.181283
```

```
Variance function:
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
  expon
1.022297
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.6080454
```

```
$`Pathogen species richness`$Ec2411
Generalized nonlinear least squares fit
Model: response ~ exp(c * sowndiv)
Data: DF
Log-likelihood: -33.39247
```

```
Coefficients:
c.(Intercept)      c.funcgr
      -0.09825549      0.02333046
```

```
Variance function:
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
  power
-0.3459823
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.6152492
```

```
$`Pathogen species richness`$Ec2421
Generalized nonlinear least squares fit
Model: response ~ exp(c * sowndiv)
Data: DF
```

Log-likelihood: -36.9849

Coefficients:

c.(Intercept)	c.funcgr
-0.17948952	0.04382155

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon
-0.01953315

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.4548182

\$`Pathogen species richness`\$Ed28

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF

Log-likelihood: -4912.516

Coefficients:

a.(Intercept)	a.funcgr	a.leg
872779.4	-990730.5	-307654.8

Degrees of freedom: 82 total; 79 residual

Residual standard error: 2.569717e+25

\$`Pathogen species richness`\$Ed2811

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF

Log-likelihood: -1753.601

Coefficients:

a.(Intercept)	a.funcgr	a.leg
2.3608261	-4.5624412	-0.1166667

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power
14.95561

Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.1088539

\$`Pathogen species richness`\$Ed2821

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF

Log-likelihood: -794.2353

Coefficients:

a.(Intercept)	a.funcgr	a.leg
3.7379349	-6.2074764	-0.1051328

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

1.022310

Degrees of freedom: 82 total; 79 residual

Residual standard error: 0.6117605

\$`Pathogen species richness`\$Ed3021

Generalized nonlinear least squares fit

Model: response ~ exp(c \* sowndiv)

Data: DF

Log-likelihood: -35.57012

Coefficients:

c.(Intercept)	c.funcgr	c.leg
0.23922085	0.03518679	-0.38509444

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.00935685

Degrees of freedom: 82 total; 79 residual

Residual standard error: 0.4122238

\$`Pathogen species richness`\$Ee40

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF

Log-likelihood: -4912.516

Coefficients:

a.(Intercept)	a.funcgr	a.grass
-335850.5	-839615.4	296563.3

Degrees of freedom: 82 total; 79 residual

Residual standard error: 2.569717e+25

\$`Pathogen species richness`\$Ee341

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF

Log-likelihood: -1755.297

Coefficients:

a.(Intercept)	a.funcgr	a.grass
2.09415938	-4.52910788	0.01666667

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
   power  
 14.94768  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.1124435

\$`Pathogen species richness`\$Ee342  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -794.2421

Coefficients:  
 a.(Intercept)      a.funcgr      a.grass  
   3.50619785      -6.17858764      0.01077768

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
   expon  
 1.022297  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.6118804

\$`Pathogen species richness`\$Ef40  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -4912.516

Coefficients:  
 a.(Intercept)      a.grass      a.leg  
   -5251825      1394676      1054749

Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 2.569717e+25

\$`Pathogen species richness`\$Ef3721  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: -2748.242

Coefficients:  
 a.(Intercept)      a.grass      a.leg    b.(Intercept)      b.grass  
   0.5632294806    -0.0207623679    -0.1235830839    0.0003110381    -0.0001113385  
           b.leg    c.(Intercept)      c.grass      c.leg  
 -0.0000425028    0.9999801140    1.0000071064    1.0000028133

Variance function:



Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 4.509548  
 Degrees of freedom: 82 total; 73 residual  
 Residual standard error: 0.001413366

\$`Pathogen species richness`\$Ef3921  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 22.44404

Coefficients:  
 a.(Intercept)           a.grass                   a.leg c.(Intercept)           c.grass  
     -0.03852644    -0.13689759    -0.20227265    -0.01533502    0.01002089  
                   c.leg  
                   0.00810498

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.008068937  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2048702

\$`Pathogen species richness`\$Ef4011  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -1753.528

Coefficients:  
 a.(Intercept)           a.grass                   a.leg  
     -2.14328188    -0.02499999    -0.12499999

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 14.95595  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.1087018

\$`Pathogen species richness`\$Ef4021  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -800.5485

Coefficients:  
a.(Intercept)            a.grass            a.leg  
    -5.4261349        0.7307499        0.6471738

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
1.015104  
Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.7028916

\$`Pathogen species richness`\$Ef4211  
Generalized nonlinear least squares fit  
Model: response ~ exp(c \* sowndiv)  
Data: DF  
Log-likelihood: -37.20266

Coefficients:  
c.(Intercept)            c.grass            c.leg  
    0.8058854        -0.3024206        -0.5318166

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
0.2285446  
Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.2764003

\$`Pathogen species richness`\$Ef4221  
Generalized nonlinear least squares fit  
Model: response ~ exp(c \* sowndiv)  
Data: DF  
Log-likelihood: -37.58315

Coefficients:  
c.(Intercept)            c.grass            c.leg  
    0.54148502        -0.07913541        -0.49187409

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
0.01153550  
Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.3530985

\$`Pathogen species richness`\$Eg46  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)

Data: DF  
Log-likelihood: -4912.516

Coefficients:  
a.(Intercept)      a.funcgr      a.grass      a.leg  
292092.1      -918391.4      183181.2      -199834.3

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 2.586137e+25

\$`Pathogen species richness`\$Eg4611  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -1753.528

Coefficients:  
a.(Intercept)      a.funcgr      a.grass      a.leg  
2.427493      -4.570775      -0.025000      -0.125000

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
14.95595  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1093964

\$`Pathogen species richness`\$Eg4621  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -794.2347

Coefficients:  
a.(Intercept)      a.funcgr      a.grass      a.leg  
3.83383575      -6.21945730      -0.03465759      -0.11842922

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
1.022311  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.6156587

\$`Pathogen species richness`\$Pa2  
Nonlinear regression model  
model: response ~ a + b \* sowndiv  
data: DF  
a      b  
0.464978      0.007488

residual sum-of-squares: 3.604

Number of iterations to convergence: 1  
Achieved convergence tolerance: 9.597e-10

\$`Pathogen species richness`\$Pa3  
Nonlinear regression model  
model: response ~ a + sowndiv^c  
data: DF  
a c  
-0.63085 0.09613  
residual sum-of-squares: 2.996

Number of iterations to convergence: 8  
Achieved convergence tolerance: 2.634e-07

\$`Pathogen species richness`\$Pa4  
Nonlinear regression model  
model: response ~ b \* sowndiv^c  
data: DF  
b c  
0.3867 0.1964  
residual sum-of-squares: 3.046

Number of iterations to convergence: 8  
Achieved convergence tolerance: 3.015e-06

\$`Pathogen species richness`\$Pa5  
Nonlinear regression model  
model: response ~ sowndiv^c  
data: DF  
c  
-0.2495  
residual sum-of-squares: 14.27

Number of iterations to convergence: 11  
Achieved convergence tolerance: 6.026e-06

\$`Pathogen species richness`\$Pb21  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 11.75931

Coefficients:  
a b  
0.46497755 0.00748841

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.2122483

\$`Pathogen species richness`\$Pb31  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c

Data: DF  
Log-likelihood: 19.33647

Coefficients:

          a          c  
-0.6308510  0.0961363

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.1935145

\$`Pathogen species richness`\$Pb41  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 18.65379

Coefficients:

          b          c  
0.3866424  0.1963963

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.1951323

\$`Pathogen species richness`\$Pb51  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -44.66585

Coefficients:

          c  
-0.2495131

Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.4197491

\$`Pathogen species richness`\$Pc221  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 13.63299

Coefficients:

          a          b  
0.500708927  0.005850212

Variance function:

Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
          power  
-0.1655913  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.2652681

```
$`Pathogen species richness`$Pc231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 12.62874
```

```
Coefficients:
      a          b
0.478541496 0.006170491
```

```
Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
-0.00925748
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2273823
```

```
$`Pathogen species richness`$Pc321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 20.37152
```

```
Coefficients:
      a          c
-0.61908527 0.09082243
```

```
Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
-0.1143123
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.22643
```

```
$`Pathogen species richness`$Pc331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 20.15986
```

```
Coefficients:
      a          c
-0.6244992 0.0917245
```

```
Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
```

-0.008089045  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.2053588

\$`Pathogen species richness`\$Pc421  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 19.80060

Coefficients:  
           b          c  
 0.4000319 0.1805042

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           power  
 -0.1208100  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.2302221

\$`Pathogen species richness`\$Pc431  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 19.48105

Coefficients:  
           b          c  
 0.3937832 0.1840941

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           expon  
 -0.008199287  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.2072619

\$`Pathogen species richness`\$Pc521  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -32.73787

Coefficients:  
           c  
 -0.1432924

Variance function:  
 Structure: Power of variance covariate

Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.3391029  
 Degrees of freedom: 82 total; 81 residual  
 Residual standard error: 0.6004145

\$`Pathogen species richness`\$Pc531  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -43.4501

Coefficients:  
     c  
 -0.1749613

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.01130970  
 Degrees of freedom: 82 total; 81 residual  
 Residual standard error: 0.4557429

\$`Pathogen species richness`\$Pd71  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 20.60097

Coefficients:  
 a.(Intercept)      a.funcgr    b.(Intercept)      b.funcgr  
   0.243512311    0.098292577    0.028200002    -0.006403276

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1929808

\$`Pathogen species richness`\$Pd81  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 21.78697

Coefficients:  
 a.(Intercept)      a.funcgr    c.(Intercept)      c.funcgr  
 -0.74744301    0.07702308    0.11940968    -0.01830123

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1902097

\$`Pathogen species richness`\$Pd91  
 Generalized nonlinear least squares fit



Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 21.62022

Coefficients:  
 b.(Intercept)      b.funcgr    c.(Intercept)      c.funcgr  
           0.26682915    0.07180866      0.28220673      -0.05059161

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1905969

\$`Pathogen species richness`\$Pd101  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -41.20251

Coefficients:  
 c.(Intercept)      c.funcgr  
           -0.5818001      0.1149157

Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.404897

\$`Pathogen species richness`\$Pe721  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 21.64085

Coefficients:  
 a.(Intercept)      a.funcgr    b.(Intercept)      b.funcgr  
           0.258945643    0.093657643    0.026236255      -0.005884313

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           power  
 -0.1114984  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2248509

\$`Pathogen species richness`\$Pe731  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 21.44076

Coefficients:  
 a.(Intercept)      a.funcgr    b.(Intercept)      b.funcgr  
           0.24781149    0.09682293      0.02732203      -0.00615804

Variance function:

Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.007994556  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2045854

\$`Pathogen species richness`\$Pe821  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 22.68746

Coefficients:  
 a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr  
     -0.73866524      0.07201327      0.11475309      -0.01613350

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.1028757  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2191756

\$`Pathogen species richness`\$Pe831  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 22.53589

Coefficients:  
 a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr  
     -0.74103892      0.07220831      0.11565137      -0.01600030

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.007579509  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2011532

\$`Pathogen species richness`\$Pe921  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 22.53932

Coefficients:  
 b.(Intercept)      b.funcgr c.(Intercept)      c.funcgr

0.27685956 0.06680434 0.26905410 -0.04540945

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.1042404

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.2200172

\$`Pathogen species richness`\$Pe931

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 22.37990

Coefficients:

b.(Intercept)	b.funcgr	c.(Intercept)	c.funcgr
0.27285381	0.06757339	0.27429822	-0.04619372

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.007642383

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.2016450

\$`Pathogen species richness`\$Pe1021

Generalized nonlinear least squares fit

Model: response ~ sowndiv<sup>c</sup>

Data: DF

Log-likelihood: -24.24738

Coefficients:

c.(Intercept)	c.funcgr
-0.38500563	0.07633384

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.4136888

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.6085128

\$`Pathogen species richness`\$Pe1031

Generalized nonlinear least squares fit

Model: response ~ sowndiv<sup>c</sup>

Data: DF

Log-likelihood: -35.01724

## Coefficients:

c.(Intercept)	c.funcgr
-0.5167479	0.1127950

## Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.02403517

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.4615329

\$`Pathogen species richness`\$Pf121

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv

Data: DF

Log-likelihood: 15.30452

## Coefficients:

a.(Intercept)	a.grass	b.(Intercept)	b.grass
0.66068590	-0.14697510	-0.01181845	0.01740935

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.2058569

\$`Pathogen species richness`\$Pf131

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv^c

Data: DF

Log-likelihood: 19.81005

## Coefficients:

a.(Intercept)	a.grass	c.(Intercept)	c.grass
-0.53389419	-0.06277416	0.05738116	0.02745136

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1948512

\$`Pathogen species richness`\$Pf141

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv^c

Data: DF

Log-likelihood: 19.37311

## Coefficients:

b.(Intercept)	b.grass	c.(Intercept)	c.grass
0.48860400	-0.06840381	0.07542139	0.08904610

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1958922

\$`Pathogen species richness`\$Pf151

Generalized nonlinear least squares fit

Model: response ~ sowndiv<sup>c</sup>

Data: DF

Log-likelihood: -43.66343

Coefficients:

c.(Intercept)	c.grass
-0.0405096	-0.1637491

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.4172326

\$`Pathogen species richness`\$Pg171

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv

Data: DF

Log-likelihood: 18.73599

Coefficients:

a.(Intercept)	a.leg	b.(Intercept)	b.leg
0.779965167	-0.218929666	-0.009271733	0.014032259

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1974202

\$`Pathogen species richness`\$Pg181

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 22.67043

Coefficients:

a.(Intercept)	a.leg	c.(Intercept)	c.leg
-0.39936553	-0.14068020	0.05899806	0.01805985

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1881714

\$`Pathogen species richness`\$Pg191

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 22.33023

Coefficients:

b.(Intercept)	b.leg	c.(Intercept)	c.leg
0.61637328	-0.14398644	0.04580425	0.09291403

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1889537

\$`Pathogen species richness`\$Pg201

Generalized nonlinear least squares fit

Model: response ~ sowndiv<sup>c</sup>

Data: DF  
Log-likelihood: -42.25859

Coefficients:  
c.(Intercept)           c.leg  
0.07689255     -0.25621767

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.4101454

\$`Pathogen species richness`\$Ph211  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv^c  
Data: DF  
Log-likelihood: 23.94078

Coefficients:  
a.(Intercept)       a.funcgr           a.leg   b.(Intercept)       b.funcgr  
1.923713702   0.175860151   -2.225569784   -1.517163430   -0.114263591  
          b.leg   c.(Intercept)       c.funcgr           c.leg  
2.144840116   0.390376490   -0.007518942   -0.171668267

Degrees of freedom: 82 total; 73 residual  
Residual standard error: 0.1915188

\$`Pathogen species richness`\$Ph221  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 22.66458

Coefficients:  
a.(Intercept)       a.funcgr           a.leg   b.(Intercept)       b.funcgr  
0.395556589   0.079071850   -0.077198357   0.038725144   -0.007886741  
          b.leg  
-0.004570772

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1906449

\$`Pathogen species richness`\$Ph231  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 23.83331

Coefficients:  
a.(Intercept)       a.funcgr           a.leg   c.(Intercept)       c.funcgr  
-0.60038951   0.05859186   -0.07448230   0.15861140   -0.02374895  
          c.leg  
-0.01752368

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1879469

\$`Pathogen species richness`\$Ph241  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 23.681

Coefficients:  
 b.(Intercept)      b.funcgr              b.leg    c.(Intercept)      c.funcgr  
   0.421686027    0.051749617    -0.077922974    0.297138718    -0.053539599  
                   c.leg  
 -0.002087413

Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1882963

\$`Pathogen species richness`\$Ph251  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -40.93934

Coefficients:  
 c.(Intercept)      c.funcgr              c.leg  
 -0.35842406      0.08722085      -0.11319435

Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.406146

\$`Pathogen species richness`\$Pi271  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 20.76347

Coefficients:  
 a.(Intercept)      a.funcgr              a.grass    b.(Intercept)      b.funcgr  
   0.223370509    0.100733672    0.009652048    0.023207573    -0.005838984  
                   b.grass  
 0.002742565

Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1951165

\$`Pathogen species richness`\$Pi281  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 21.96824

Coefficients:  
 a.(Intercept)      a.funcgr              a.grass    c.(Intercept)      c.funcgr  
 -0.7502517233    0.0774127372    0.0009903833    0.0909939879    -0.0149844042  
                   c.grass

0.0150262992

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1922707

\$`Pathogen species richness`\$Pi291  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 21.78175

Coefficients:

b.(Intercept)	b.funcgr	b.grass	c.(Intercept)	c.funcgr
0.24835575	0.07382829	0.00920391	0.25053121	-0.04688314
	c.grass			
	0.01725350			

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1927085

\$`Pathogen species richness`\$Pi301  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -41.19395

Coefficients:

c.(Intercept)	c.funcgr	c.grass
-0.62061763	0.11972168	0.01954748

Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.4074091

\$`Pathogen species richness`\$Pj321  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 21.80094

Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
0.95821336	-0.14149523	-0.20146063	-0.01905200	0.01275162
	b.leg			
	0.00954489			

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1926634

\$`Pathogen species richness`\$Pj331  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 23.73427



Coefficients:

a.(Intercept)	a.grass	a.leg	c.(Intercept)	c.grass
-0.225213867	-0.098260087	-0.150811503	0.009063626	0.032842230
	c.leg			
	0.016617211			

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.1881741

\$`Pathogen species richness`\$Pj341

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv^c

Data: DF

Log-likelihood: 23.60564

Coefficients:

b.(Intercept)	b.grass	b.leg	c.(Intercept)	c.grass
0.76671183	-0.09301816	-0.14686510	-0.06543814	0.08868413
	c.leg			
	0.07700663			

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.1884695

\$`Pathogen species richness`\$Pj351

Generalized nonlinear least squares fit

Model: response ~ sowndiv^c

Data: DF

Log-likelihood: -41.13042

Coefficients:

c.(Intercept)	c.grass	c.leg
0.2729075	-0.1597437	-0.2509907

Degrees of freedom: 82 total; 79 residual

Residual standard error: 0.4070935

\$`Pathogen species richness`\$Pk371

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv

Data: DF

Log-likelihood: 23.02157

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
0.531986397	0.062042380	-0.045227797	-0.100052881	0.043569249
	b.funcgr	b.grass	b.leg	
	-0.008473337	-0.001080386	-0.005990417	

Degrees of freedom: 82 total; 74 residual

Residual standard error: 0.1923647

\$`Pathogen species richness`\$Pk381

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 24.21713

## Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	c.(Intercept)
-0.4478245570	0.0395853429	-0.0517423744	-0.0989938814	0.1680800497
	c.funcgr	c.grass	c.leg	
-0.0249049008	-0.0004575856	-0.0219810793		

Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.1895804

\$`Pathogen species richness`\$Pk391  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 24.04800

## Coefficients:

b.(Intercept)	b.funcgr	b.grass	b.leg	c.(Intercept)
0.556366210	0.034812552	-0.045192385	-0.099758396	0.285047263
	c.funcgr	c.grass	c.leg	
-0.051674891	0.009029686	-0.006294483		

Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.1899718

\$`Pathogen species richness`\$Pk401  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -40.87884

## Coefficients:

c.(Intercept)	c.funcgr	c.grass	c.leg
-0.16025817	0.06235398	-0.06222112	-0.15004957

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.4084398

\$`Pathogen species richness`\$Pm1221  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 16.91892

## Coefficients:

a.(Intercept)	a.grass	b.(Intercept)	b.grass
0.68378394	-0.14835424	-0.01071535	0.01551977

## Variance function:

Structure: Power of variance covariate  
 Formula: ~sowndiv

Parameter estimates:  
 power  
 -0.1431583  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.249641

\$`Pathogen species richness`\$Pm1231  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 16.34223

Coefficients:  
 a.(Intercept)            a.grass   b.(Intercept)            b.grass  
           0.67475105    -0.15161983    -0.01206148            0.01701441

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.009182033  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2199406

\$`Pathogen species richness`\$Pm1321  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 20.85456

Coefficients:  
 a.(Intercept)            a.grass   c.(Intercept)            c.grass  
           -0.51990201    -0.06674961    0.05379627            0.02726427

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.1126906  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2274195

\$`Pathogen species richness`\$Pm1331  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 20.69289

Coefficients:  
 a.(Intercept)            a.grass   c.(Intercept)            c.grass  
           -0.52697969    -0.06537211    0.05443562            0.02801695

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.008221298  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2068621

\$`Pathogen species richness`\$Pm1421  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 20.49511

Coefficients:

b.(Intercept)	b.grass	c.(Intercept)	c.grass
0.50128975	-0.07095973	0.06904435	0.08556216

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.1168382  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2298294

\$`Pathogen species richness`\$Pm1431  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 20.27960

Coefficients:

b.(Intercept)	b.grass	c.(Intercept)	c.grass
0.49615980	-0.07118850	0.06784997	0.09022740

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.008345465  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2081291

\$`Pathogen species richness`\$Pm1521  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -30.15572

Coefficients:

```
c.(Intercept)      c.grass
  0.009537851    -0.125350101
```

```
Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
-0.3678333
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.6109374
```

```
$`Pathogen species richness`$Pm1531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -40.49644
```

```
Coefficients:
c.(Intercept)      c.grass
  0.1207450        -0.2127570
```

```
Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
-0.021524
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.4829019
```

```
$`Pathogen species richness`$Pn1721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 20.51815
```

```
Coefficients:
a.(Intercept)      a.leg b.(Intercept)      b.leg
  0.80822694    -0.22530631    -0.00896895    0.01294805
```

```
Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
-0.1482535
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2407346
```

```
$`Pathogen species richness`$Pn1731
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
```

Log-likelihood: 19.7451

Coefficients:

a.(Intercept)	a.leg	b.(Intercept)	b.leg
0.794428635	-0.224724612	-0.009875853	0.014043234

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.008819365

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.2103443

\$`Pathogen species richness`\$Pn1821

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv^c

Data: DF

Log-likelihood: 23.84013

Coefficients:

a.(Intercept)	a.leg	c.(Intercept)	c.leg
-0.37944063	-0.14806114	0.05259461	0.01958317

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.1183815

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.2211488

\$`Pathogen species richness`\$Pn1831

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv^c

Data: DF

Log-likelihood: 23.49372

Coefficients:

a.(Intercept)	a.leg	c.(Intercept)	c.leg
-0.38699008	-0.14640751	0.05263465	0.02072561

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.007827403

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1992408

\$`Pathogen species richness`\$Pn1921

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 23.57285

Coefficients:

b.(Intercept)	b.leg	c.(Intercept)	c.leg
0.63558683	-0.15064039	0.03437547	0.09315904

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.1219306

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.2230429

\$`Pathogen species richness`\$Pn1931

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 23.17555

Coefficients:

b.(Intercept)	b.leg	c.(Intercept)	c.leg
0.62844890	-0.14950216	0.03275276	0.09792241

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.0079389

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.2002070

\$`Pathogen species richness`\$Pn2021

Generalized nonlinear least squares fit

Model: response ~ sowndiv<sup>c</sup>

Data: DF

Log-likelihood: -26.60531

Coefficients:

c.(Intercept)	c.leg
0.08151517	-0.18166086

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.3976587

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.6115368

\$`Pathogen species richness`\$Pn2031  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv<sup>c</sup>  
Data: DF  
Log-likelihood: -38.00165

Coefficients:  
c.(Intercept)           c.leg  
0.1914038           -0.2731625

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.02290016  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.4739984

\$`Pathogen species richness`\$Pp2131  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv<sup>c</sup>  
Data: DF  
Log-likelihood: 24.69409

Coefficients:  
a.(Intercept)           a.funcgr           a.leg   b.(Intercept)           b.funcgr  
2.911153337   0.134978707   -2.994464126   -2.489667113   -0.076142721  
          b.leg   c.(Intercept)           c.funcgr           c.leg  
2.907905425   0.531982913   -0.006271179   -0.246666810

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.007469758  
Degrees of freedom: 82 total; 73 residual  
Residual standard error: 0.2023360

\$`Pathogen species richness`\$Pp2221  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 23.84471

Coefficients:  
a.(Intercept)           a.funcgr           a.leg   b.(Intercept)           b.funcgr  
0.415424534   0.073700247   -0.079164053   0.035916145   -0.007252045  
          b.leg  
-0.004173682



Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.1181768  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2239592

\$`Pathogen species richness`\$Pp2231  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 23.49819

Coefficients:  
 a.(Intercept)      a.funcgr              a.leg    b.(Intercept)      b.funcgr  
     0.402011296    0.077294214    -0.078334722    0.037360396    -0.007582780  
                   b.leg  
 -0.004309504

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.007837042  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2018511

\$`Pathogen species richness`\$Pp2321  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 24.8643

Coefficients:  
 a.(Intercept)      a.funcgr              a.leg    c.(Intercept)      c.funcgr  
     -0.59565695    0.05378397    -0.07249625    0.15607929    -0.02178120  
                   c.leg  
 -0.01844238

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.1095003  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2183608

\$`Pathogen species richness`\$Pp2331  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c

Data: DF  
Log-likelihood: 24.57357

Coefficients:

a.(Intercept)	a.funcgr	a.leg	c.(Intercept)	c.funcgr
-0.59328763	0.05356422	-0.07484361	0.15425560	-0.02134551
	c.leg			
	-0.01713421			

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.007418785  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1985071

\$`Pathogen species richness`\$Pp2421  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 24.72657

Coefficients:

b.(Intercept)	b.funcgr	b.leg	c.(Intercept)	c.funcgr
0.431718284	0.046365696	-0.077747861	0.286008445	-0.048398378
	c.leg			
	-0.003028066			

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
-0.1106363  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.2190971

\$`Pathogen species richness`\$Pp2431  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 24.42907

Coefficients:

b.(Intercept)	b.funcgr	b.leg	c.(Intercept)	c.funcgr
0.428487256	0.047321053	-0.078310195	0.287884537	-0.048945480
	c.leg			
	-0.001199277			

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv

Parameter estimates:  
 expon  
 -0.007469359  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1989436

\$`Pathogen species richness`\$Pp2521  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -23.67079

Coefficients:  
 c.(Intercept)      c.funcgr      c.leg  
 -0.23434472      0.05717198      -0.07402966

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.4168835  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.610952

\$`Pathogen species richness`\$Pp2531  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -34.7495

Coefficients:  
 c.(Intercept)      c.funcgr      c.leg  
 -0.34435451      0.09134704      -0.08669321

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.02401639  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.4628562

\$`Pathogen species richness`\$Pq2721  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 21.82353

Coefficients:  
 a.(Intercept)      a.funcgr      a.grass      b.(Intercept)      b.funcgr  
 0.225311930      0.097764069      0.016452094      0.022995958      -0.005531206  
 b.grass

0.001837900

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.1125134  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2276261

\$`Pathogen species richness`\$Pq2731  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 21.59771

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
0.222742378	0.099870736	0.012133610	0.023251806	-0.005704842
	b.grass			
	0.002267485			

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.007963175  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2068078

\$`Pathogen species richness`\$Pq2821  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 22.88712

Coefficients:

a.(Intercept)	a.funcgr	a.grass	c.(Intercept)	c.funcgr
-0.747904478	0.073172332	0.004142437	0.090388221	-0.013307892
	c.grass			
	0.013029990			

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.1036532  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2217566

\$`Pathogen species richness`\$Pq2831

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 22.70966

Coefficients:

a.(Intercept)	a.funcgr	a.grass	c.(Intercept)	c.funcgr
-0.747180672	0.072949871	0.002683592	0.090239337	-0.013026387
	c.grass			
	0.013508718			

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.007536848

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.2032769

\$`Pathogen species richness`\$Pq2921

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 22.72223

Coefficients:

b.(Intercept)	b.funcgr	b.grass	c.(Intercept)	c.funcgr
0.24814219	0.07006605	0.01430295	0.25090567	-0.04337737
	c.grass			
	0.01057901			

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.1053221

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.2227542

\$`Pathogen species richness`\$Pq2931

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 22.5366

Coefficients:

b.(Intercept)	b.funcgr	b.grass	c.(Intercept)	c.funcgr
0.24974534	0.07015689	0.01150877	0.25069549	-0.04348149
	c.grass			
	0.01325797			

Variance function:

Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.007613373  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2038403

\$`Pathogen species richness`\$Pq3021  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -24.23716

Coefficients:  
 c.(Intercept)    c.funcgr    c.grass  
 -0.403228137    0.078536436    0.009379263

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.4136301  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.6122223

\$`Pathogen species richness`\$Pq3031  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -35.01414

Coefficients:  
 c.(Intercept)    c.funcgr    c.grass  
 -0.534321939    0.114955176    0.008922596

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.02403034  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.464408

\$`Pathogen species richness`\$Pr3221  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 23.07893

Coefficients:  
 a.(Intercept)    a.grass    a.leg b.(Intercept)    b.grass

```

0.959836265 -0.135826207 -0.201599022 -0.017342719 0.011396992
      b.leg
0.008990877

```

```

Variance function:
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
      power
-0.1223437
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2274632

```

```

$`Pathogen species richness`$Pr3231
Generalized nonlinear least squares fit
Model: response ~ a + b * sowndiv
Data: DF
Log-likelihood: 22.66166

```

```

Coefficients:
a.(Intercept)      a.grass      a.leg b.(Intercept)      b.grass
0.961432419 -0.140484471 -0.202755566 -0.018515614 0.012194775
      b.leg
0.009427421

```

```

Variance function:
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
      expon
-0.007994929
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2041974

```

```

$`Pathogen species richness`$Pr3321
Generalized nonlinear least squares fit
Model: response ~ a + sowndiv^c
Data: DF
Log-likelihood: 24.78332

```

```

Coefficients:
a.(Intercept)      a.grass      a.leg c.(Intercept)      c.grass
-0.221823765 -0.097703056 -0.151333716 0.009744305 0.031594924
      c.leg
0.016057809

```

```

Variance function:
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
      power
-0.1101088
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2187741

```

\$`Pathogen species richness`\$Pr3331  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 24.50963

Coefficients:

a.(Intercept)	a.grass	a.leg	c.(Intercept)	c.grass
-0.22749739	-0.09674731	-0.15057322	0.01092501	0.03152455
	c.leg			
	0.01631359			

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.007531185  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1988538

\$`Pathogen species richness`\$Pr3421  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 24.67462

Coefficients:

b.(Intercept)	b.grass	b.leg	c.(Intercept)	c.grass
0.76605400	-0.09032890	-0.14646842	-0.05672544	0.08232533
	c.leg			
	0.07322950			

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.1111540  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2194045

\$`Pathogen species richness`\$Pr3431  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 24.38091

Coefficients:

b.(Intercept)	b.grass	b.leg	c.(Intercept)	c.grass
0.76285639	-0.09082022	-0.14620159	-0.05843747	0.08443434
	c.leg			
	0.07535850			



Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.00754006  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1991813

\$`Pathogen species richness`\$Pr3521  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -23.95861

Coefficients:  
c.(Intercept)    c.grass    c.leg  
    0.1933754    -0.1075205    -0.1696864

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
-0.4170285  
Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.6132322

\$`Pathogen species richness`\$Pr3531  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -35.27774

Coefficients:  
c.(Intercept)    c.grass    c.leg  
    0.3441158    -0.1710008    -0.2421337

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.02395940  
Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.4656196

\$`Pathogen species richness`\$Ps3721  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 24.20909

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
0.536115692	0.058627451	-0.039836277	-0.099438706	0.042896663
b.funcgr	b.grass	b.leg		
-0.008100150	-0.001787386	-0.005977685		

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.1188682  
 Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.2261912

\$`Pathogen species richness`\$Ps3731  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 23.85676

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
0.532045935	0.061074636	-0.043171837	-0.100033823	0.043444694
b.funcgr	b.grass	b.leg		
-0.008322576	-0.001466992	-0.005971621		

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.007828433  
 Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.203653

\$`Pathogen species richness`\$Ps3821  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 25.24807

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	c.(Intercept)
-0.448810840	0.035484430	-0.049579537	-0.096262238	0.169794815
c.funcgr	c.grass	c.leg		
-0.023450119	-0.002002733	-0.023539529		

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.1096477

Degrees of freedom: 82 total; 74 residual  
Residual standard error: 0.2203069

\$`Pathogen species richness`\$Ps3831  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 24.95524

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	c.(Intercept)
-0.444584920	0.035053834	-0.050461845	-0.098698032	0.167544274
c.funcgr	c.grass	c.leg		
-0.022974222	-0.001696072	-0.022292383		

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.007393924

Degrees of freedom: 82 total; 74 residual  
Residual standard error: 0.2001948

\$`Pathogen species richness`\$Ps3921  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 25.09594

Coefficients:

b.(Intercept)	b.funcgr	b.grass	b.leg	c.(Intercept)
0.554962758	0.030914077	-0.041204109	-0.097852295	0.291005259
c.funcgr	c.grass	c.leg		
-0.048687945	0.003190964	-0.010032247		

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
-0.1109782

Degrees of freedom: 82 total; 74 residual  
Residual standard error: 0.2211524

\$`Pathogen species richness`\$Ps3931  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 24.79494

Coefficients:

b.(Intercept)	b.funcgr	b.grass	b.leg	c.(Intercept)
0.557165920	0.031201158	-0.043223567	-0.099150193	0.286985772

c.funcgr	c.grass	c.leg
-0.048517180	0.005478609	-0.007495777

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.007449337  
 Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.2006820

\$`Pathogen species richness`\$Ps4021  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -23.48429

Coefficients:

c.(Intercept)	c.funcgr	c.grass	c.leg
-0.07816457	0.03772632	-0.04820031	-0.10414684

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.4187356  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.6151482

\$`Pathogen species richness`\$Ps4031  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -34.66539

Coefficients:

c.(Intercept)	c.funcgr	c.grass	c.leg
-0.16867769	0.06943602	-0.05535610	-0.11938329

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.02404346  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.4654444

\$`Pathogen species richness`\$AS1  
 Nonlinear regression model  
 model: response ~ SSasym(sowndiv, Asym, R0, lrc)  
 data: DF

```

      Asym      R0      lrc
0.6624  0.1440 -0.8723
residual sum-of-squares: 2.974

```

```

Number of iterations to convergence: 12
Achieved convergence tolerance: 9.016e-06

```

```

$`Pathogen species richness`$AS2
Nonlinear regression model
  model: response ~ SSasymOff(sowndiv, Asym, lrc, c0)
  data: DF
      Asym      lrc      c0
0.6624 -0.8722 -0.5862
residual sum-of-squares: 2.974

```

```

Number of iterations to convergence: 13
Achieved convergence tolerance: 4.293e-06

```

```

$`Pathogen species richness`$AS3
Nonlinear regression model
  model: response ~ SSasymOrig(sowndiv, Asym, lrc)
  data: DF
      Asym      lrc
0.6461 -0.4989
residual sum-of-squares: 2.994

```

```

Number of iterations to convergence: 5
Achieved convergence tolerance: 2.483e-06

```

```

$`Community herbivory`
$`Community herbivory`$L0

```

```

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
    data = DF)

```

```

Coefficients:
      (Intercept)          blockB2          blockB3          blockB4
sowndiv
  1.707295      0.053400      0.026608      0.012223
0.026316
      funcgr          grass          leg  sowndiv:funcgr
sowndiv:grass
 -0.371195      -0.592373      -0.735237      -0.002452      -
0.008053
      sowndiv:leg      funcgr:grass      funcgr:leg      grass:leg
      -0.005442      0.128445      0.125588      0.239208

```

```

$`Community herbivory`$L02
Generalized least squares fit by maximum likelihood
  Model: response ~ block + (sowndiv + funcgr + grass + leg)^2
  Data: DF

```

Log-likelihood: 44.42416

Coefficients:

(Intercept)	blockB2	blockB3	blockB4
sowndiv			
1.529022935	0.095631017	0.014249563	0.000878727
0.032917390			
funcgr	grass	leg	sowndiv:funcgr
sowndiv:grass			
-0.337828514	-0.460683973	-0.671494719	-0.004159035
0.003213781			
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg
-0.010344917	0.089148643	0.140937198	0.181844044

Variance function:

Structure: Exponential of variance covariate

Formula: ~fitted(.)

Parameter estimates:

expon

3.142826

Degrees of freedom: 82 total; 68 residual

Residual standard error: 0.06717656

\$`Community herbivory`\$L011

Generalized least squares fit by maximum likelihood

Model: response ~ block + (sowndiv + funcgr + grass + leg)^2

Data: DF

Log-likelihood: 43.69942

Coefficients:

(Intercept)	blockB2	blockB3	blockB4
sowndiv			
2.1406243693	0.0557134665	0.0103356521	-0.0233052588
0.0127451549			
funcgr	grass	leg	sowndiv:funcgr
sowndiv:grass			
-0.4228726020	-0.7935588869	-0.9288876785	-0.0008375057
0.0055791680			
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg
-0.0009714835	0.1456591476	0.1316819773	0.3346879577

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.2567483

Degrees of freedom: 82 total; 68 residual

Residual standard error: 0.2079008

\$`Community herbivory`\$L021

Generalized least squares fit by maximum likelihood

Model: response ~ block + (sowndiv + funcgr + grass + leg)^2

Data: DF

Log-likelihood: 45.89971

Coefficients:

(Intercept)	blockB2	blockB3	blockB4
sowndiv			
2.0802339105	0.2034015011	-0.0080696883	-0.0698676252
0.0064468166			
funcgr	grass	leg	sowndiv:funcgr
sowndiv:grass			
-0.3349905540	-0.7626311671	-0.8816057350	0.0005511879
0.0055541897			
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg
0.0010967992	0.0804440708	0.1093007491	0.3192579320

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.0878895  
 Degrees of freedom: 82 total; 68 residual  
 Residual standard error: 0.2940141

\$`Community herbivory`\$L2

Call:  
 lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:

(Intercept)	sowndiv	funcgr	leg
0.492976	0.002186	-0.030361	-0.147185

\$`Community herbivory`\$L21  
 Generalized least squares fit by maximum likelihood  
 Model: response ~ sowndiv + funcgr + leg  
 Data: DF  
 Log-likelihood: 41.04868

Coefficients:

(Intercept)	sowndiv	funcgr	leg
0.467340153	0.002000944	-0.025138209	-0.136499788

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~fitted(.)  
 Parameter estimates:  
 power  
 0.799472  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.4905231

\$`Community herbivory`\$L22  
 Generalized least squares fit by maximum likelihood

Model: response ~ sowndiv + funcgr + leg  
 Data: DF  
 Log-likelihood: 41.19621

## Coefficients:

(Intercept)	sowndiv	funcgr	leg
0.47253638	0.00211395	-0.02691415	-0.13839871

## Variance function:

Structure: Exponential of variance covariate  
 Formula: ~fitted(.)  
 Parameter estimates:  
 expon  
 3.564324  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.06464674

## \$`Community herbivory`\$L211

Generalized least squares fit by maximum likelihood

Model: response ~ sowndiv + funcgr + leg  
 Data: DF  
 Log-likelihood: 39.52574

## Coefficients:

(Intercept)	sowndiv	funcgr	leg
0.503320858	0.002167146	-0.032472874	-0.150127834

## Variance function:

Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.1788520  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1948668

## \$`Community herbivory`\$L222

Generalized least squares fit by maximum likelihood

Model: response ~ sowndiv + funcgr + leg  
 Data: DF  
 Log-likelihood: 38.64863

## Coefficients:

(Intercept)	sowndiv	funcgr	leg
0.493901574	0.002125242	-0.030377156	-0.147341866

## Variance function:

Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.01133809  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1664731



```

$`Community herbivory`$M1
Nonlinear regression model
  model: response ~ a * sowndiv/(b + sowndiv)
  data: DF
      a      b
0.2660 0.4597
residual sum-of-squares: 2.252

```

```

Number of iterations to convergence: 6
Achieved convergence tolerance: 5.332e-06

```

```

$`Community herbivory`$M1a
Nonlinear regression model
  model: response ~ SSmicmen(sowndiv, Vm, k)
  data: DF
      Vm      k
0.2660 0.4597
residual sum-of-squares: 2.252

```

```

Number of iterations to convergence: 5
Achieved convergence tolerance: 3.847e-06

```

```

$`Community herbivory`$M3
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 35.67832

```

```

Coefficients:
a.(Intercept)      a.leg b.(Intercept)      b.leg
0.40798389   -0.11235936   -0.01576761   0.11552540

```

```

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1605685

```

```

$`Community herbivory`$M311
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 37.48318

```

```

Coefficients:
a.(Intercept)      a.leg b.(Intercept)      b.leg
0.423812157   -0.123163222   0.128556619   0.009921196

```

```

Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
      power
-0.1507633
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1964741

```

```

$`Community herbivory`$M321
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 36.96639

Coefficients:
a.(Intercept)      a.leg b.(Intercept)      b.leg
  0.43534852    -0.12645275    0.17891703    0.01479444

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
  -0.009994028
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1722272

$`Community herbivory`$M4
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 32.08760

Coefficients:
a.(Intercept)      a.grass b.(Intercept)      b.grass
  0.26847873    0.01119497    2.26448453    -0.92060431

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1677559

$`Community herbivory`$M411
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 33.54138

Coefficients:
a.(Intercept)      a.grass b.(Intercept)      b.grass
  0.35831562    -0.04086852    4.85298952    -2.27449711

Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
  -0.1480779
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2053292

$`Community herbivory`$M422
Generalized nonlinear least squares fit

```

Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 33.29031

## Coefficients:

a.(Intercept)	a.grass	b.(Intercept)	b.grass
0.36980972	-0.04227543	4.85269703	-2.23244057

## Variance function:

Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:

expon  
 -0.01074023  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1812816

## \$`Community herbivory`\$M5

Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 31.17932

## Coefficients:

a.(Intercept)	a.funcgr	b.(Intercept)	b.funcgr
0.23420545	0.01494393	0.13610164	0.21163230

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1696244

## \$`Community herbivory`\$M511

Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 33.00655

## Coefficients:

a.(Intercept)	a.funcgr	b.(Intercept)	b.funcgr
0.20152956	0.03104567	-0.31278764	0.52840937

## Variance function:

Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:

power  
 -0.1609547  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2106617

## \$`Community herbivory`\$M522

Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 32.71080

Coefficients:  
 a.(Intercept)      a.funcgr    b.(Intercept)      b.funcgr  
           0.21029343    0.03097349    -0.21790606      0.51989671

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           expon  
 -0.01154836  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1838383

\$`Community herbivory`\$M6  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 21.04815

Coefficients:  
 a.(Intercept)      a.funcgr            a.leg    b.(Intercept)      b.funcgr  
           -0.3215992    0.1455476          0.1669361    -11.3711356      2.9577010  
                   b.leg  
                   4.2543625

Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1944403

\$`Community herbivory`\$M611  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 38.90167

Coefficients:  
 a.(Intercept)      a.funcgr            a.leg    b.(Intercept)      b.funcgr  
           0.55486753    -0.01602631    -0.16931819    -0.28340425      0.48349130  
                   b.leg  
                   0.05247415

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           power  
 -0.1594142  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1981576

\$`Community herbivory`\$M622  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF

Log-likelihood: 23.29787

Coefficients:

a.(Intercept)	a.funcgr	a.leg	b.(Intercept)	b.funcgr
-0.2783098	0.1300841	0.1519496	-10.6673201	2.7112912
	b.leg			
	4.0170880			

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.01403334

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.2134005

\$`Community herbivory`\$M7

Generalized nonlinear least squares fit

Model: response ~ a \* sowndiv/(b + sowndiv)

Data: DF

Log-likelihood: 32.57422

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
0.18691510	0.01735268	0.03119138	2.65521104	-0.18575155
	b.grass			
	-1.08001275			

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.1689433

\$`Community herbivory`\$M711

Generalized nonlinear least squares fit

Model: response ~ a \* sowndiv/(b + sowndiv)

Data: DF

Log-likelihood: 34.52731

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
0.35535464	0.01208676	-0.06238859	9.52120555	-0.59562385
	b.grass			
	-4.36463941			

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.1695360

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.21218

\$`Community herbivory`\$M722

Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 34.05936

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
0.35902448	0.01045258	-0.05843968	8.74370009	-0.57019786
	b.grass			
	-3.95042405			

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.01148532  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1831046

\$`Community herbivory`\$M81  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 36.16760

Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
0.419077580	0.002328941	-0.111821634	1.369836292	-0.676001701
	b.leg			
	0.104942205			

Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1616998

\$`Community herbivory`\$M821  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 38.31961

Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
0.49792668	-0.03674970	-0.12215103	3.40789809	-1.73119598
	b.leg			
	0.07873039			

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.1724931  
 Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.203482

\$`Community herbivory`\$M832  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 37.66966

Coefficients:  
 a.(Intercept)          a.grass                  a.leg b.(Intercept)          b.grass  
                   0.48705962    -0.02700000    -0.12224847    2.73300853    -1.34238099  
                   b.leg  
                   0.05922125

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
                   expon  
 -0.01097729  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1744551

\$`Community herbivory`\$M91  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 18.94589

Coefficients:  
 a.(Intercept)          a.funcgr                  a.grass                  a.leg b.(Intercept)  
                   -0.7329514    0.2179924    0.1820374    0.1594840    -30.5215377  
                   b.funcgr          b.grass                  b.leg  
                   6.6137105    4.4908260    7.5530635

Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.2021675

\$`Community herbivory`\$M921  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 39.55760

Coefficients:  
 a.(Intercept)          a.funcgr                  a.grass                  a.leg b.(Intercept)  
                   0.90984885    -0.06010962    -0.12080646    -0.22367502    4.35693008  
                   b.funcgr          b.grass                  b.leg  
                   -0.08533397    -1.82326352    -0.31889144

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:

```

    power
-0.1688381
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.2020243

```

```

$`Community herbivory`$M932
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 33.09238

```

```

Coefficients:
a.(Intercept)      a.funcgr      a.grass      a.leg b.(Intercept)
  1.29145147    -0.07477941    -0.23529392    -0.36938880    24.56424665
      b.funcgr      b.grass      b.leg
 -0.85564540    -7.73156922    -7.75222146

```

```

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
-0.01245610
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1893351

```

```

$`Community herbivory`$M1121
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 36.37840

```

```

Coefficients:
a.(Intercept)      a.grass b.(Intercept)      b.grass d.(Intercept)
  0.60338263    -0.28817616    75.66175963    -38.56635785    0.09834601
      d.grass
  0.05955957

```

```

Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
-0.1451536
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2000692

```

```

$`Community herbivory`$M121
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 36.21738

```

```

Coefficients:

```



a.(Intercept)	a.funcgr	b.(Intercept)	b.funcgr	d.(Intercept)
-0.1792284	0.1912136	-3.2516883	1.4059593	0.2849784
d.funcgr				
-0.1271348				

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1616017

\$`Community herbivory`\$M1232  
Generalized nonlinear least squares fit  
Model: response ~ d + a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 37.58779

Coefficients:				
a.(Intercept)	a.funcgr	b.(Intercept)	b.funcgr	d.(Intercept)
-0.1825913	0.1948220	-3.2687431	1.4267513	0.2876855
d.funcgr				
-0.1292708				

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.01042976

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1738105

\$`Community herbivory`\$M1321  
Generalized nonlinear least squares fit  
Model: response ~ d + a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 42.08544

Coefficients:				
a.(Intercept)	a.funcgr	a.leg	b.(Intercept)	b.funcgr
-0.13681713	0.09856717	0.02481958	-20.66729274	7.09022532
b.leg	d.(Intercept)	d.funcgr	d.leg	
6.18916962	0.52212461	-0.06657456	-0.13749447	

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
-0.1736904

Degrees of freedom: 82 total; 73 residual  
Residual standard error: 0.1986545

\$`Community herbivory`\$M1632  
Generalized nonlinear least squares fit  
Model: response ~ d + a \* sowndiv/(b + sowndiv)  
Data: DF

Log-likelihood: 42.96161

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
1.203738639	-0.025481101	-0.381167208	-0.379593572	-29.563822008
b.funcgr	b.grass	b.leg	d.(Intercept)	d.funcgr
6.455939641	1.529633806	10.059164330	-0.452597746	0.006328389
d.grass	d.leg			
0.302534020	0.157421705			

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.01027852

Degrees of freedom: 82 total; 70 residual

Residual standard error: 0.1693981

\$`Community herbivory`\$E2

Nonlinear regression model

model: response ~ a + b \* exp(sowndiv)

data: DF

a b

2.240e-01 1.105e-27

residual sum-of-squares: 2.265

Number of iterations to convergence: 4

Achieved convergence tolerance: 7.094e-08

\$`Community herbivory`\$E4

Nonlinear regression model

model: response ~ a + exp(sowndiv)

data: DF

a

1

residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0

Achieved convergence tolerance: 6.17e-20

\$`Community herbivory`\$E5

Nonlinear regression model

model: response ~ b \* exp(sowndiv)

data: DF

b

3.066e-27

residual sum-of-squares: 6.178

Number of iterations to convergence: 4

Achieved convergence tolerance: 1.119e-08

\$`Community herbivory`\$E21

Generalized nonlinear least squares fit

Model: response ~ a + b \* exp(sowndiv)  
 Data: DF  
 Log-likelihood: 33.04149

Coefficients:

a	b
2.296581e-01	1.055292e-27

Variance function:

Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:

power
-0.1689875

Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.2104175

\$`Community herbivory`\$E22

Generalized nonlinear least squares fit  
 Model: response ~ a + b \* exp(sowndiv)  
 Data: DF  
 Log-likelihood: 32.62928

Coefficients:

a	b
2.261522e-01	1.085991e-27

Variance function:

Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:

expon
-0.01206485

Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.1825139

\$`Community herbivory`\$E31

Generalized nonlinear least squares fit  
 Model: response ~ a + exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 33.41654

Coefficients:

a	c
-0.787576396	0.002191456

Variance function:

Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:

power
-0.1708962

Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.2100517

```
$`Community herbivory`$E32
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 33.01485
```

```
Coefficients:
              a              c
-0.789189108  0.002208505
```

```
Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
-0.01214825
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1817878
```

```
$`Community herbivory`$E41
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1729.905
```

```
Coefficients:
              a
-2.575062
```

```
Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
15.06634
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.06831513
```

```
$`Community herbivory`$E42
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -800.8545
```

```
Coefficients:
              a
-3.203410
```

```
Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
```

1.014933  
Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.697776

\$`Community herbivory`\$E51  
Generalized nonlinear least squares fit  
Model: response ~ b \* exp(sowndiv)  
Data: DF  
Log-likelihood: -10.13008

Coefficients:  
b  
3.066295e-27

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
-0.0541683  
Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.2985408

\$`Community herbivory`\$E52  
Generalized nonlinear least squares fit  
Model: response ~ b \* exp(sowndiv)  
Data: DF  
Log-likelihood: -8.65095

Coefficients:  
b  
3.066296e-27

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.01510904  
Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.3080209

\$`Community herbivory`\$E61  
Generalized nonlinear least squares fit  
Model: response ~ exp(c \* sowndiv)  
Data: DF  
Log-likelihood: -7.970382

Coefficients:  
c  
-1.339667

Variance function:  
Structure: Power of variance covariate

Formula: ~sowndiv  
 Parameter estimates:  
     power  
 0.09166336  
 Degrees of freedom: 82 total; 81 residual  
 Residual standard error: 0.2341752

\$`Community herbivory`\$E62  
 Generalized nonlinear least squares fit  
 Model: response ~ exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: -8.1251

Coefficients:  
     c  
 -1.253483

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 0.006287412  
 Degrees of freedom: 82 total; 81 residual  
 Residual standard error: 0.2546929

\$`Community herbivory`\$Ea10  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -4912.516

Coefficients:  
 a.(Intercept)           a.leg  
     -2963126.3           911705.9

Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 2.553606e+25

\$`Community herbivory`\$Ea12  
 Generalized nonlinear least squares fit  
 Model: response ~ exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: -3.938943

Coefficients:  
 c.(Intercept)           c.leg  
     0.7674007           -1.2209265

Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.2570316

\$`Community herbivory`\$Ea911  
 Generalized nonlinear least squares fit

Model: response ~ a + exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 38.15056

## Coefficients:

a.(Intercept)	a.leg	c.(Intercept)	c.leg
-0.6179784308	-0.1113739359	0.0011357340	0.0001120074

## Variance function:

Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.1729848  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2014178

\$`Community herbivory`\$Ea921

Generalized nonlinear least squares fit  
 Model: response ~ a + exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 37.55482

## Coefficients:

a.(Intercept)	a.leg	c.(Intercept)	c.leg
-0.6138353463	-0.1133283722	0.0010625205	0.0001541776

## Variance function:

Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.01143209  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.17312

\$`Community herbivory`\$Ea1011

Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -1727.462

## Coefficients:

a.(Intercept)	a.leg
-2.42689506	-0.08466704

## Variance function:

Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 15.07776  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.06560148

```
$`Community herbivory`$Ea1021
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -800.7796

Coefficients:
a.(Intercept)      a.leg
-3.8862204         0.3936446

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
  1.014980
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.7011978
```

```
$`Community herbivory`$Ea121
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -3.435027

Coefficients:
c.(Intercept)      c.leg
  0.6906132        -1.2050090

Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
  0.07122608
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2298237
```

```
$`Community herbivory`$Ea1221
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -3.010201

Coefficients:
c.(Intercept)      c.leg
  0.7393013        -1.2106198

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
```



0.007609589  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.2380645

\$`Community herbivory`\$Eb16  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -4912.516

Coefficients:  
 a.(Intercept)            a.grass  
                   -3508713        1286426

Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 2.553606e+25

\$`Community herbivory`\$Eb18  
 Generalized nonlinear least squares fit  
 Model: response ~ exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: -8.737071

Coefficients:  
 c.(Intercept)            c.grass  
                   -1.19745985    -0.02462364

Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.2725202

\$`Community herbivory`\$Eb1511  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 34.10187

Coefficients:  
 a.(Intercept)            a.grass    c.(Intercept)            c.grass  
                   -0.864011520    0.054345671    0.004685732    -0.002089984

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           power  
 -0.1687454  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2102846

\$`Community herbivory`\$Eb1521  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 33.62145

Coefficients:  
a.(Intercept)            a.grass   c.(Intercept)            c.grass  
-0.859927402    0.047863805    0.003728919    -0.001144567

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.01185265  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1822836

\$`Community herbivory`\$Eb1611  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -1728.199

Coefficients:  
a.(Intercept)            a.grass  
-2.69973776            0.07124307

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
15.07431  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.06653335

\$`Community herbivory`\$Eb1621  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -800.7048

Coefficients:  
a.(Intercept)            a.grass  
-4.1678143            0.5560354

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
1.015057  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.7000986

\$`Community herbivory`\$Eb1811  
Generalized nonlinear least squares fit

Model: response ~ exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: -7.963783

Coefficients:  
 c.(Intercept)           c.grass  
 -1.48362335       0.07911665

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 0.09269988  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.2352531

\$`Community herbivory`\$Eb1821  
 Generalized nonlinear least squares fit  
 Model: response ~ exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: -8.124949

Coefficients:  
 c.(Intercept)           c.grass  
 -1.23208548       -0.01182290

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 0.006285309  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.256284

\$`Community herbivory`\$Ec22  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -4912.516

Coefficients:  
 a.(Intercept)           a.funcgr  
     252095.7       -912137.5

Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 2.553606e+25

\$`Community herbivory`\$Ec24  
 Generalized nonlinear least squares fit  
 Model: response ~ exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: -5.092373

## Coefficients:

```
c.(Intercept)      c.funcgr
-1.5334221         0.3106515
```

```
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2606726
```

## \$`Community herbivory`\$Ec1921

```
Generalized nonlinear least squares fit
Model: response ~ a + b * exp(c * sowndiv)
Data: DF
Log-likelihood: -2878.481
```

## Coefficients:

```
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr c.(Intercept)
0.761574112      -0.650123714    0.006551118    -0.001637776    0.999590753
c.funcgr
1.000102312
```

## Variance function:

```
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
expon
4.815731
```

```
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.000489398
```

## \$`Community herbivory`\$Ec2121

```
Generalized nonlinear least squares fit
Model: response ~ a + exp(c * sowndiv)
Data: DF
Log-likelihood: 33.11837
```

## Coefficients:

```
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
-8.045578e-01      8.316245e-03    1.981765e-03    -1.404252e-05
```

## Variance function:

```
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
expon
-0.01216325
```

```
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1838951
```

## \$`Community herbivory`\$Ec2211

```
Generalized nonlinear least squares fit
Model: response ~ a + exp(sowndiv)
Data: DF
Log-likelihood: -1729.905
```

```
Coefficients:
a.(Intercept)      a.funcgr
      1.951450      -4.526512

Variance function:
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
      power
15.06634
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.06874075
```

```
$`Community herbivory`$Ec2221
Generalized nonlinear least squares fit
Model: response ~ a + exp(sowndiv)
Data: DF
Log-likelihood: -794.2275
```

```
Coefficients:
a.(Intercept)      a.funcgr
      3.368203      -6.188628
```

```
Variance function:
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
      expon
1.022389
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.6074585
```

```
$`Community herbivory`$Ec2411
Generalized nonlinear least squares fit
Model: response ~ exp(c * sowndiv)
Data: DF
Log-likelihood: -4.148691
```

```
Coefficients:
c.(Intercept)      c.funcgr
      -1.6452381      0.3357799
```

```
Variance function:
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
      power
0.09893362
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2224899
```

```
$`Community herbivory`$Ec2421
Generalized nonlinear least squares fit
Model: response ~ exp(c * sowndiv)
```

```

Data: DF
Log-likelihood: -4.202869

Coefficients:
c.(Intercept)      c.funcgr
-1.5493827         0.3131131

Variance function:
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
  expon
0.007533377
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2417105

$`Community herbivory`$Ed28
Generalized nonlinear least squares fit
Model: response ~ a + exp(sowndiv)
Data: DF
Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr      a.leg
872779.3           -990730.6      -307654.9

Degrees of freedom: 82 total; 79 residual
Residual standard error: 2.569717e+25

$`Community herbivory`$Ed2811
Generalized nonlinear least squares fit
Model: response ~ a + exp(sowndiv)
Data: DF
Log-likelihood: -1727.462

Coefficients:
a.(Intercept)      a.funcgr      a.leg
2.12078408         -4.54767912   -0.08466705

Variance function:
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
  power
15.07776
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.06601536

$`Community herbivory`$Ed2821
Generalized nonlinear least squares fit
Model: response ~ a + exp(sowndiv)
Data: DF
Log-likelihood: -794.2215

```

```

Coefficients:
a.(Intercept)      a.funcgr      a.leg
  3.56430330    -6.21307473    -0.09808544

```

```

Variance function:
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
  expon
1.022400
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.6111886

```

```

$`Community herbivory`$Ed3021
Generalized nonlinear least squares fit
Model: response ~ exp(c * sowndiv)
Data: DF
Log-likelihood: -1.164351

```

```

Coefficients:
c.(Intercept)      c.funcgr      c.leg
  0.2087367      0.1225190     -0.9842630

```

```

Variance function:
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
  expon
0.008427115
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.2325958

```

```

$`Community herbivory`$Ee40
Generalized nonlinear least squares fit
Model: response ~ a + exp(sowndiv)
Data: DF
Log-likelihood: -4912.516

```

```

Coefficients:
a.(Intercept)      a.funcgr      a.grass
 -335850.8      -839615.5      296563.3

```

```

Degrees of freedom: 82 total; 79 residual
Residual standard error: 2.569717e+25

```

```

$`Community herbivory`$Ee341
Generalized nonlinear least squares fit
Model: response ~ a + exp(sowndiv)
Data: DF
Log-likelihood: -1728.199

```

```

Coefficients:
a.(Intercept)      a.funcgr      a.grass
  1.80896385    -4.50870159     0.07124306

```

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 15.07431  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.0669531

\$`Community herbivory`\$Ee342  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -794.2247

Coefficients:  
 a.(Intercept)      a.funcgr      a.grass  
 3.23308310      -6.17170553      0.06754253

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 1.022394  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.6112412

\$`Community herbivory`\$Ef40  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -4912.516

Coefficients:  
 a.(Intercept)      a.grass      a.leg  
 -5251826      1394676      1054750

Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 2.569717e+25

\$`Community herbivory`\$Ef3721  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: -2688.523

Coefficients:  
 a.(Intercept)      a.grass      a.leg      b.(Intercept)      b.grass  
 0.1575874825      0.0533438816      -0.0631350170      0.0005186644      -0.0001238038  
                   b.leg      c.(Intercept)      c.grass      c.leg  
 -0.0001348722      0.9999674578      1.0000077862      1.0000084759



```

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
  4.481151
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.0008706527

$`Community herbivory`$Ef3911
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 38.702

Coefficients:
a.(Intercept)      a.grass      a.leg c.(Intercept)      c.grass
-0.678692570    0.051864523  -0.119082988   0.003884775  -0.003747483
      c.leg
      0.001446025

Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
  -0.1755138
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2034456

$`Community herbivory`$Ef3921
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 37.96413

Coefficients:
a.(Intercept)      a.grass      a.leg c.(Intercept)      c.grass
-0.669205726    0.043351635  -0.118207283   0.003130986  -0.002947766
      c.leg
      0.001342380

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
  -0.01136017
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1744021

$`Community herbivory`$Ef4011
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)

```

Data: DF  
Log-likelihood: -1726.707

Coefficients:  
a.(Intercept)            a.grass            a.leg  
-2.53982446        0.04839831       -0.06853427

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
  power  
15.08128  
Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.06506907

\$`Community herbivory`\$Ef4021  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -800.5092

Coefficients:  
a.(Intercept)            a.grass            a.leg  
-5.7642379        0.7980731        0.6783306

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
  expon  
1.015192  
Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.702019

\$`Community herbivory`\$Ef4211  
Generalized nonlinear least squares fit  
Model: response ~ exp(c \* sowndiv)  
Data: DF  
Log-likelihood: -2.224896

Coefficients:  
c.(Intercept)            c.grass            c.leg  
1.1827902        -0.3213236       -1.1738978

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
  power  
0.08164156  
Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.2243891

```

$`Community herbivory`$Ef4221
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: -1.908851

Coefficients:
c.(Intercept)      c.grass      c.leg
  1.1311043      -0.2779977      -1.1577644

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
  0.007861737
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.2358592

```

```

$`Community herbivory`$Eg46
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr      a.grass      a.leg
  292091.9      -918391.5      183181.3      -199834.3

Degrees of freedom: 82 total; 78 residual
Residual standard error: 2.586137e+25

```

```

$`Community herbivory`$Eg4611
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1726.707

Coefficients:
a.(Intercept)      a.funcgr      a.grass      a.leg
  1.99172194      -4.53154635      0.04839830      -0.06853428

```

```

Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
  15.08128
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.06548483

```

```

$`Community herbivory`$Eg4621
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)

```

Data: DF  
 Log-likelihood: -794.2209

Coefficients:  
 a.(Intercept)      a.funcgr      a.grass      a.leg  
                   3.46723113    -6.20093251    0.03507529    -0.08462904

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
   expon  
 1.022401  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.6150818

\$`Community herbivory`\$Pa1  
 Nonlinear regression model  
 model: response ~ a + b \* sowndiv^c  
 data: DF  
           a            b            c  
 0.194975 0.009702 0.668423  
 residual sum-of-squares: 2.244

Number of iterations to convergence: 12  
 Achieved convergence tolerance: 6.157e-06

\$`Community herbivory`\$Pa2  
 Nonlinear regression model  
 model: response ~ a + b \* sowndiv  
 data: DF  
           a            b  
 0.209147 0.002444  
 residual sum-of-squares: 2.246

Number of iterations to convergence: 1  
 Achieved convergence tolerance: 2.393e-09

\$`Community herbivory`\$Pa3  
 Nonlinear regression model  
 model: response ~ a + sowndiv^c  
 data: DF  
           a            c  
 -0.81001 0.02622  
 residual sum-of-squares: 2.249

Number of iterations to convergence: 8  
 Achieved convergence tolerance: 6.616e-08

\$`Community herbivory`\$Pa4  
 Nonlinear regression model  
 model: response ~ b \* sowndiv^c  
 data: DF  
           b            c

0.1916 0.1175  
 residual sum-of-squares: 2.248

Number of iterations to convergence: 7  
 Achieved convergence tolerance: 5.555e-07

\$`Community herbivory`\$Pa5  
 Nonlinear regression model  
 model: response ~ sowndiv^c  
 data: DF  
 c  
 -1.128  
 residual sum-of-squares: 15.50

Number of iterations to convergence: 17  
 Achieved convergence tolerance: 5.237e-06

\$`Community herbivory`\$Pb11  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 31.18064

Coefficients:

	a	b	c
	0.195026079	0.009669404	0.669212743

Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.1685447

\$`Community herbivory`\$Pb21  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 31.14897

Coefficients:

	a	b
	0.209147242	0.002444324

Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.1675526

\$`Community herbivory`\$Pb31  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 31.08971

Coefficients:

	a	c
	-0.81001263	0.02622533

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.1676738

\$`Community herbivory`\$Pb41  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 31.10556

Coefficients:  
          b          c  
0.1916094 0.1174617

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.1676414

\$`Community herbivory`\$Pb51  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -48.0445

Coefficients:  
          c  
-1.127994

Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.4374054

\$`Community herbivory`\$Pc121  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv^c  
Data: DF  
Log-likelihood: 33.42531

Coefficients:  
          a          b          c  
0.208134229 0.003462153 0.909074345

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
          power  
-0.1707239  
Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.2113003

\$`Community herbivory`\$Pc221  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 33.42154

Coefficients:

a                  b  
0.211460390 0.002352177

## Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.1709220

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.2100469

\$`Community herbivory`\$Pc231

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv

Data: DF

Log-likelihood: 33.02255

## Coefficients:

                  a                  b  
0.209920888 0.002373976

## Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.01215167

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.1817761

\$`Community herbivory`\$Pc321

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv^c

Data: DF

Log-likelihood: 32.88777

## Coefficients:

                  a                  c  
-0.81523050 0.02899385

## Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.1536319

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.2060609

\$`Community herbivory`\$Pc331

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv^c

Data: DF

Log-likelihood: 32.67162

Coefficients:

a	c
-0.81788104	0.03214639

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon
-0.01143901

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.1814421

\$`Community herbivory`\$Pc421

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 32.99557

Coefficients:

b	c
0.1857586	0.1325125

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power
-0.1583759

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.2072447

\$`Community herbivory`\$Pc431

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 32.77999

Coefficients:

b	c
0.1844735	0.1422440

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon
-0.01173997

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.1816713

\$`Community herbivory`\$Pc521



Generalized nonlinear least squares fit

Model: response ~ sowndiv<sup>c</sup>

Data: DF

Log-likelihood: -31.12288

Coefficients:

c

-0.652685

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.3578569

Degrees of freedom: 82 total; 81 residual

Residual standard error: 0.605326

\$`Community herbivory`\$Pc531

Generalized nonlinear least squares fit

Model: response ~ sowndiv<sup>c</sup>

Data: DF

Log-likelihood: -45.61966

Coefficients:

c

-0.9733747

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.01149586

Degrees of freedom: 82 total; 81 residual

Residual standard error: 0.4687105

\$`Community herbivory`\$Pd61

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 32.01368

Coefficients:

a.(Intercept)	a.funcgr	b.(Intercept)	b.funcgr	c.(Intercept)
0.16325703	0.01130353	0.04486658	-0.01108138	-0.64537515
	c.funcgr			
	0.50199477			

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.1701021

\$`Community herbivory`\$Pd71

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 31.23818

Coefficients:  
 a.(Intercept)      a.funcgr    b.(Intercept)      b.funcgr  
 1.967712e-01    7.498399e-03    1.832365e-03    6.673067e-05

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1695026

\$`Community herbivory`\$Pd81  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 31.22049

Coefficients:  
 a.(Intercept)      a.funcgr    c.(Intercept)      c.funcgr  
 -0.794881064    -0.007584368    0.009992519    0.006230645

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1695392

\$`Community herbivory`\$Pd91  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 31.26438

Coefficients:  
 b.(Intercept)      b.funcgr    c.(Intercept)      c.funcgr  
 0.210049578    -0.009087971    0.033360542    0.032806066

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1694485

\$`Community herbivory`\$Pd101  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -47.17952

Coefficients:  
 c.(Intercept)      c.funcgr  
 -1.6883061      0.2551688

Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.4355123

\$`Community herbivory`\$Pe721  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF

Log-likelihood: 33.51607

Coefficients:

a.(Intercept)	a.funcgr	b.(Intercept)	b.funcgr
0.2029382649	0.0057849916	0.0011988858	0.0002282628

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.1715717

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.2126828

\$`Community herbivory`\$Pe731

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv

Data: DF

Log-likelihood: 33.12032

Coefficients:

a.(Intercept)	a.funcgr	b.(Intercept)	b.funcgr
1.959196e-01	7.932772e-03	1.943102e-03	2.901683e-05

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.01216433

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1838924

\$`Community herbivory`\$Pe821

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv^c

Data: DF

Log-likelihood: 33.43232

Coefficients:

a.(Intercept)	a.funcgr	c.(Intercept)	c.funcgr
-0.776180259	-0.016349455	-0.003103451	0.011093498

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.17187

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.2129944

\$`Community herbivory`\$Pe831

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 33.0607

Coefficients:

a.(Intercept)	a.funcgr	c.(Intercept)	c.funcgr
-0.788494125	-0.012314946	0.005159086	0.008875600

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.01211806

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1839531

\$`Community herbivory`\$Pe921

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 33.54211

Coefficients:

b.(Intercept)	b.funcgr	c.(Intercept)	c.funcgr
0.23020126	-0.01751314	-0.02950140	0.05526225

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.1735878

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.2132526

\$`Community herbivory`\$Pe931

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 33.13544

Coefficients:

b.(Intercept)	b.funcgr	c.(Intercept)	c.funcgr
0.21407016	-0.01155920	0.01765159	0.04014175

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.01215335

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1838412

\$`Community herbivory`\$Pe1021  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -23.80446

Coefficients:  
 c.(Intercept)          c.funcgr  
                   -1.2473381        0.2248952

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           power  
 -0.4731535  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.6610944

\$`Community herbivory`\$Pe1031  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -39.04267

Coefficients:  
 c.(Intercept)          c.funcgr  
                   -1.7364361        0.3634469

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           expon  
 -0.03123122  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.5156482

\$`Community herbivory`\$Pf121  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 31.87912

Coefficients:  
 a.(Intercept)          a.grass    b.(Intercept)          b.grass  
                   0.130358174    0.051972912    0.004378836    -0.001304980

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1681829

\$`Community herbivory`\$Pf131

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 32.20555

Coefficients:

a.(Intercept)	a.grass	c.(Intercept)	c.grass
-0.94546389	0.08218282	0.06129685	-0.01951820

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1675147

\$`Community herbivory`\$Pf141

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 32.25798

Coefficients:

b.(Intercept)	b.grass	c.(Intercept)	c.grass
0.06720449	0.07727986	0.33257429	-0.12457324

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1674077

\$`Community herbivory`\$Pf151

Generalized nonlinear least squares fit

Model: response ~ sowndiv<sup>c</sup>

Data: DF

Log-likelihood: -48.03464

Coefficients:

c.(Intercept)	c.grass
-1.00777700	-0.07902687

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.4400777

\$`Community herbivory`\$Pg171

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv

Data: DF

Log-likelihood: 35.81823

Coefficients:

a.(Intercept)	a.leg	b.(Intercept)	b.leg
3.874848e-01	-1.133089e-01	1.210668e-03	-5.045723e-05

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1602947

\$`Community herbivory`\$Pg181

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv<sup>c</sup>

Data: DF  
Log-likelihood: 35.63302

Coefficients:  
a.(Intercept)            a.leg c.(Intercept)            c.leg  
-0.619834848   -0.110833641   0.012916792   -0.002917135

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1606572

\$`Community herbivory`\$Pg191  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 35.63579

Coefficients:  
b.(Intercept)            b.leg c.(Intercept)            c.leg  
0.378809678   -0.109921238   0.033013541   0.003742843

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1606518

\$`Community herbivory`\$Pg201  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -46.20505

Coefficients:  
c.(Intercept)            c.leg  
0.3009427   -1.0524024

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.4303674

\$`Community herbivory`\$Ph211  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv^c  
Data: DF  
Log-likelihood: 37.91941

Coefficients:  
a.(Intercept)            a.funcgr            a.leg b.(Intercept)            b.funcgr  
0.40965848   -0.01994444   -0.12072185   0.06232529   -0.01271718  
          b.leg c.(Intercept)            c.funcgr            c.leg  
-0.01097843   -0.64063754   0.50276663   0.02134754

Degrees of freedom: 82 total; 73 residual  
Residual standard error: 0.1615016

\$`Community herbivory`\$Ph221  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv

Data: DF  
Log-likelihood: 36.92233

Coefficients:  
a.(Intercept)      a.funcgr      a.leg    b.(Intercept)      b.funcgr  
0.4831846445   -0.0285236815   -0.1444113981   0.0044437229   -0.0004315691  
                  b.leg  
-0.0005971516

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1602183

\$`Community herbivory`\$Ph231  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 36.96259

Coefficients:  
a.(Intercept)      a.funcgr      a.leg    c.(Intercept)      c.funcgr  
-0.531404698   -0.041131861   -0.132195407   0.038966881   0.002129778  
                  c.leg  
-0.012093799

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1601397

\$`Community herbivory`\$Ph241  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 37.07779

Coefficients:  
b.(Intercept)      b.funcgr      b.leg    c.(Intercept)      c.funcgr  
0.48080810      -0.04490106      -0.13389504      -0.00252009      0.03901684  
                  c.leg  
0.02359415

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1599149

\$`Community herbivory`\$Ph251  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -46.1194

Coefficients:  
c.(Intercept)      c.funcgr      c.leg  
0.002772294      0.070065300      -0.951714511

Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.4326306



\$`Community herbivory`\$Pi261  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 33.73037

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
0.031667064	0.027355120	0.081243859	0.022630306	-0.004514414
	b.grass	c.(Intercept)	c.funcgr	c.grass
-0.004569579	-3.588619529	1.325748196	0.884974509	

Degrees of freedom: 82 total; 73 residual  
 Residual standard error: 0.1699664

\$`Community herbivory`\$Pi271  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 32.70084

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
0.003591316	0.031609123	0.096389018	0.010907605	-0.001096340
	b.grass			
-0.004419455				

Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1686826

\$`Community herbivory`\$Pi281  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 32.57852

Coefficients:

a.(Intercept)	a.funcgr	a.grass	c.(Intercept)	c.funcgr
-0.964981440	0.013462141	0.084858051	0.031107186	0.003422497
	c.grass			
-0.009704097				

Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1689344

\$`Community herbivory`\$Pi291  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 32.60171

Coefficients:

b.(Intercept)	b.funcgr	b.grass	c.(Intercept)	c.funcgr
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0.05129921	0.01104363	0.07891310	0.18245694	0.01188881
c.grass				
-0.06653944				

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1688867

\$`Community herbivory`\$Pi301  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -46.95529

Coefficients:  
c.(Intercept)      c.funcgr      c.grass  
-2.4979057      0.3559130      0.3930719

Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.4370633

\$`Community herbivory`\$Pj321  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 36.24167

Coefficients:  
a.(Intercept)      a.grass      a.leg      b.(Intercept)      b.grass  
0.327606399      0.043329224      -0.116296685      0.003414923      -0.002879766  
b.leg  
0.0011111030

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1615538

\$`Community herbivory`\$Pj331  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 36.00159

Coefficients:  
a.(Intercept)      a.grass      a.leg      c.(Intercept)      c.grass  
-0.714686784      0.046639297      -0.100283255      0.037584649      -0.011484961  
c.leg  
-0.004685047

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1620275

\$`Community herbivory`\$Pj341  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF

Log-likelihood: 35.99771

Coefficients:

b.(Intercept)	b.grass	b.leg	c.(Intercept)	c.grass
0.2872415907	0.0425930666	-0.0968085726	0.1291530062	-0.0461180037
	c.leg			
	0.0006948042			

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.1620351

\$`Community herbivory`\$Pj351

Generalized nonlinear least squares fit

Model: response ~ sowndiv^c

Data: DF

Log-likelihood: -46.0492

Coefficients:

c.(Intercept)	c.grass	c.leg
0.6076117	-0.2068888	-1.0582865

Degrees of freedom: 82 total; 79 residual

Residual standard error: 0.4322604

\$`Community herbivory`\$Pk361

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv^c

Data: DF

Log-likelihood: 39.59341

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
5.176573e-01	-3.193907e-02	1.074526e-03	-1.578515e-01	7.314251e-05
	b.funcgr	b.grass	b.leg	c.(Intercept)
	2.920057e-07	-3.805649e-05	2.357451e-06	7.755240e+00
	c.grass	c.leg		c.funcgr
	1.067631e+00	-2.404173e+00		-1.116355e+00

Degrees of freedom: 82 total; 70 residual

Residual standard error: 0.1615932

\$`Community herbivory`\$Pk371

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv

Data: DF

Log-likelihood: 37.36964

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
0.396974676	-0.017698369	0.026514121	-0.127552343	0.033178661
	b.funcgr	b.grass	b.leg	
	-0.003985171	-0.008635486	-0.006486873	

Degrees of freedom: 82 total; 74 residual

Residual standard error: 0.1614857

\$`Community herbivory`\$Pk381  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 37.3273

Coefficients:  
a.(Intercept)      a.funcgr      a.grass      a.leg c.(Intercept)  
-0.60899400    -0.03174576    0.02532620    -0.11819087    0.15798428  
c.funcgr      c.grass      c.leg  
-0.01244693    -0.03682973    -0.03561520

Degrees of freedom: 82 total; 74 residual  
Residual standard error: 0.1615691

\$`Community herbivory`\$Pk391  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 37.53798

Coefficients:  
b.(Intercept)      b.funcgr      b.grass      b.leg c.(Intercept)  
0.41244893    -0.03764404    0.02143111    -0.11970821    0.58293172  
c.funcgr      c.grass      c.leg  
-0.03030396    -0.17515424    -0.10206602

Degrees of freedom: 82 total; 74 residual  
Residual standard error: 0.1611545

\$`Community herbivory`\$Pk401  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -46.03722

Coefficients:  
c.(Intercept)      c.funcgr      c.grass      c.leg  
0.99402698    -0.05368502    -0.31236416    -1.14149131

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.4349589

\$`Community herbivory`\$Pm1221  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 34.1336

Coefficients:  
a.(Intercept)      a.grass b.(Intercept)      b.grass  
0.131938894    0.056370832    0.005196032    -0.002343910

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.1689157  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2102564

\$`Community herbivory`\$Pm1231  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 33.64984

Coefficients:  
 a.(Intercept)           a.grass b.(Intercept)           b.grass  
     0.136555251    0.049567808    0.004191784   -0.001359770

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.0118539  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1822224

\$`Community herbivory`\$Pm1321  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 34.21271

Coefficients:  
 a.(Intercept)           a.grass c.(Intercept)           c.grass  
     -0.97942124    0.10534271    0.08034195   -0.03409685

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.1643353  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2086301

\$`Community herbivory`\$Pm1331  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 33.89796

Coefficients:  
a.(Intercept)            a.grass c.(Intercept)            c.grass  
-0.96498743      0.09300394      0.07407273      -0.02742314

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.01169514  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1814244

\$`Community herbivory`\$Pm1421  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 34.36048

Coefficients:  
b.(Intercept)            b.grass c.(Intercept)            c.grass  
0.04572846      0.09359140      0.39837588      -0.17648440

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
-0.1667527  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.2090032

\$`Community herbivory`\$Pm1431  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 34.01334

Coefficients:  
b.(Intercept)            b.grass c.(Intercept)            c.grass  
0.05899808      0.08221970      0.36564553      -0.14640942

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.01180601  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1813419

\$`Community herbivory`\$Pm1521  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c

Data: DF  
Log-likelihood: -30.06568

Coefficients:  
c.(Intercept) c.grass  
-0.2551586 -0.2817844

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
-0.3871548  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.6280255

\$`Community herbivory`\$Pm1531  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -45.41921

Coefficients:  
c.(Intercept) c.grass  
-0.4611317 -0.3220803

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.01279797  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.4757684

\$`Community herbivory`\$Pn1721  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 38.14756

Coefficients:  
a.(Intercept) a.leg b.(Intercept) b.leg  
3.813549e-01 -1.109906e-01 1.237919e-03 5.840574e-05

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
-0.1729774  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.201423

\$`Community herbivory`\$Pn1731  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 37.55201

Coefficients:  
 a.(Intercept)            a.leg b.(Intercept)            b.leg  
 0.3856544683 -0.1130511261 0.0011534745 0.0001093700

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.01143179  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1731255

\$`Community herbivory`\$Pn1821  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 37.75088

Coefficients:  
 a.(Intercept)            a.leg c.(Intercept)            c.leg  
 -0.65081195 -0.09403555 0.02812687 -0.01160515

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.1664630  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2004517

\$`Community herbivory`\$Pn1831  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 37.21407

Coefficients:  
 a.(Intercept)            a.leg c.(Intercept)            c.leg  
 -0.64377487 -0.09905300 0.02760291 -0.01011214

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.01113719



Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1734013

\$`Community herbivory`\$Pn1921  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 37.77519

Coefficients:  
b.(Intercept)            b.leg c.(Intercept)            c.leg  
0.34752800    -0.09314748    0.09458514    -0.03268483

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
-0.1675627  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.2007197

\$`Community herbivory`\$Pn1931  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 37.23646

Coefficients:  
b.(Intercept)            b.leg c.(Intercept)            c.leg  
0.35534578    -0.09840721    0.08450787    -0.02085787

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.01119835  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1734450

\$`Community herbivory`\$Pn2021  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -24.53753

Coefficients:  
c.(Intercept)            c.leg  
0.4054071    -0.8442322

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv



Coefficients:

a.(Intercept)	a.funcgr	a.leg	c.(Intercept)	c.funcgr
-0.493951975	-0.052495638	-0.141780336	0.012594018	0.008635340
	c.leg			
	-0.005059316			

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.1769790  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2021166

\$`Community herbivory`\$Pp2331  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 38.63558

Coefficients:

a.(Intercept)	a.funcgr	a.leg	c.(Intercept)	c.funcgr
-0.521745984	-0.046276812	-0.133991350	0.030439144	0.005145438
	c.leg			
	-0.009905252			

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.01123359  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.172792

\$`Community herbivory`\$Pp2421  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 39.79904

Coefficients:

b.(Intercept)	b.funcgr	b.leg	c.(Intercept)	c.funcgr
0.52596285	-0.05669338	-0.14531992	-0.13089563	0.06916151
	c.leg			
	0.05797702			

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.1862746

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.2039746

\$`Community herbivory`\$Pp2431  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 38.83692

Coefficients:

b.(Intercept)	b.funcgr	b.leg	c.(Intercept)	c.funcgr
0.49161276	-0.04776077	-0.13766226	-0.04856581	0.04807140
	c.leg			
	0.04300763			

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.01140479  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1726218

\$`Community herbivory`\$Pp2521  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -21.66270

Coefficients:

c.(Intercept)	c.funcgr	c.leg
-0.3435000	0.1347464	-0.5422597

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
-0.4757632  
Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.6506302

\$`Community herbivory`\$Pp2531  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -37.8878

Coefficients:

c.(Intercept)	c.funcgr	c.leg
-0.3476097	0.2224018	-0.8252297

Variance function:

Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.03118281  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.511432

\$`Community herbivory`\$Pq2721  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 35.01325

Coefficients:  
 a.(Intercept)      a.funcgr      a.grass    b.(Intercept)      b.funcgr  
 -0.017486588    0.033313939    0.110052522    0.013247791    -0.001296043  
                   b.grass  
 -0.005948199

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.1716561  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2115913

\$`Community herbivory`\$Pq2731  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 34.50069

Coefficients:  
 a.(Intercept)      a.funcgr      a.grass    b.(Intercept)      b.funcgr  
 -0.004039675    0.032876458    0.099831079    0.012122522    -0.001265548  
                   b.grass  
 -0.004995392

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.01183749  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1826732

\$`Community herbivory`\$Pq2821  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF

Log-likelihood: 34.72888

Coefficients:

a.(Intercept)	a.funcgr	a.grass	c.(Intercept)	c.funcgr
-0.978299430	0.008704722	0.100735687	0.039735068	0.005594306
	c.grass			
	-0.020630994			

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.1689960

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.2114895

\$`Community herbivory`\$Pq2831

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv^c

Data: DF

Log-likelihood: 34.30393

Coefficients:

a.(Intercept)	a.funcgr	a.grass	c.(Intercept)	c.funcgr
-0.967656283	0.009872894	0.089368869	0.035362037	0.004931140
	c.grass			
	-0.014269277			

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.01172940

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.1829422

\$`Community herbivory`\$Pq2921

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv^c

Data: DF

Log-likelihood: 34.78510

Coefficients:

b.(Intercept)	b.funcgr	b.grass	c.(Intercept)	c.funcgr
0.045818912	0.006991451	0.090038715	0.211661287	0.019974039
	c.grass			
	-0.106305713			

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power  
-0.1690702  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.2113678

\$`Community herbivory`\$Pq2931  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 34.35377

Coefficients:  
b.(Intercept)      b.funcgr      b.grass      c.(Intercept)      c.funcgr  
0.047469248      0.009869286      0.082415768      0.213469837      0.012470611  
c.grass  
-0.087568006

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.01175943  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1828782

\$`Community herbivory`\$Pq3021  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -23.67203

Coefficients:  
c.(Intercept)      c.funcgr      c.grass  
-1.4556547      0.2513051      0.1015088

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
-0.471243  
Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.6623107

\$`Community herbivory`\$Pq3031  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -38.94309

Coefficients:  
c.(Intercept)      c.funcgr      c.grass  
-2.0807583      0.4076852      0.1669846

```

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
-0.03115831
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.5179474

$`Community herbivory`$Pr3221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 38.71288

Coefficients:
a.(Intercept)      a.grass      a.leg b.(Intercept)      b.grass
  0.320033109    0.053028687  -0.119632590   0.004012594  -0.003898086
      b.leg
  0.001557830

Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
-0.175876
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2035281

$`Community herbivory`$Pr3231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 37.96947

Coefficients:
a.(Intercept)      a.grass      a.leg b.(Intercept)      b.grass
  0.329647408    0.044195553  -0.118439591   0.003278737  -0.003085959
      b.leg
  0.001413392

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
-0.01136700
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.174401

$`Community herbivory`$Pr3321
Generalized nonlinear least squares fit

```



Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 38.37933

## Coefficients:

a.(Intercept)	a.grass	a.leg	c.(Intercept)	c.grass
-0.771952837	0.072909247	-0.089525576	0.066337850	-0.027125550
	c.leg			
	-0.009511568			

## Variance function:

Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.1772813  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2047844

\$`Community herbivory`\$Pr3331  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 37.67438

## Coefficients:

a.(Intercept)	a.grass	a.leg	c.(Intercept)	c.grass
-0.743848039	0.057041817	-0.093734079	0.054950826	-0.018897502
	c.leg			
	-0.008137404			

## Variance function:

Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.01134172  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1749918

\$`Community herbivory`\$Pr3421  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 38.44825

## Coefficients:

b.(Intercept)	b.grass	b.leg	c.(Intercept)	c.grass
0.239603131	0.065742239	-0.088495743	0.233288621	-0.109276467
	c.leg			
	-0.009883932			

## Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.1802022  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2055016

\$`Community herbivory`\$Pr3431  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 37.71363

Coefficients:  
 b.(Intercept)      b.grass      b.leg c.(Intercept)      c.grass  
     0.264703178    0.051495789   -0.092475027    0.183846791   -0.076385853  
                   c.leg  
 -0.002290281

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.01144533  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1750637

\$`Community herbivory`\$Pr3521  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -21.59119

Coefficients:  
 c.(Intercept)      c.grass      c.leg  
     0.6825006      -0.2904494   -0.7495879

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.4750247  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.6493507

\$`Community herbivory`\$Pr3531  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -38.35568

Coefficients:

c.(Intercept)	c.grass	c.leg
1.3926140	-0.4662971	-1.2169714

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.03086126  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.5129405

\$`Community herbivory`\$Ps3721  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 40.3574

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
0.388427729	-0.017592664	0.036271000	-0.130110799	0.034287756
b.funcgr	b.grass	b.leg		
-0.004042476	-0.009746458	-0.006235750		

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.1928125  
 Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.2073123

\$`Community herbivory`\$Ps3731  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 39.25093

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
0.389429111	-0.016505939	0.029416388	-0.127103909	0.034525942
b.funcgr	b.grass	b.leg		
-0.004175936	-0.009138107	-0.006595659		

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.01164804  
 Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.1744218

\$`Community herbivory`\$Ps3821  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 40.1031

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	c.(Intercept)
-0.625535707	-0.036972473	0.042035385	-0.116331586	0.165507745
c.funcgr	c.grass	c.leg		
-0.009874154	-0.047253490	-0.035949996		

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.1903130  
 Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.207186

\$`Community herbivory`\$Ps3831  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 39.12697

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	c.(Intercept)
-0.61511869	-0.03493537	0.03014212	-0.11677424	0.16389265
c.funcgr	c.grass	c.leg		
-0.01120816	-0.04113454	-0.03653152		

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.01152889  
 Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.1745071

\$`Community herbivory`\$Ps3921  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 40.76203

Coefficients:

b.(Intercept)	b.funcgr	b.grass	b.leg	c.(Intercept)
0.41309378	-0.04433125	0.03703875	-0.12348835	0.63637756
c.funcgr	c.grass	c.leg		
-0.02181063	-0.23195476	-0.10517477		

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.2047530  
 Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.2099813

\$`Community herbivory`\$Ps3931  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 39.47652

Coefficients:

b.(Intercept)	b.funcgr	b.grass	b.leg	c.(Intercept)
0.40647891	-0.03817920	0.02646162	-0.12027324	0.62661112
c.funcgr	c.grass	c.leg		
-0.03289239	-0.20030682	-0.10297327		

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.01179900  
 Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.1741682

\$`Community herbivory`\$Ps4021  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -21.34536

Coefficients:

c.(Intercept)	c.funcgr	c.grass	c.leg
0.19303542	0.06686784	-0.17126203	-0.63549883

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.480029  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.6564023

\$`Community herbivory`\$Ps4031  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -37.79615

```

Coefficients:
c.(Intercept)      c.funcgr      c.grass      c.leg
      0.1634056      0.1592159      -0.1617899      -0.9217684

```

```

Variance function:
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
      expon
-0.03121767
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.5142789

```

```

$`Community herbivory`$AS1
Nonlinear regression model
  model: response ~ SSasymp(sowndiv, Asym, R0, lrc)
  data: DF
      Asym      R0      lrc
0.5364  0.2060 -4.6435
residual sum-of-squares: 2.245

```

```

Number of iterations to convergence: 2
Achieved convergence tolerance: 9.686e-06

```

```

$`Community herbivory`$AS2
Nonlinear regression model
  model: response ~ SSasympOff(sowndiv, Asym, lrc, c0)
  data: DF
      Asym      lrc      c0
0.5364 -4.6434 -50.3356
residual sum-of-squares: 2.245

```

```

Number of iterations to convergence: 3
Achieved convergence tolerance: 1.048e-06

```

```

$`Community herbivory`$AS3
Nonlinear regression model
  model: response ~ SSasympOrig(sowndiv, Asym, lrc)
  data: DF
      Asym      lrc
0.2485 0.2501
residual sum-of-squares: 2.233

```

```

Number of iterations to convergence: 12
Achieved convergence tolerance: 5.642e-06

```

```

$`Community herbivory`$LG2
Nonlinear regression model
  model: response ~ SSlogis(sowndiv, Asym, xmid, scal)
  data: DF
      Asym      xmid      scal
0.4115 -0.1689 34.2745
residual sum-of-squares: 2.245

```

Number of iterations to convergence: 2  
 Achieved convergence tolerance: 3.114e-06

\$Parasitism  
 \$Parasitism\$L0

Call:  
 lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,  
 data = DF)

Coefficients:

(Intercept)	blockB2	blockB3	blockB4	
sowndiv				
0.295994	-0.018157	0.002647	-0.131154	
0.030594				
funcgr	grass	leg	sowndiv:funcgr	
sowndiv:grass				
0.175185	0.013751	-0.215317	-0.004322	-
0.012852				
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg	
0.002185	-0.092400	-0.059584	0.161299	

\$Parasitism\$L2

Call:  
 lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:

(Intercept)	sowndiv	funcgr	leg
0.426109	0.004086	-0.031926	-0.066197

\$Parasitism\$M1

Nonlinear regression model  
 model: response ~ a \* sowndiv / (b + sowndiv)  
 data: DF  
 a b  
 0.3362 0.3985  
 residual sum-of-squares: 4.091

Number of iterations to convergence: 5  
 Achieved convergence tolerance: 4.469e-06

\$Parasitism\$M1a

Nonlinear regression model  
 model: response ~ SSmicmen(sowndiv, Vm, k)  
 data: DF  
 Vm k  
 0.3362 0.3985  
 residual sum-of-squares: 4.091

Number of iterations to convergence: 6  
Achieved convergence tolerance: 2.293e-06

\$Parasitism\$M2

Nonlinear regression model  
model: response ~ d + a \* sowndiv/(b + sowndiv)  
data: DF  
a b d  
0.4540 78.7102 0.2573  
residual sum-of-squares: 4.005

Number of iterations to convergence: 8  
Achieved convergence tolerance: 4.62e-06

\$Parasitism\$E2

Nonlinear regression model  
model: response ~ a + b \* exp(sowndiv)  
data: DF  
a b  
2.878e-01 1.502e-27  
residual sum-of-squares: 4.046

Number of iterations to convergence: 4  
Achieved convergence tolerance: 7.914e-09

\$Parasitism\$E4

Nonlinear regression model  
model: response ~ a + exp(sowndiv)  
data: DF  
a  
1  
residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0  
Achieved convergence tolerance: 6.334e-20

\$Parasitism\$E5

Nonlinear regression model  
model: response ~ b \* exp(sowndiv)  
data: DF  
b  
4.022e-27  
residual sum-of-squares: 10.17

Number of iterations to convergence: 4  
Achieved convergence tolerance: 7.55e-09

\$Parasitism\$Pa1

Nonlinear regression model  
model: response ~ a + b \* sowndiv^c  
data: DF  
a b c  
0.24676 0.01368 0.66379  
residual sum-of-squares: 4.004



Number of iterations to convergence: 5  
Achieved convergence tolerance: 1.21e-06

```
$Parasitism$Pa2
Nonlinear regression model
  model: response ~ a + b * sowndiv
  data: DF
      a      b
0.26705 0.00335
residual sum-of-squares: 4.009
```

Number of iterations to convergence: 1  
Achieved convergence tolerance: 2.424e-09

```
$Parasitism$Pa3
Nonlinear regression model
  model: response ~ a + sowndiv^c
  data: DF
      a      c
-0.75660 0.03406
residual sum-of-squares: 4.031
```

Number of iterations to convergence: 8  
Achieved convergence tolerance: 1.985e-06

```
$Parasitism$Pa4
Nonlinear regression model
  model: response ~ b * sowndiv^c
  data: DF
      b      c
0.2435 0.1243
residual sum-of-squares: 4.024
```

Number of iterations to convergence: 7  
Achieved convergence tolerance: 3.161e-06

```
$Parasitism$Pa5
Nonlinear regression model
  model: response ~ sowndiv^c
  data: DF
      c
-0.9072
residual sum-of-squares: 15.19
```

Number of iterations to convergence: 20  
Achieved convergence tolerance: 6.788e-06

```
$Parasitism$AS1
Nonlinear regression model
  model: response ~ SSasymp(sowndiv, Asym, R0, lrc)
  data: DF
      Asym      R0      lrc
0.5548 0.2584 -4.0091
```

residual sum-of-squares: 4.006

Number of iterations to convergence: 3  
Achieved convergence tolerance: 4.406e-06

\$Parasitism\$AS2

Nonlinear regression model

model: response ~ SSasymOff(sowndiv, Asym, lrc, c0)

data: DF

Asym lrc c0

0.5548 -4.0091 -34.5433

residual sum-of-squares: 4.006

Number of iterations to convergence: 4  
Achieved convergence tolerance: 3.554e-06

\$Parasitism\$AS3

Nonlinear regression model

model: response ~ SSasymOrig(sowndiv, Asym, lrc)

data: DF

Asym lrc

0.3079 0.5821

residual sum-of-squares: 4.142

Number of iterations to convergence: 13  
Achieved convergence tolerance: 5.682e-06

\$Parasitism\$LG2

Nonlinear regression model

model: response ~ SSlogis(sowndiv, Asym, xmid, scal)

data: DF

Asym xmid scal

0.5008 -2.1699 26.8442

residual sum-of-squares: 4.007

Number of iterations to convergence: 2  
Achieved convergence tolerance: 9.962e-06

\$Pollination

\$Pollination\$L0

Call:

lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,  
data = DF)

Coefficients:

(Intercept)	blockB2	blockB3	blockB4
sowndiv			
1.9021830	-0.0529588	0.0408958	0.0005415
0.0106349			
funcgr	grass	leg	sowndiv:funcgr
sowndiv:grass			

-0.3370700	-0.8064455	-0.9614541	-0.0012289
0.0025477			
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg
-0.0046002	0.1079479	0.1338933	0.3779492

\$Pollination\$L2

Call:

lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:

(Intercept)	sowndiv	funcgr	leg
0.259298	0.003546	0.003957	-0.126254

\$Pollination\$M1

Nonlinear regression model

model: response ~ a \* sowndiv/(b + sowndiv)

data: DF

a b

0.3627 11.3639

residual sum-of-squares: 1.594

Number of iterations to convergence: 9

Achieved convergence tolerance: 3.705e-06

\$Pollination\$M1a

Nonlinear regression model

model: response ~ SSmicmen(sowndiv, Vm, k)

data: DF

Vm k

0.3628 11.3643

residual sum-of-squares: 1.594

Number of iterations to convergence: 5

Achieved convergence tolerance: 1.959e-06

\$Pollination\$M2

Nonlinear regression model

model: response ~ d + a \* sowndiv/(b + sowndiv)

data: DF

a b d

0.38230 17.50585 0.02366

residual sum-of-squares: 1.589

Number of iterations to convergence: 7

Achieved convergence tolerance: 2.34e-06

\$Pollination\$E2

Nonlinear regression model

model: response ~ a + b \* exp(sowndiv)

data: DF

a b

1.105e-01 1.924e-27  
residual sum-of-squares: 1.794

Number of iterations to convergence: 4  
Achieved convergence tolerance: 3.059e-09

\$Pollination\$E4

Nonlinear regression model  
model: response ~ a + exp(sowndiv)  
data: DF

a

1

residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0  
Achieved convergence tolerance: 6.091e-20

\$Pollination\$E5

Nonlinear regression model  
model: response ~ b \* exp(sowndiv)  
data: DF

b

2.892e-27

residual sum-of-squares: 2.637

Number of iterations to convergence: 4  
Achieved convergence tolerance: 5.16e-08

\$Pollination\$Pa1

Nonlinear regression model  
model: response ~ a + b \* sowndiv^c  
data: DF

a	b	c
-0.1078	0.1441	0.2707

residual sum-of-squares: 1.586

Number of iterations to convergence: 9  
Achieved convergence tolerance: 1.950e-06

\$Pollination\$Pa2

Nonlinear regression model  
model: response ~ a + b \* sowndiv  
data: DF

a	b
0.077167	0.004959

residual sum-of-squares: 1.660

Number of iterations to convergence: 1  
Achieved convergence tolerance: 1.034e-09

\$Pollination\$Pa3

Nonlinear regression model  
model: response ~ a + sowndiv^c  
data: DF

```

      a      c
-0.97683  0.05923
residual sum-of-squares: 1.594

```

```

Number of iterations to convergence: 8
Achieved convergence tolerance: 5.48e-07

```

```

$Pollination$Pa4
Nonlinear regression model
  model: response ~ b * sowndiv^c
  data: DF
      b      c
0.05315 0.45675
residual sum-of-squares: 1.593

```

```

Number of iterations to convergence: 7
Achieved convergence tolerance: 2.007e-06

```

```

$Pollination$Pa5
Nonlinear regression model
  model: response ~ sowndiv^c
  data: DF
      c
-3.509
residual sum-of-squares: 14.09

```

```

Number of iterations to convergence: 17
Achieved convergence tolerance: 5.126e-06

```

```

$Pollination$AS1
Nonlinear regression model
  model: response ~ SSasym(sowndiv, Asym, R0, lrc)
  data: DF
      Asym      R0      lrc
0.33277  0.03301 -2.90449
residual sum-of-squares: 1.592

```

```

Number of iterations to convergence: 4
Achieved convergence tolerance: 3.285e-06

```

```

$Pollination$AS2
Nonlinear regression model
  model: response ~ SSasymOff(sowndiv, Asym, lrc, c0)
  data: DF
      Asym      lrc      c0
0.3328 -2.9045 -1.9071
residual sum-of-squares: 1.592

```

```

Number of iterations to convergence: 4
Achieved convergence tolerance: 3.286e-06

```

```

$Pollination$AS3
Nonlinear regression model
  model: response ~ SSasymOrig(sowndiv, Asym, lrc)

```

```

data: DF
  Asym    lrc
0.3002 -2.4785
residual sum-of-squares: 1.608

```

```

Number of iterations to convergence: 7
Achieved convergence tolerance: 7.618e-06

```

```

$Pollination$LG2
Nonlinear regression model
  model: response ~ SSlogis(sowndiv, Asym, xmid, scal)
  data: DF
    Asym    xmid    scal
0.3196 11.1852  7.5379
residual sum-of-squares: 1.612

```

```

Number of iterations to convergence: 5
Achieved convergence tolerance: 7.504e-06

```

```

$Decomposition
$Decomposition$L0

```

```

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

```

```

Coefficients:
  (Intercept)      blockB2      blockB3      blockB4
sowndiv
  0.698513      0.077314      0.262365      0.048947
0.035103
  funcgr      grass      leg  sowndiv:funcgr
sowndiv:grass
  -0.170241      -0.065910      -0.451922      -0.001485      -
0.019453
  sowndiv:leg  funcgr:grass  funcgr:leg  grass:leg
  0.001682      0.027121      0.150350      0.168624

```

```

$Decomposition$L2

```

```

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

```

```

Coefficients:
(Intercept)  sowndiv  funcgr  leg
  0.5297420  0.0070731  0.0001013  0.0003643

```

```

$Decomposition$M1
Nonlinear regression model
  model: response ~ a * sowndiv/(b + sowndiv)
  data: DF

```

```
      a      b
0.6300 0.2212
residual sum-of-squares: 1.577
```

```
Number of iterations to convergence: 3
Achieved convergence tolerance: 3.250e-06
```

```
$Decomposition$M1a
Nonlinear regression model
  model: response ~ SSmicmen(sowndiv, Vm, k)
  data: DF
      Vm      k
0.6300 0.2212
residual sum-of-squares: 1.577
```

```
Number of iterations to convergence: 2
Achieved convergence tolerance: 3.275e-06
```

```
$Decomposition$M2
Nonlinear regression model
  model: response ~ d + a * sowndiv/(b + sowndiv)
  data: DF
      a      b      d
0.1966 4.6211 0.4864
residual sum-of-squares: 1.567
```

```
Number of iterations to convergence: 4
Achieved convergence tolerance: 6.865e-10
```

```
$Decomposition$E2
Nonlinear regression model
  model: response ~ a + b * exp(sowndiv)
  data: DF
      a      b
5.505e-01 9.965e-09
residual sum-of-squares: 1.591
```

```
Number of iterations to convergence: 2
Achieved convergence tolerance: 8.29e-09
```

```
$Decomposition$E3
Nonlinear regression model
  model: response ~ a + exp(c * sowndiv)
  data: DF
      a      c
-0.468458 0.006627
residual sum-of-squares: 1.577
```

```
Number of iterations to convergence: 20
Achieved convergence tolerance: 1.289e-07
```

```
$Decomposition$E4
Nonlinear regression model
  model: response ~ a + exp(sowndiv)
```

```

    data: DF
      a
-2625462
  residual sum-of-squares: 7.232e+14

Number of iterations to convergence: 1
Achieved convergence tolerance: 1.086e-08

$Decomposition$E5
Nonlinear regression model
  model: response ~ b * exp(sowndiv)
  data: DF
      b
7.191e-08
  residual sum-of-squares: 10.98

Number of iterations to convergence: 2
Achieved convergence tolerance: 1.518e-10

$Decomposition$E6
Nonlinear regression model
  model: response ~ exp(c * sowndiv)
  data: DF
      c
-0.05171
  residual sum-of-squares: 5.734

Number of iterations to convergence: 26
Achieved convergence tolerance: 5.82e-06

$Decomposition$Pa1
Nonlinear regression model
  model: response ~ a + b * sowndiv^c
  data: DF
      a      b      c
-0.1011  0.6225  0.0624
  residual sum-of-squares: 1.567

Number of iterations to convergence: 18
Achieved convergence tolerance: 1.923e-07

$Decomposition$Pa2
Nonlinear regression model
  model: response ~ a + b * sowndiv
  data: DF
      a      b
0.530483  0.007074
  residual sum-of-squares: 1.577

Number of iterations to convergence: 1
Achieved convergence tolerance: 3.662e-09

$Decomposition$Pa3
Nonlinear regression model

```



```

model: response ~ a + sowndiv^c
data: DF
      a      c
-0.47890  0.04009
residual sum-of-squares: 1.567

```

```

Number of iterations to convergence: 6
Achieved convergence tolerance: 4.718e-06

```

```

$Decomposition$Pa4
Nonlinear regression model
model: response ~ b * sowndiv^c
data: DF
      b      c
0.52160  0.07332
residual sum-of-squares: 1.567

```

```

Number of iterations to convergence: 6
Achieved convergence tolerance: 3.496e-08

```

```

$Decomposition$Pa5
Nonlinear regression model
model: response ~ sowndiv^c
data: DF
      c
-0.2375
residual sum-of-squares: 5.516

```

```

Number of iterations to convergence: 9
Achieved convergence tolerance: 1.044e-06

```

```

$Decomposition$AS3
Nonlinear regression model
model: response ~ SSasymOrig(sowndiv, Asym, lrc)
data: DF
      Asym      lrc
0.6054  0.6786
residual sum-of-squares: 1.594

```

```

Number of iterations to convergence: 2
Achieved convergence tolerance: 3.265e-06

```

```

$`Seed predation`
$`Seed predation`$L0

```

```

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

```

```

Coefficients:
(Intercept)      blockB2      blockB3      blockB4
sowndiv

```

	2.666190	0.080418	0.107597	0.088453	-
0.060141					
	funcgr	grass	leg	sowndiv:funcgr	
sowndiv:grass					
	-0.503360	-0.788904	-1.020570	0.011867	
0.016931					
	sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg	
	0.000714	0.101580	0.238586	0.355816	

\$`Seed predation`\$L2

Call:

lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:

(Intercept)	sowndiv	funcgr	leg
0.850759	-0.008135	0.010276	-0.091914

\$`Seed predation`\$M1

Nonlinear regression model

model: response ~ a \* sowndiv/(b + sowndiv)

data: DF

a	b
0.6436	-0.1135

residual sum-of-squares: 1.668

Number of iterations to convergence: 4

Achieved convergence tolerance: 7.026e-06

\$`Seed predation`\$M1a

Nonlinear regression model

model: response ~ SSmicmen(sowndiv, Vm, k)

data: DF

Vm	k
0.6436	-0.1135

residual sum-of-squares: 1.668

Number of iterations to convergence: 2

Achieved convergence tolerance: 4.475e-07

\$`Seed predation`\$M2

Nonlinear regression model

model: response ~ d + a \* sowndiv/(b + sowndiv)

data: DF

a	b	d
-0.1510	4.1923	0.7523

residual sum-of-squares: 1.661

Number of iterations to convergence: 4

Achieved convergence tolerance: 4.011e-08

\$`Seed predation`\$E2

```
Nonlinear regression model
  model: response ~ a + b * exp(sowndiv)
  data: DF
      a          b
7.009e-01 -7.679e-09
residual sum-of-squares: 1.676
```

```
Number of iterations to convergence: 2
Achieved convergence tolerance: 6.374e-09
```

```
$`Seed predation`$E3
Nonlinear regression model
  model: response ~ a + exp(c * sowndiv)
  data: DF
      a          c
-0.283208 -0.005752
residual sum-of-squares: 1.667
```

```
Number of iterations to convergence: 20
Achieved convergence tolerance: 2.764e-06
```

```
$`Seed predation`$E4
Nonlinear regression model
  model: response ~ a + exp(sowndiv)
  data: DF
      a
-2704488
residual sum-of-squares: 7.69e+14
```

```
Number of iterations to convergence: 1
Achieved convergence tolerance: 1.063e-08
```

```
$`Seed predation`$E5
Nonlinear regression model
  model: response ~ b * exp(sowndiv)
  data: DF
      b
7.12e-08
residual sum-of-squares: 17.40
```

```
Number of iterations to convergence: 2
Achieved convergence tolerance: 4.464e-13
```

```
$`Seed predation`$E6
Nonlinear regression model
  model: response ~ exp(c * sowndiv)
  data: DF
      c
-0.04066
residual sum-of-squares: 3.201
```

```
Number of iterations to convergence: 23
Achieved convergence tolerance: 6.528e-06
```

```
$`Seed predation`$Pa1
Nonlinear regression model
  model: response ~ a + b * sowndiv^c
  data: DF
      a          b          c
2.28571 -1.56250  0.02032
residual sum-of-squares: 1.661

Number of iterations to convergence: 45
Achieved convergence tolerance: 7.753e-09
```

```
$`Seed predation`$Pa2
Nonlinear regression model
  model: response ~ a + b * sowndiv
  data: DF
      a          b
0.716061 -0.005438
residual sum-of-squares: 1.667
```

```
Number of iterations to convergence: 1
Achieved convergence tolerance: 9.875e-15
```

```
$`Seed predation`$Pa3
Nonlinear regression model
  model: response ~ a + sowndiv^c
  data: DF
      a          c
-0.27626 -0.03418
residual sum-of-squares: 1.661
```

```
Number of iterations to convergence: 7
Achieved convergence tolerance: 7.223e-09
```

```
$`Seed predation`$Pa4
Nonlinear regression model
  model: response ~ b * sowndiv^c
  data: DF
      b          c
0.72387 -0.04809
residual sum-of-squares: 1.661
```

```
Number of iterations to convergence: 6
Achieved convergence tolerance: 4.912e-07
```

```
$`Seed predation`$Pa5
Nonlinear regression model
  model: response ~ sowndiv^c
  data: DF
      c
-0.2006
residual sum-of-squares: 3.034
```

```
Number of iterations to convergence: 8
Achieved convergence tolerance: 1.217e-06
```

```
$`Pathogen infection`
$`Pathogen infection`$L0
```

```
Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
    data = DF)
```

```
Coefficients:
  (Intercept)      blockB2      blockB3      blockB4
sowndiv
  1.102971      0.033740     -0.037188     -0.062730      -
0.068664
  funcgr      grass      leg  sowndiv:funcgr
sowndiv:grass
 -0.153352      0.278805     -0.334250      0.012060
0.006800
  sowndiv:leg  funcgr:grass  funcgr:leg  grass:leg
  0.009389     -0.127558      0.124327     -0.108286
```

```
$`Pathogen infection`$L011
Generalized least squares fit by maximum likelihood
  Model: response ~ block + (sowndiv + funcgr + grass + leg)^2
  Data: DF
  Log-likelihood: 44.57221
```

```
Coefficients:
  (Intercept)      blockB2      blockB3      blockB4
sowndiv
  0.896730536     0.021292658     0.012025342    -0.022596434    -
0.069415459
  funcgr      grass      leg  sowndiv:funcgr
sowndiv:grass
 -0.096897633     0.244997307    -0.203951715     0.011998217
0.003549326
  sowndiv:leg  funcgr:grass  funcgr:leg  grass:leg
  0.015083434    -0.086614758     0.031646421    -0.094323519
```

```
Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
 -0.7437424
Degrees of freedom: 82 total; 68 residual
Residual standard error: 0.4238586
```

```
$`Pathogen infection`$L021
Generalized least squares fit by maximum likelihood
  Model: response ~ block + (sowndiv + funcgr + grass + leg)^2
  Data: DF
  Log-likelihood: 75.28316
```

```

Coefficients:
  (Intercept)      blockB2      blockB3      blockB4
sowndiv
  1.545749102      0.009856514      0.038419681      -0.011553805      -
0.081191776
      funcgr      grass      leg sowndiv:funcgr
sowndiv:grass
  -0.236771617      -0.093730840      -0.477253990      0.013780221
0.003729401
      sowndiv:leg      funcgr:grass      funcgr:leg      grass:leg
      0.020399792      -0.015648728      0.042045714      0.046842079

```

```

Variance function:
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
  expon
-0.1857012
Degrees of freedom: 82 total; 68 residual
Residual standard error: 0.4758213

```

\$`Pathogen infection`\$L2

```

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

```

```

Coefficients:
(Intercept)      sowndiv      funcgr      leg
  0.889072      -0.006513      -0.086534      -0.215888

```

```

$`Pathogen infection`$L21
Generalized least squares fit by maximum likelihood
Model: response ~ sowndiv + funcgr + leg
Data: DF
Log-likelihood: 16.89656

```

```

Coefficients:
(Intercept)      sowndiv      funcgr      leg
  0.656639822      -0.003907434      -0.055308674      -0.130281660

```

```

Variance function:
Structure: Power of variance covariate
Formula: ~fitted(.)
Parameter estimates:
  power
1.542182
Degrees of freedom: 82 total; 78 residual
Residual standard error: 1.284036

```

```

$`Pathogen infection`$L22
Generalized least squares fit by maximum likelihood
Model: response ~ sowndiv + funcgr + leg

```

Data: DF  
Log-likelihood: 15.92461

Coefficients:  
(Intercept)        sowndiv        funcgr        leg  
0.556582294 -0.003828855 -0.041020824 -0.095882640

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~fitted(.)  
Parameter estimates:  
  expon  
7.817952  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.01982425

\$`Pathogen infection`\$L211  
Generalized least squares fit by maximum likelihood  
Model: response ~ sowndiv + funcgr + leg  
Data: DF  
Log-likelihood: 23.01397

Coefficients:  
(Intercept)        sowndiv        funcgr        leg  
0.488385141 -0.003137442 -0.032178552 -0.108575324

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
  power  
-0.6429561  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.4746985

\$`Pathogen infection`\$L222  
Generalized least squares fit by maximum likelihood  
Model: response ~ sowndiv + funcgr + leg  
Data: DF  
Log-likelihood: 19.64292

Coefficients:  
(Intercept)        sowndiv        funcgr        leg  
0.716208400 -0.003237871 -0.070818202 -0.167350761

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
  expon  
-0.0479371  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.2873861

```

$`Pathogen infection`$M1
Nonlinear regression model
  model: response ~ a * sowndiv/(b + sowndiv)
  data: DF
      a      b
0.2554 -0.5006
residual sum-of-squares: 4.771

```

```

Number of iterations to convergence: 7
Achieved convergence tolerance: 2.111e-06

```

```

$`Pathogen infection`$M1a
Nonlinear regression model
  model: response ~ SSmicmen(sowndiv, Vm, k)
  data: DF
      Vm      k
0.2554 -0.5006
residual sum-of-squares: 4.771

```

```

Number of iterations to convergence: 6
Achieved convergence tolerance: 3.658e-06

```

```

$`Pathogen infection`$M2
Nonlinear regression model
  model: response ~ d + a * sowndiv/(b + sowndiv)
  data: DF
      a      b      d
-0.6051  7.0685  0.5750
residual sum-of-squares: 4.079

```

```

Number of iterations to convergence: 12
Achieved convergence tolerance: 6.525e-06

```

```

$`Pathogen infection`$M3
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 8.072823

```

```

Coefficients:
a.(Intercept)      a.leg b.(Intercept)      b.leg
0.28711065      -0.02348914      -1.01977773      0.32042976

```

```

Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2248364

```

```

$`Pathogen infection`$M311
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 16.05026

```

```

Coefficients:
a.(Intercept)      a.leg b.(Intercept)      b.leg

```



0.185247605 0.002120233 -1.053995554 0.260920205

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.3622465

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.3492793

\$`Pathogen infection`\$M321

Generalized nonlinear least squares fit

Model: response ~ a \* sowndiv/(b + sowndiv)

Data: DF

Log-likelihood: 9.853601

Coefficients:

a.(Intercept)	a.leg	b.(Intercept)	b.leg
0.19932325	0.01373029	-1.10100184	0.34267870

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.01402654

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.2481613

\$`Pathogen infection`\$M4

Generalized nonlinear least squares fit

Model: response ~ a \* sowndiv/(b + sowndiv)

Data: DF

Log-likelihood: 1.344883

Coefficients:

a.(Intercept)	a.grass	b.(Intercept)	b.grass
0.14028600	0.08392556	-0.62936226	0.10841971

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.2440617

\$`Pathogen infection`\$M411

Generalized nonlinear least squares fit

Model: response ~ a \* sowndiv/(b + sowndiv)

Data: DF

Log-likelihood: 15.83237

Coefficients:

a.(Intercept)	a.grass	b.(Intercept)	b.grass
0.04682286	0.09378464	-0.88542047	0.15321032

Variance function:

Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.4905169  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.4236709

\$`Pathogen infection`\$M422  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 10.73674

Coefficients:  
 a.(Intercept)          a.grass b.(Intercept)          b.grass  
     -0.0900203          0.1695955          -1.1126953          0.2902504

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.05069827  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.336349

\$`Pathogen infection`\$M5  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 4.745254

Coefficients:  
 a.(Intercept)          a.funcgr b.(Intercept)          b.funcgr  
     0.32312360          -0.04867924          0.25063361          -0.68990069

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2341479

\$`Pathogen infection`\$M511  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 25.25129

Coefficients:  
 a.(Intercept)          a.funcgr b.(Intercept)          b.funcgr  
     0.25144508          -0.03938687          0.21272838          -0.79106694

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:

```

    power
-0.5794491
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.4310048

```

```

$`Pathogen infection`$M522
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 21.67777

```

```

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr
  0.29034034    -0.05462995    0.33685002    -0.84642996

```

```

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
-0.0498852
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2922886

```

```

$`Pathogen infection`$M6
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 12.41141

```

```

Coefficients:
a.(Intercept)      a.funcgr      a.leg b.(Intercept)      b.funcgr
  0.42876938    -0.05623745    -0.05362281    -0.41847915    -0.49649051
      b.leg
  0.29557715

```

```

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2160373

```

```

$`Pathogen infection`$M611
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 28.75609

```

```

Coefficients:
a.(Intercept)      a.funcgr      a.leg b.(Intercept)      b.funcgr
  0.38395383    -0.05529414    -0.06331711    -0.06607989    -0.70909197
      b.leg
  0.11898052

```

```

Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv

```

Parameter estimates:  
 power  
 -0.5429979  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.3963314

\$`Pathogen infection`\$M622  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 26.47167

Coefficients:

a.(Intercept)	a.funcgr	a.leg	b.(Intercept)	b.funcgr
0.3840137	-0.0667193	-0.0435958	-0.1785743	-0.7134030
	b.leg			
	0.2318944			

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.04797379  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2747487

\$`Pathogen infection`\$M7  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 5.081408

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
0.24910811	-0.03885417	0.03730490	0.19731222	-0.67220445
	b.grass			
	0.02073095			

Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2362384

\$`Pathogen infection`\$M711  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 25.70577

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
0.18761396	-0.03169204	0.03309608	0.09743451	-0.77610007
	b.grass			
	0.05962879			

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.5798649  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.4344939

\$`Pathogen infection`\$M722  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 21.93480

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
0.23096686	-0.04747342	0.03081502	0.26451867	-0.83533164
	b.grass			
	0.03672329			

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.0498179  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2950123

\$`Pathogen infection`\$M81  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 10.01789

Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
0.098925437	0.101531748	0.009025709	-2.351995946	0.532222527
	b.leg			
	0.643522441			

Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2224362

\$`Pathogen infection`\$M821  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 22.5384

Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
-0.07669542	0.13151616	0.05104610	-7.19642980	2.13544872

b.leg  
2.18378864

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
-0.53344  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.4215282

\$`Pathogen infection`\$M832  
Generalized nonlinear least squares fit  
Model: response ~ a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 20.33727

Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
-0.2263303	0.1909072	0.1084571	-8.2401081	2.4852494
b.leg	2.5679252			

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.04815979  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.2965642

\$`Pathogen infection`\$M91  
Generalized nonlinear least squares fit  
Model: response ~ a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: -30.72924

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
-0.20346459	0.07648041	0.01745988	0.04114572	-8.26905948
b.funcgr	b.grass	b.leg		
0.73453285	0.49320408	2.24886640		

Degrees of freedom: 82 total; 74 residual  
Residual standard error: 0.3705138

\$`Pathogen infection`\$M921  
Generalized nonlinear least squares fit  
Model: response ~ a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 29.65802

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
0.45532940	-0.06550872	-0.01862946	-0.07761899	-0.65218575
b.funcgr	b.grass	b.leg		
-0.67215733	0.20398034	0.25616851		

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.5382397  
 Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.3944616

\$`Pathogen infection`\$M932  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 27.69777

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
0.45850322	-0.07697651	-0.01825330	-0.05959983	-0.81909361
b.funcgr	b.grass	b.leg		
-0.69808154	0.24445621	0.37799471		

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.04769536  
 Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.2736495

\$`Pathogen infection`\$M101  
 Generalized nonlinear least squares fit  
 Model: response ~ d + a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 15.63085

Coefficients:

a.(Intercept)	a.leg	b.(Intercept)	b.leg	d.(Intercept)
-1.8769758	0.6127942	-12.6950174	14.1764627	2.2144567
d.leg				
-0.8912429				

Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2077197

\$`Pathogen infection`\$M111  
 Generalized nonlinear least squares fit  
 Model: response ~ d + a \* sowndiv/(b + sowndiv)

Data: DF  
Log-likelihood: 7.242137

Coefficients:  
a.(Intercept)          a.grass   b.(Intercept)          b.grass   d.(Intercept)  
0.335216061   -0.873690391   -24.019345060   30.702949523   0.525171326  
                  d.grass  
0.007916547

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.2300947

\$`Pathogen infection`\$M1121  
Generalized nonlinear least squares fit  
Model: response ~ d + a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 38.55366

Coefficients:  
a.(Intercept)          a.grass   b.(Intercept)          b.grass   d.(Intercept)  
1.8736911        -2.5342207   -104.4572393    107.5495609    0.8819469  
                  d.grass  
-0.1823112

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
          power  
-0.7442117  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.4741324

\$`Pathogen infection`\$M1132  
Generalized nonlinear least squares fit  
Model: response ~ d + a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 27.98844

Coefficients:  
a.(Intercept)          a.grass   b.(Intercept)          b.grass   d.(Intercept)  
0.62113535       -1.16310539   -39.71052367    44.19381445    0.61716159  
                  d.grass  
-0.04033186

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
          expon  
-0.05041029  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.2754147



```
$`Pathogen infection`$M121
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 7.241623
```

```
Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr d.(Intercept)
-0.7622345269 -0.0009909639 14.1195856009 -2.8999972467  0.4596863801
  d.funcgr
  0.0875688521
```

```
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2300961
```

```
$`Pathogen infection`$M1221
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 37.74945
```

```
Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr d.(Intercept)
-0.98200730      0.09631328  19.15189671  -3.72527626  0.52605448
  d.funcgr
  0.02587024
```

```
Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
-0.7352549
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.4724807
```

```
$`Pathogen infection`$M1232
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 27.93144
```

```
Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr d.(Intercept)
-0.86925803      0.04442597  16.82837956  -3.42021192  0.48272004
  d.funcgr
  0.06178171
```

```
Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
-0.0503925
```

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.2755642

\$`Pathogen infection`\$M1421  
Generalized nonlinear least squares fit  
Model: response ~ d + a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 40.39215

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
0.53160313	0.01436848	-1.43263123	-74.74320566	0.62001038
b.grass	d.(Intercept)	d.funcgr	d.grass	
75.15550100	1.35695488	-0.01919253	-0.40342630	

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
-0.7558632  
Degrees of freedom: 82 total; 73 residual  
Residual standard error: 0.4813047

\$`Pathogen infection`\$M1432  
Generalized nonlinear least squares fit  
Model: response ~ d + a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 29.02421

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
-0.35095492	0.01186935	-0.67827550	-50.59864626	0.63583728
b.grass	d.(Intercept)	d.funcgr	d.grass	
50.51429990	1.68084481	-0.02715952	-0.55652955	

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.0502669  
Degrees of freedom: 82 total; 73 residual  
Residual standard error: 0.2771482

\$`Pathogen infection`\$M151  
Generalized nonlinear least squares fit  
Model: response ~ d + a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 16.37626

Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
-2.542670174	0.182135418	0.859436137	-6.846966892	-0.005541167

b.leg	d.(Intercept)	d.grass	d.leg
7.969688072	2.712112531	-0.113230780	-1.042069802

Degrees of freedom: 82 total; 73 residual  
Residual standard error: 0.210027

\$`Pathogen infection`\$M161  
Generalized nonlinear least squares fit  
Model: response ~ d + a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 20.15388

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
-3.0959747	0.2528777	0.7215863	0.4626971	-13.7837611
b.funcgr	b.grass	b.leg	d.(Intercept)	d.funcgr
1.3098456	10.2926627	1.2790994	3.4745556	-0.2931023
d.grass	d.leg			
-0.8871969	-0.5031307			

Degrees of freedom: 82 total; 70 residual  
Residual standard error: 0.2048237

\$`Pathogen infection`\$E2  
Nonlinear regression model  
model: response ~ a + b \* exp(sowndiv)  
data: DF  
a b  
3.442e-01 -2.377e-27  
residual sum-of-squares: 5.343

Number of iterations to convergence: 4  
Achieved convergence tolerance: 7.217e-09

\$`Pathogen infection`\$E4  
Nonlinear regression model  
model: response ~ a + exp(sowndiv)  
data: DF  
a  
1  
residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0  
Achieved convergence tolerance: 6.17e-20

\$`Pathogen infection`\$E5  
Nonlinear regression model  
model: response ~ b \* exp(sowndiv)  
data: DF  
b  
6.374e-28  
residual sum-of-squares: 14.58

Number of iterations to convergence: 4

Achieved convergence tolerance: 1.328e-09

\$`Pathogen infection`\$E22

Generalized nonlinear least squares fit  
Model: response ~ a + b \* exp(sowndiv)  
Data: DF  
Log-likelihood: 10.27396

Coefficients:

a	b
2.659267e-01	-1.691235e-27

Variance function:

Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.05116319  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.3353335

\$`Pathogen infection`\$E31

Generalized nonlinear least squares fit  
Model: response ~ a + exp(c \* sowndiv)  
Data: DF  
Log-likelihood: 20.33815

Coefficients:

a	c
-0.739578883	-0.003686748

Variance function:

Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
-0.668375  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.5156326

\$`Pathogen infection`\$E32

Generalized nonlinear least squares fit  
Model: response ~ a + exp(c \* sowndiv)  
Data: DF  
Log-likelihood: 15.63486

Coefficients:

a	c
-0.671375834	-0.004962035

Variance function:

Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:

```
      expon
-0.05003396
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.3110812
```

```
$`Pathogen infection`$E41
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1784.916
```

Coefficients:

```
      a
-2.237326
```

```
Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
14.80928
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.1957100
```

```
$`Pathogen infection`$E42
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -801.5788
```

Coefficients:

```
      a
-2.887314
```

```
Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
1.014097
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.7090351
```

```
$`Pathogen infection`$E51
Generalized nonlinear least squares fit
  Model: response ~ b * exp(sowndiv)
  Data: DF
  Log-likelihood: -26.12111
```

Coefficients:

```
      b
6.373547e-28
```

Variance function:

Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
-0.5857162  
Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.7987482

\$`Pathogen infection`\$E52  
Generalized nonlinear least squares fit  
Model: response ~ b \* exp(sowndiv)  
Data: DF  
Log-likelihood: -23.22938

Coefficients:  
    b  
6.373546e-28

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.06014282  
Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.5416311

\$`Pathogen infection`\$E61  
Generalized nonlinear least squares fit  
Model: response ~ exp(c \* sowndiv)  
Data: DF  
Log-likelihood: 10.46526

Coefficients:  
    c  
-0.1926283

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
-0.5336081  
Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.473197

\$`Pathogen infection`\$E62  
Generalized nonlinear least squares fit  
Model: response ~ exp(c \* sowndiv)  
Data: DF  
Log-likelihood: -0.3309196

Coefficients:  
    c

-0.2976321

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.02824344

Degrees of freedom: 82 total; 81 residual

Residual standard error: 0.3115213

\$`Pathogen infection`\$Ea10

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF

Log-likelihood: -4912.516

Coefficients:

a.(Intercept)            a.leg

                  -2963126            911706

Degrees of freedom: 82 total; 80 residual

Residual standard error: 2.553606e+25

\$`Pathogen infection`\$Ea12

Generalized nonlinear least squares fit

Model: response ~ exp(c \* sowndiv)

Data: DF

Log-likelihood: 2.366908

Coefficients:

c.(Intercept)            c.leg

                  0.2235841            -0.4160421

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.2380066

\$`Pathogen infection`\$Ea911

Generalized nonlinear least squares fit

Model: response ~ a + exp(c \* sowndiv)

Data: DF

Log-likelihood: 37.10579

Coefficients:

a.(Intercept)            a.leg    c.(Intercept)            c.leg

                  0.7955720            -0.7161086            -0.4041537            0.1927873

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.7028233

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.4479634

\$`Pathogen infection`\$Ea921  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 31.59849

Coefficients:  
 a.(Intercept)            a.leg c.(Intercept)            c.leg  
           0.7504362        -0.6764945        -0.4530437        0.2154851

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           expon  
 -0.04860523  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2561513

\$`Pathogen infection`\$Ea1011  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -1772.911

Coefficients:  
 a.(Intercept)            a.leg  
           -1.3750303        -0.4927403

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           power  
 14.86538  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.1565160

\$`Pathogen infection`\$Ea1021  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -801.5766

Coefficients:  
 a.(Intercept)            a.leg  
           -3.00682052        0.06888411

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:



```

    expon
1.014091
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.7134715

```

```

$`Pathogen infection`$Ea121
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 17.24413

```

```

Coefficients:
c.(Intercept)      c.leg
  0.05738158      -0.21642256

```

```

Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
-0.4689588
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.3982487

```

```

$`Pathogen infection`$Ea1221
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 9.960481

```

```

Coefficients:
c.(Intercept)      c.leg
  0.2254390        -0.4046875

```

```

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
-0.02608192
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2714062

```

```

$`Pathogen infection`$Eb16
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

```

```

Coefficients:
a.(Intercept)      a.grass
 -3508713          1286426

```

```

Degrees of freedom: 82 total; 80 residual

```

Residual standard error: 2.553606e+25

\$`Pathogen infection`\$Eb18  
 Generalized nonlinear least squares fit  
 Model: response ~ exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: -8.31271

Coefficients:  
 c.(Intercept)           c.grass  
 -0.21886155    -0.07792917

Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.2711135

\$`Pathogen infection`\$Eb1511  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 30.92529

Coefficients:  
 a.(Intercept)           a.grass   c.(Intercept)           c.grass  
 -1.07592822    0.30407815    0.02790709    -0.03079686

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
       power  
 -0.7235179  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.4981026

\$`Pathogen infection`\$Eb1521  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 23.33727

Coefficients:  
 a.(Intercept)           a.grass   c.(Intercept)           c.grass  
 -0.98327578    0.25923446    0.02652600    -0.03032510

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
       expon  
 -0.05047716  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2878922

\$`Pathogen infection`\$Eb1611

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF

Log-likelihood: -1784.570

Coefficients:

a.(Intercept)           a.grass

-2.40045636       0.09321746

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

14.81090

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.1956272

\$`Pathogen infection`\$Eb1621

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF

Log-likelihood: -801.4177

Coefficients:

a.(Intercept)           a.grass

-3.9026850       0.5854318

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

1.014227

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.7112604

\$`Pathogen infection`\$Eb1811

Generalized nonlinear least squares fit

Model: response ~ exp(c \* sowndiv)

Data: DF

Log-likelihood: 10.46792

Coefficients:

c.(Intercept)           c.grass

-0.188712702   -0.002865015

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.533238

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.4758683

\$`Pathogen infection`\$Eb1821  
Generalized nonlinear least squares fit  
Model: response ~ exp(c \* sowndiv)  
Data: DF  
Log-likelihood: 0.004373489

Coefficients:  
c.(Intercept) c.grass  
-0.1874735 -0.0760091

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.02819225  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.3120460

\$`Pathogen infection`\$Ec22  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -4912.516

Coefficients:  
a.(Intercept) a.funcgr  
252096.0 -912137.6

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 2.553606e+25

\$`Pathogen infection`\$Ec24  
Generalized nonlinear least squares fit  
Model: response ~ exp(c \* sowndiv)  
Data: DF  
Log-likelihood: -4.515243

Coefficients:  
c.(Intercept) c.funcgr  
-0.52792613 0.08859517

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.2588444

\$`Pathogen infection`\$Ec2121  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(c \* sowndiv)  
Data: DF  
Log-likelihood: 25.88963

Coefficients:

a.(Intercept)	a.funcgr	c.(Intercept)	c.funcgr
-0.38673349	-0.08330820	-0.04683816	0.01074062

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.05052097

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.2791742

\$`Pathogen infection`\$Ec2211

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF

Log-likelihood: -1784.916

Coefficients:

a.(Intercept)	a.funcgr
2.410351	-4.647677

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

14.80928

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.1969297

\$`Pathogen infection`\$Ec2221

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF

Log-likelihood: -794.9174

Coefficients:

a.(Intercept)	a.funcgr
3.803231	-6.300221

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

1.021196

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.6188969

\$`Pathogen infection`\$Ec2411

Generalized nonlinear least squares fit

Model: response ~ exp(c \* sowndiv)

Data: DF

Log-likelihood: 12.01444

Coefficients:

c.(Intercept)	c.funcgr
-0.27574825	0.02990515

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power
-0.5101623

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.4512508

\$`Pathogen infection`\$Ec2421

Generalized nonlinear least squares fit

Model: response ~ exp(c \* sowndiv)

Data: DF

Log-likelihood: 3.569997

Coefficients:

c.(Intercept)	c.funcgr
-0.49172921	0.08228715

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon
-0.02744894

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.2968674

\$`Pathogen infection`\$Ed28

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF

Log-likelihood: -4912.516

Coefficients:

a.(Intercept)	a.funcgr	a.leg
872779.7	-990730.7	-307654.9

Degrees of freedom: 82 total; 79 residual

Residual standard error: 2.569717e+25

\$`Pathogen infection`\$Ed2811

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF

Log-likelihood: -1772.911

Coefficients:

a.(Intercept)	a.funcgr	a.leg
3.3958313	-4.7708616	-0.4927403

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 14.86538  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.1575035

\$`Pathogen infection`\$Ed2821  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -794.8008

Coefficients:	a.(Intercept)	a.funcgr	a.leg
	4.681659	-6.408737	-0.439901

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 1.021411  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.6207676

\$`Pathogen infection`\$Ed3021  
 Generalized nonlinear least squares fit  
 Model: response ~ exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 10.00241

Coefficients:	c.(Intercept)	c.funcgr	c.leg
	0.262913852	-0.007659155	-0.420433155

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.02606521  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.2729398

\$`Pathogen infection`\$Ee40  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF

Log-likelihood: -4912.516

Coefficients:

a.(Intercept)	a.funcgr	a.grass
-335850.5	-839615.5	296563.3

Degrees of freedom: 82 total; 79 residual

Residual standard error: 2.569717e+25

\$`Pathogen infection`\$Ee341

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF

Log-likelihood: -1784.570

Coefficients:

a.(Intercept)	a.funcgr	a.grass
2.22391583	-4.62437217	0.09321745

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

14.81090

Degrees of freedom: 82 total; 79 residual

Residual standard error: 0.1968614

\$`Pathogen infection`\$Ee342

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF

Log-likelihood: -794.9127

Coefficients:

a.(Intercept)	a.funcgr	a.grass
3.62722844	-6.27817043	0.08797433

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

1.021204

Degrees of freedom: 82 total; 79 residual

Residual standard error: 0.6227213

\$`Pathogen infection`\$Ef40

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF

Log-likelihood: -4912.516

Coefficients:



```

a.(Intercept)      a.grass      a.leg
      -5251826      1394676      1054750

```

```

Degrees of freedom: 82 total; 79 residual
Residual standard error: 2.569717e+25

```

```

$`Pathogen infection`$Ef3721
Generalized nonlinear least squares fit
  Model: response ~ a + b * exp(c * sowndiv)
  Data: DF
  Log-likelihood: -2734.132

```

```

Coefficients:
a.(Intercept)      a.grass      a.leg b.(Intercept)      b.grass
 1.5462587026 -0.0791169040 -0.5285599169 -0.0003920776 -0.0000232667
      b.leg c.(Intercept)      c.grass      c.leg
 0.0002201421  1.0000242034  1.0000015328  0.9999863539

```

```

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
  4.438892

```

```

Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.002182565

```

```

$`Pathogen infection`$Ef3921
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 31.63233

```

```

Coefficients:
a.(Intercept)      a.grass      a.leg c.(Intercept)      c.grass
 0.7542599397 -0.0096190568 -0.6707113944 -0.4413984107 -0.0004566373
      c.leg
 0.2097583393

```

```

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
  -0.04858349

```

```

Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2593443

```

```

$`Pathogen infection`$Ef4011
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1772.553

```

```
Coefficients:
a.(Intercept)      a.grass      a.leg
-1.18857840    -0.07990796    -0.51937627
```

```
Variance function:
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
  power
14.86705
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1564264
```

```
$`Pathogen infection`$Ef4021
Generalized nonlinear least squares fit
Model: response ~ a + exp(sowndiv)
Data: DF
Log-likelihood: -801.376
```

```
Coefficients:
a.(Intercept)      a.grass      a.leg
-4.6522264      0.6991411      0.3183637
```

```
Variance function:
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
  expon
1.014223
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.7154107
```

```
$`Pathogen infection`$Ef4211
Generalized nonlinear least squares fit
Model: response ~ exp(c * sowndiv)
Data: DF
Log-likelihood: 17.24931
```

```
Coefficients:
c.(Intercept)      c.grass      c.leg
0.061493432    -0.003270806    -0.215969163
```

```
Variance function:
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
  power
-0.4686998
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.400582
```

```
$`Pathogen infection`$Ef4221
Generalized nonlinear least squares fit
Model: response ~ exp(c * sowndiv)
```

Data: DF  
Log-likelihood: 10.07287

Coefficients:  
c.(Intercept)            c.grass            c.leg  
0.25230736    -0.02450144    -0.39705377

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
  expon  
-0.02604326  
Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.2726540

\$`Pathogen infection`\$Eg46  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -4912.516

Coefficients:  
a.(Intercept)            a.funcgr            a.grass            a.leg  
292092.6            -918391.6            183181.2            -199834.4

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 2.586137e+25

\$`Pathogen infection`\$Eg4611  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -1772.553

Coefficients:  
a.(Intercept)            a.funcgr            a.grass            a.leg  
3.60891924            -4.79749760            -0.07990798            -0.51937628

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
  power  
14.86705  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1574259

\$`Pathogen infection`\$Eg4621  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -794.7962

Coefficients:  
a.(Intercept)      a.funcgr      a.grass      a.leg  
4.94391878      -6.44147104      -0.09478368      -0.47627302

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
1.021419  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.6246552

\$`Pathogen infection`\$Pa2  
Nonlinear regression model  
model: response ~ a + b \* sowndiv  
data: DF  
a      b  
0.400395 -0.008086  
residual sum-of-squares: 4.753

Number of iterations to convergence: 1  
Achieved convergence tolerance: 1.597e-09

\$`Pathogen infection`\$Pa3  
Nonlinear regression model  
model: response ~ a + sowndiv^c  
data: DF  
a      c  
-0.4791 -0.1512  
residual sum-of-squares: 4.15

Number of iterations to convergence: 9  
Achieved convergence tolerance: 6.922e-07

\$`Pathogen infection`\$Pa4  
Nonlinear regression model  
model: response ~ b \* sowndiv^c  
data: DF  
b      c  
0.5268 -0.3581  
residual sum-of-squares: 4.221

Number of iterations to convergence: 9  
Achieved convergence tolerance: 8.406e-06

\$`Pathogen infection`\$Pa5  
Nonlinear regression model  
model: response ~ sowndiv^c  
data: DF  
c  
-0.7926  
residual sum-of-squares: 8.646

Number of iterations to convergence: 11  
 Achieved convergence tolerance: 1.359e-06

\$`Pathogen infection`\$Pb11  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 6.155177

Coefficients:  
                   a                  b                  c  
 17.389084042 -16.878929226 0.007091838

Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.228695

\$`Pathogen infection`\$Pb21  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 0.4103512

Coefficients:  
                   a                  b  
 0.400395226 -0.008086146

Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.2437538

\$`Pathogen infection`\$Pb31  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 5.973103

Coefficients:  
                   a                  c  
 -0.4791161 -0.1511808

Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.2277664

\$`Pathogen infection`\$Pb41  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 5.277567

Coefficients:  
                   b                  c  
 0.5268355 -0.3580622

Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.2297065

\$`Pathogen infection`\$Pb51  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv<sup>c</sup>  
 Data: DF  
 Log-likelihood: -24.11859

Coefficients:

<sup>c</sup>  
 -0.7925799

Degrees of freedom: 82 total; 81 residual  
 Residual standard error: 0.3267126

\$`Pathogen infection`\$Pc221  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 19.84966

Coefficients:

<sup>a</sup> <sup>b</sup>  
 0.252266257 -0.003136881

Variance function:

Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:

<sup>power</sup>  
 -0.6777543

Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.5259867

\$`Pathogen infection`\$Pc231  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 15.02697

Coefficients:

<sup>a</sup> <sup>b</sup>  
 0.318745681 -0.004120877

Variance function:

Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:

<sup>expon</sup>  
 -0.05025831

Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.3140001

\$`Pathogen infection`\$Pc321  
 Generalized nonlinear least squares fit

Model: response ~ a + sowndiv<sup>c</sup>  
 Data: DF  
 Log-likelihood: 32.80125

Coefficients:

a	c
-0.4941662	-0.1456434

Variance function:

Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:

power
-0.652355

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.4325173

\$`Pathogen infection`\$Pc331

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv<sup>c</sup>  
 Data: DF  
 Log-likelihood: 25.68335

Coefficients:

a	c
-0.4946555	-0.1390135

Variance function:

Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:

expon
-0.05008193

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.275317

\$`Pathogen infection`\$Pc421

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv<sup>c</sup>  
 Data: DF  
 Log-likelihood: 33.70441

Coefficients:

b	c
0.6557468	-0.5273297

Variance function:

Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:

power
-0.7281074

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.4786975

```
$`Pathogen infection`$Pc431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 24.56124
```

Coefficients:

```
      b      c
0.5687183 -0.4933223
```

Variance function:

```
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
  expon
-0.0508083
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2808564
```

```
$`Pathogen infection`$Pc521
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 26.03236
```

Coefficients:

```
      c
-0.685694
```

Variance function:

```
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
  power
-0.8465402
Degrees of freedom: 82 total; 81 residual
Residual standard error: 0.6228107
```

```
$`Pathogen infection`$Pc531
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: 1.50058
```

Coefficients:

```
      c
-0.6508648
```

Variance function:

```
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
  expon
```



-0.05733502  
 Degrees of freedom: 82 total; 81 residual  
 Residual standard error: 0.3910730

\$`Pathogen infection`\$Pd61  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 6.362197

Coefficients:  
 a.(Intercept)      a.funcgr    b.(Intercept)      b.funcgr    c.(Intercept)  
                   0.64277785    0.04052562    -0.13180153    -0.05181246    0.47003111  
                   c.funcgr  
                   -0.06680323

Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2325771

\$`Pathogen infection`\$Pd71  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 5.596674

Coefficients:  
 a.(Intercept)      a.funcgr    b.(Intercept)      b.funcgr  
                   0.580708967    -0.065761705    -0.037535882    0.008233629

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2317293

\$`Pathogen infection`\$Pd81  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 6.645464

Coefficients:  
 a.(Intercept)      a.funcgr    c.(Intercept)      c.funcgr  
                   -0.63376839    0.13208947    -0.01274415    -0.11602548

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2287843

\$`Pathogen infection`\$Pd91  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 6.652229

Coefficients:  
 b.(Intercept)      b.funcgr    c.(Intercept)      c.funcgr  
                   0.3038077      0.1925425    -0.1882545    -0.1428979

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.2287654

\$`Pathogen infection`\$Pd101  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv<sup>c</sup>  
Data: DF  
Log-likelihood: -23.76424

Coefficients:  
c.(Intercept)           c.funcgr  
-0.9801819           0.0774386

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.3273307

\$`Pathogen infection`\$Pe721  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 33.78239

Coefficients:  
a.(Intercept)           a.funcgr   b.(Intercept)           b.funcgr  
0.591491661   -0.088132108   -0.034202349   0.007851525

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
-0.7217787

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.4798059

\$`Pathogen infection`\$Pe731  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 25.64964

Coefficients:  
a.(Intercept)           a.funcgr   b.(Intercept)           b.funcgr  
0.597345064   -0.082917648   -0.035951344   0.008183271

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.05056455

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.2800972

```

$`Pathogen infection`$Pe821
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 35.41856

Coefficients:
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
-0.54256793      0.12916547   -0.08619778   -0.12242958

```

```

Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
-0.718809
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.468258

```

```

$`Pathogen infection`$Pe831
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 26.79289

Coefficients:
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
-0.64216670      0.15337936   -0.01394444   -0.13654842

```

```

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
-0.05034638
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2757023

```

```

$`Pathogen infection`$Pe921
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 34.78714

Coefficients:
b.(Intercept)      b.funcgr c.(Intercept)      c.funcgr
0.47926579      0.10651744   -0.45781397   -0.04303702

```

```

Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power

```

-0.7111895  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.4665699

\$`Pathogen infection`\$Pe931  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 26.50037

Coefficients:  
 b.(Intercept)      b.funcgr    c.(Intercept)      c.funcgr  
                   0.38463530    0.13011088    -0.34486447    -0.06839052

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
                   expon

-0.05030885  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2765984

\$`Pathogen infection`\$Pe1021  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: 27.52781

Coefficients:  
 c.(Intercept)      c.funcgr  
                   -0.80367373    0.03760853

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
                   power

-0.8715216  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.6386162

\$`Pathogen infection`\$Pe1031  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: 2.939418

Coefficients:  
 c.(Intercept)      c.funcgr  
                   -0.91068411    0.06736651

Variance function:  
 Structure: Exponential of variance covariate

Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.05736787  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.386774

\$`Pathogen infection`\$Pf121  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 4.472134

Coefficients:  
 a.(Intercept)          a.grass b.(Intercept)          b.grass  
 0.15180571          0.18472544          0.01484520          -0.02055777

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2349291

\$`Pathogen infection`\$Pf131  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 6.267973

Coefficients:  
 a.(Intercept)          a.grass c.(Intercept)          c.grass  
 -0.558976228          0.045968384          -0.133341616          -0.004543258

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2298400

\$`Pathogen infection`\$Pf141  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 5.673176

Coefficients:  
 b.(Intercept)          b.grass c.(Intercept)          c.grass  
 0.46823359          0.03248395          -0.43786763          0.06766446

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2315132

\$`Pathogen infection`\$Pf151  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -24.11854

Coefficients:  
 c.(Intercept)          c.grass

-0.795653224 0.002169931

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.328748

\$`Pathogen infection`\$Pg171  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 3.781036

Coefficients:  
a.(Intercept) a.leg b.(Intercept) b.leg  
0.520987791 -0.062058141 0.002374644 -0.010972918

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.2369174

\$`Pathogen infection`\$Pg181  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 15.18665

Coefficients:  
a.(Intercept) a.leg c.(Intercept) c.leg  
0.2342888 -0.4135707 -0.6574593 0.2755329

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.2061531

\$`Pathogen infection`\$Pg191  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 14.89550

Coefficients:  
b.(Intercept) b.leg c.(Intercept) c.leg  
1.2751201 -0.4349334 -0.8062905 0.2530300

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.2068863

\$`Pathogen infection`\$Pg201  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -22.79454

Coefficients:  
c.(Intercept) c.leg  
-0.2942345 -0.3697108

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.3234826

\$`Pathogen infection`\$Ph221  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 13.25366

Coefficients:

a.(Intercept)	a.funcgr	a.leg	b.(Intercept)	b.funcgr
1.21395171	-0.14488472	-0.31644469	-0.08012208	0.01358211
	b.leg			
	0.02118918			

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.2138297

\$`Pathogen infection`\$Ph231  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 15.30070

Coefficients:

a.(Intercept)	a.funcgr	a.leg	c.(Intercept)	c.funcgr
0.215325995	0.002685901	-0.405829998	-0.577760481	-0.015821105
	c.leg			
	0.248547542			

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.2085577

\$`Pathogen infection`\$Ph241  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 16.30459

Coefficients:

b.(Intercept)	b.funcgr	b.leg	c.(Intercept)	c.funcgr
1.0770606	0.1327776	-0.4110494	-0.3526272	-0.1526833
	c.leg			
	0.1170629			

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.20602

\$`Pathogen infection`\$Ph251  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -22.74608





Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -23.64254

Coefficients:  
 c.(Intercept)      c.funcgr      c.grass  
   -1.2267265      0.1061809      0.1261345

Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.3289073

\$`Pathogen infection`\$Pj321  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 7.22208

Coefficients:  
 a.(Intercept)      a.grass      a.leg    b.(Intercept)      b.grass  
   0.345746486      0.162805803    -0.095474300    0.018086212    -0.020452025  
                   b.leg  
   -0.004610679

Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.230151

\$`Pathogen infection`\$Pj331  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 15.62466

Coefficients:  
 a.(Intercept)      a.grass      a.leg    c.(Intercept)      c.grass  
   0.41366306      -0.07830015    -0.44085594    -0.85201888    0.07244390  
                   c.leg  
   0.31778889

Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2077354

\$`Pathogen infection`\$Pj341  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 15.80527

Coefficients:  
 b.(Intercept)      b.grass      b.leg    c.(Intercept)      c.grass  
   1.5484336      -0.1248992    -0.4715035    -1.0605645    0.1480564  
                   c.leg  
   0.2629894

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.2072783

\$`Pathogen infection`\$Pj351  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -22.79102

Coefficients:  
c.(Intercept)           c.grass           c.leg  
-0.27050929    -0.01666012    -0.36984159

Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.3255095

\$`Pathogen infection`\$Pk371  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 14.05393

Coefficients:  
a.(Intercept)           a.funcgr           a.grass           a.leg b.(Intercept)  
1.566257199   -0.188929890   -0.114559777   -0.378075810   -0.101988825  
b.funcgr           b.grass           b.leg  
0.016310012    0.007284333    0.024860662

Degrees of freedom: 82 total; 74 residual  
Residual standard error: 0.2145954

\$`Pathogen infection`\$Pk381  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 16.00184

Coefficients:  
a.(Intercept)           a.funcgr           a.grass           a.leg c.(Intercept)  
0.545966595   -0.041897838   -0.114185682   -0.455705651   -0.739975860  
c.funcgr           c.grass           c.leg  
0.007694655    0.063767101    0.265957784

Degrees of freedom: 82 total; 74 residual  
Residual standard error: 0.2095578

\$`Pathogen infection`\$Pk391  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 16.81188

Coefficients:  
b.(Intercept)           b.funcgr           b.grass           b.leg c.(Intercept)  
1.27131908    0.10651982    -0.06995057    -0.43632790    -0.09012089

c.funcgr	c.grass	c.leg
-0.18101740	-0.06498643	0.04010283

Degrees of freedom: 82 total; 74 residual  
Residual standard error: 0.2074978

\$`Pathogen infection`\$Pk401  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -22.60385

Coefficients:

c.(Intercept)	c.funcgr	c.grass	c.leg
0.4455496	-0.1075155	-0.1704884	-0.5495846

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.3268426

\$`Pathogen infection`\$Pm1221  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 30.72892

Coefficients:

a.(Intercept)	a.grass	b.(Intercept)	b.grass
-0.05470556	0.27850068	0.01922535	-0.02179708

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
-0.7264104  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.5014456

\$`Pathogen infection`\$Pm1231  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 23.10365

Coefficients:

a.(Intercept)	a.grass	b.(Intercept)	b.grass
0.02235393	0.24732462	0.01893354	-0.02222426

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.05054528

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.2888824

\$`Pathogen infection`\$Pm1321  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 34.36998

Coefficients:  
a.(Intercept)            a.grass c.(Intercept)            c.grass  
-0.7443924824    0.1816348284    0.0009382821    -0.1143512467

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
-0.7035424  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.4636558

\$`Pathogen infection`\$Pm1331  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 26.19698

Coefficients:  
a.(Intercept)            a.grass c.(Intercept)            c.grass  
-0.63145194        0.09005373        -0.06625075        -0.05310468

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.05029657  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.2775944

\$`Pathogen infection`\$Pm1421  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 33.97974

Coefficients:  
b.(Intercept)            b.grass c.(Intercept)            c.grass  
0.648218293        -0.003367885        -0.576349547        0.046013278

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv

Parameter estimates:  
 power  
 -0.7195395  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.4770639

\$`Pathogen infection`\$Pm1431  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 25.26296

Coefficients:  
 b.(Intercept)            b.grass   c.(Intercept)            c.grass  
           0.56285166    -0.00599163    -0.60279791            0.11015190

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.05054672  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2813781

\$`Pathogen infection`\$Pm1521  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: 26.07841

Coefficients:  
 c.(Intercept)            c.grass  
           -0.66399455    -0.01765004

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.8499086  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.6294793

\$`Pathogen infection`\$Pm1531  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: 1.864626

Coefficients:  
 c.(Intercept)            c.grass  
           -0.5491821    -0.0980320

## Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.05741988

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.392052

\$`Pathogen infection`\$Pn1721

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv

Data: DF

Log-likelihood: 24.87227

## Coefficients:

a.(Intercept)            a.leg b.(Intercept)            b.leg

0.200617953    0.075031609    0.008294706    -0.011774644

## Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.6829825

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.5049429

\$`Pathogen infection`\$Pn1731

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv

Data: DF

Log-likelihood: 18.97063

## Coefficients:

a.(Intercept)            a.leg b.(Intercept)            b.leg

0.31356687    0.03641362    0.00859263    -0.01322794

## Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.04991894

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.3021867

\$`Pathogen infection`\$Pn1821

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv^c

Data: DF

Log-likelihood: 40.70109

## Coefficients:

a.(Intercept)	a.leg	c.(Intercept)	c.leg
0.5369887	-0.5404474	-1.1358277	0.4933570

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.70344

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.4291394

\$`Pathogen infection`\$Pn1831

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv^c

Data: DF

Log-likelihood: 32.52407

Coefficients:

a.(Intercept)	a.leg	c.(Intercept)	c.leg
0.1581660	-0.3712603	-0.4958903	0.1874014

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.04781907

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.2515725

\$`Pathogen infection`\$Pn1921

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv^c

Data: DF

Log-likelihood: 40.36177

Coefficients:

b.(Intercept)	b.leg	c.(Intercept)	c.leg
1.3755319	-0.4478205	-0.7724605	0.1494138

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.6996985

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.428532

\$`Pathogen infection`\$Pn1931

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv^c

Data: DF

Log-likelihood: 33.54727

Coefficients:

b.(Intercept)	b.leg	c.(Intercept)	c.leg
1.3237939	-0.4535601	-0.8355527	0.2319202

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.04852583

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.249965

\$`Pathogen infection`\$Pn2021

Generalized nonlinear least squares fit

Model: response ~ sowndiv^c

Data: DF

Log-likelihood: 30.35833

Coefficients:

c.(Intercept)	c.leg
-0.4760070	-0.1749738

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.872265

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.6176294

\$`Pathogen infection`\$Pn2031

Generalized nonlinear least squares fit

Model: response ~ sowndiv^c

Data: DF

Log-likelihood: 3.932815

Coefficients:

c.(Intercept)	c.leg
-0.3498407	-0.2919234

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.05713115

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.3813409

\$`Pathogen infection`\$Pp2221



Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv

Data: DF

Log-likelihood: 40.56058

Coefficients:

a.(Intercept)	a.funcgr	a.leg	b.(Intercept)	b.funcgr
1.16383517	-0.15972421	-0.28629123	-0.06942929	0.01224794
	b.leg			
	0.01764681			

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.7243738

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.4492416

\$`Pathogen infection`\$Pp2231

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv

Data: DF

Log-likelihood: 32.30315

Coefficients:

a.(Intercept)	a.funcgr	a.leg	b.(Intercept)	b.funcgr
1.21196911	-0.15928435	-0.30749313	-0.07519254	0.01309549
	b.leg			
	0.01956398			

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.04891789

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.2579709

\$`Pathogen infection`\$Pp2321

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv^c

Data: DF

Log-likelihood: 40.74666

Coefficients:

a.(Intercept)	a.funcgr	a.leg	c.(Intercept)	c.funcgr
0.585725478	-0.005558248	-0.561473704	-1.187933317	0.001736407
	c.leg			
	0.518784488			

Variance function:

Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.7051416  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.4356068

\$`Pathogen infection`\$Pp2331  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 33.67642

Coefficients:

a.(Intercept)	a.funcgr	a.leg	c.(Intercept)	c.funcgr
0.26877151	0.03795901	-0.44707876	-0.76119675	-0.03739801
	c.leg			
	0.34432540			

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.04842482  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.252615

\$`Pathogen infection`\$Pp2421  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 41.32051

Coefficients:

b.(Intercept)	b.funcgr	b.leg	c.(Intercept)	c.funcgr
1.18765444	0.03751063	-0.38199167	-0.47885211	-0.05681594
	c.leg			
	0.04867709			

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.6745853  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.4133846

\$`Pathogen infection`\$Pp2431  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF

Log-likelihood: 34.30758

Coefficients:

b.(Intercept)	b.funcgr	b.leg	c.(Intercept)	c.funcgr
1.16393456	0.04260682	-0.39874233	-0.50456970	-0.05722525
	c.leg			
	0.10445539			

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.04812667

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.2500372

\$`Pathogen infection`\$Pp2521

Generalized nonlinear least squares fit

Model: response ~ sowndiv^c

Data: DF

Log-likelihood: 30.49712

Coefficients:

c.(Intercept)	c.funcgr	c.leg
-0.39432817	-0.01486023	-0.20392405

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.8675753

Degrees of freedom: 82 total; 79 residual

Residual standard error: 0.6161702

\$`Pathogen infection`\$Pp2531

Generalized nonlinear least squares fit

Model: response ~ sowndiv^c

Data: DF

Log-likelihood: 3.933912

Coefficients:

c.(Intercept)	c.funcgr	c.leg
-0.332818339	-0.002669313	-0.298454797

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.05712641

Degrees of freedom: 82 total; 79 residual

Residual standard error: 0.3837261

```
$`Pathogen infection`$Pq2721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 35.04252
```

```
Coefficients:
a.(Intercept)      a.funcgr      a.grass b.(Intercept)      b.funcgr
  0.326832204  -0.055235717   0.132509077  -0.016585617   0.005661481
      b.grass
 -0.008845867
```

```
Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
      power
 -0.7327585
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.4865318
```

```
$`Pathogen infection`$Pq2731
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 26.27065
```

```
Coefficients:
a.(Intercept)      a.funcgr      a.grass b.(Intercept)      b.funcgr
  0.399638947  -0.058154417   0.098906818  -0.022833494   0.006552094
      b.grass
 -0.006597396
```

```
Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
      expon
 -0.05047323
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2813972
```

```
$`Pathogen infection`$Pq2821
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 36.32609
```

```
Coefficients:
a.(Intercept)      a.funcgr      a.grass c.(Intercept)      c.funcgr
 -0.43180274   0.11824861  -0.05721805  -0.24830740  -0.10987822
      c.grass
  0.08840723
```

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.7255503  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.473877

\$`Pathogen infection`\$Pq2831  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 27.26533

Coefficients:

a.(Intercept)	a.funcgr	a.grass	c.(Intercept)	c.funcgr
-0.71477256	0.16356831	0.03472733	-0.03337152	-0.13698572
	c.grass			
	0.01418161			

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.05018408  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2773151

\$`Pathogen infection`\$Pq2921  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 35.86733

Coefficients:

b.(Intercept)	b.funcgr	b.grass	c.(Intercept)	c.funcgr
0.01988272	0.16978224	0.21844623	-0.27004661	-0.07210098
	c.grass			
	-0.07763660			

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.7160409  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.4698553

\$`Pathogen infection`\$Pq2931  
 Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 27.13800

Coefficients:

b.(Intercept)	b.funcgr	b.grass	c.(Intercept)	c.funcgr
0.14942529	0.15949966	0.11626134	-0.29051521	-0.07687286
	c.grass			
	-0.02033653			

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.05016477  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2777

\$`Pathogen infection`\$Pq3021  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: 27.83864

Coefficients:

c.(Intercept)	c.funcgr	c.grass
-0.91075435	0.05012470	0.05598724

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.8698623  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.6386388

\$`Pathogen infection`\$Pq3031  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: 3.039909

Coefficients:

c.(Intercept)	c.funcgr	c.grass
-1.06680637	0.08651391	0.07939970

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.05733312

Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.3886216

\$`Pathogen infection`\$Pr3221  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 33.90717

Coefficients:  
a.(Intercept)            a.grass            a.leg b.(Intercept)            b.grass  
0.005943660    0.251988098    -0.003016704    0.022109167    -0.020285560  
                  b.leg  
-0.004901915

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
-0.73504  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.4949887

\$`Pathogen infection`\$Pr3231  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 25.26129

Coefficients:  
a.(Intercept)            a.grass            a.leg b.(Intercept)            b.grass  
0.132661671    0.220561411    -0.035468580    0.022185991    -0.020880026  
                  b.leg  
-0.005397104

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.04999286  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.2837099

\$`Pathogen infection`\$Pr3321  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 40.94132

Coefficients:  
a.(Intercept)            a.grass            a.leg c.(Intercept)            c.grass  
0.53508004    -0.03420016    -0.51387104    -1.09222031    0.03070465

c.leg  
0.44980572

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
-0.6998773  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.4311908

\$`Pathogen infection`\$Pr3331  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 34.18246

Coefficients:

a.(Intercept)	a.grass	a.leg	c.(Intercept)	c.grass
0.55171887	-0.09450098	-0.49298051	-1.00335738	0.07473468
	c.leg			
	0.38415896			

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.0483615  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.2509244

\$`Pathogen infection`\$Pr3421  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 40.72115

Coefficients:

b.(Intercept)	b.grass	b.leg	c.(Intercept)	c.grass
1.52253176	-0.09664305	-0.44735268	-0.85865553	0.07285594
	c.leg			
	0.13685559			

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
-0.6824517  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.4213088



\$`Pathogen infection`\$Pr3431  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 34.28993

Coefficients:

b.(Intercept)	b.grass	b.leg	c.(Intercept)	c.grass
1.51875259	-0.11150486	-0.46170712	-0.91856767	0.09387145
	c.leg			
	0.19608061			

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.0481987  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2502457

\$`Pathogen infection`\$Pr3521  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: 30.37014

Coefficients:

c.(Intercept)	c.grass	c.leg
-0.46729575	-0.00809387	-0.17412478

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.8734558  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.6225362

\$`Pathogen infection`\$Pr3531  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: 3.963421

Coefficients:

c.(Intercept)	c.grass	c.leg
-0.32953259	-0.02866563	-0.28276448

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:

```

    expon
-0.05714741
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.3836572

```

```

$`Pathogen infection`$Ps3721
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 40.94776

```

```

Coefficients:
a.(Intercept)      a.funcgr      a.grass      a.leg b.(Intercept)
 1.368405236 -0.185235982 -0.064442841 -0.323974657 -0.078223373
      b.funcgr      b.grass      b.leg
 0.013356484  0.002846580  0.019153217

```

```

Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
-0.7212753
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.4510478

```

```

$`Pathogen infection`$Ps3731
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 32.93724

```

```

Coefficients:
a.(Intercept)      a.funcgr      a.grass      a.leg b.(Intercept)
 1.53499500 -0.19960288 -0.10413913 -0.36487010 -0.09254169
      b.funcgr      b.grass      b.leg
 0.01526722  0.00571484  0.02250734

```

```

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
-0.04872914
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.2589999

```

```

$`Pathogen infection`$Ps3821
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 41.67135

```

```

Coefficients:

```

a.(Intercept)	a.funcgr	a.grass	a.leg	c.(Intercept)
0.90955164	-0.04578968	-0.09438064	-0.62776474	-1.41806644
c.funcgr	c.grass	c.leg		
0.02860772	0.06524672	0.56852317		

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.7138855  
 Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.4422071

\$`Pathogen infection`\$Ps3831  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 34.28005

Coefficients:				
a.(Intercept)	a.funcgr	a.grass	a.leg	c.(Intercept)
0.5659448474	-0.0001477096	-0.1039111648	-0.4921089754	-0.9276336453
c.funcgr	c.grass	c.leg		
-0.0144836619	0.0667682806	0.3623464274		

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.04829322  
 Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.2538414

\$`Pathogen infection`\$Ps3921  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 41.76924

Coefficients:				
b.(Intercept)	b.funcgr	b.grass	b.leg	c.(Intercept)
1.25223567	0.03031320	-0.02607755	-0.38810759	-0.24231910
c.funcgr	c.grass	c.leg		
-0.08572935	-0.06258484	-0.01128599		

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.6743579  
 Degrees of freedom: 82 total; 74 residual

Residual standard error: 0.4165067

\$`Pathogen infection`\$Ps3931  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 34.76142

Coefficients:

b.(Intercept)	b.funcgr	b.grass	b.leg	c.(Intercept)
1.38510116	0.01422292	-0.07927894	-0.42890830	-0.35397278
	c.funcgr	c.grass	c.leg	
	-0.07429969	-0.03085131	0.05353984	

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.0480017  
Degrees of freedom: 82 total; 74 residual  
Residual standard error: 0.2517247

\$`Pathogen infection`\$Ps4021  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: 30.96249

Coefficients:

c.(Intercept)	c.funcgr	c.grass	c.leg
-0.10508617	-0.05065033	-0.08249203	-0.26801339

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
-0.869056  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.617955

\$`Pathogen infection`\$Ps4031  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: 4.084734

Coefficients:

c.(Intercept)	c.funcgr	c.grass	c.leg
0.07405364	-0.05287018	-0.11761492	-0.38705343

Variance function:  
Structure: Exponential of variance covariate

```

Formula: ~sowndiv
Parameter estimates:
  expon
-0.0571068
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.3854035

```

```

$`Pathogen infection`$AS1
Nonlinear regression model
  model: response ~ SSasymp(sowndiv, Asym, R0, lrc)
  data: DF
      Asym      R0      lrc
0.06345  0.54735 -2.14483
residual sum-of-squares: 4.06

```

```

Number of iterations to convergence: 3
Achieved convergence tolerance: 3.048e-06

```

```

$Invasion
$Invasion$L0

```

```

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
    data = DF)

```

```

Coefficients:
  (Intercept)      blockB2      blockB3      blockB4
sowndiv
  0.307063      -0.010065      0.020042      0.067829      -
0.044326
  funcgr      grass      leg  sowndiv:funcgr
sowndiv:grass
 -0.039788      -0.053540      0.087993      0.008202      -
0.002328
  sowndiv:leg  funcgr:grass  funcgr:leg  grass:leg
  0.012370      0.067425      -0.089575      -0.029469

```

```

$Invasion$L2

```

```

Call:
lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

```

```

Coefficients:
(Intercept)  sowndiv  funcgr  leg
  0.310237  -0.002566  -0.040160  -0.064401

```

```

$Invasion$M1
Nonlinear regression model
  model: response ~ a * sowndiv/(b + sowndiv)
  data: DF
      a      b

```

```
0.06933 -0.69849
residual sum-of-squares: 2.098
```

```
Number of iterations to convergence: 14
Achieved convergence tolerance: 2.804e-06
```

```
$Invasion$M1a
Nonlinear regression model
  model: response ~ SSmicmen(sowndiv, Vm, k)
  data: DF
      Vm      k
0.06933 -0.69849
residual sum-of-squares: 2.098
```

```
Number of iterations to convergence: 6
Achieved convergence tolerance: 3.848e-06
```

```
$Invasion$M2
Nonlinear regression model
  model: response ~ d + a * sowndiv/(b + sowndiv)
  data: DF
      a      b      d
-0.4052 1.8313 0.3768
residual sum-of-squares: 1.914
```

```
Number of iterations to convergence: 11
Achieved convergence tolerance: 9.98e-06
```

```
$Invasion$E2
Nonlinear regression model
  model: response ~ a + b * exp(sowndiv)
  data: DF
      a      b
1.127e-01 -9.306e-28
residual sum-of-squares: 2.400
```

```
Number of iterations to convergence: 4
Achieved convergence tolerance: 4.839e-08
```

```
$Invasion$E4
Nonlinear regression model
  model: response ~ a + exp(sowndiv)
  data: DF
a
1
residual sum-of-squares: 5.217e+52
```

```
Number of iterations to convergence: 0
Achieved convergence tolerance: 5.804e-20
```

```
$Invasion$E5
Nonlinear regression model
  model: response ~ b * exp(sowndiv)
  data: DF
```

```
      b
5.613e-29
residual sum-of-squares: 3.365
```

```
Number of iterations to convergence: 4
Achieved convergence tolerance: 9.231e-09
```

```
$Invasion$Pa2
Nonlinear regression model
  model: response ~ a + b * sowndiv
  data: DF
      a      b
0.139360 -0.003725
residual sum-of-squares: 2.260
```

```
Number of iterations to convergence: 1
Achieved convergence tolerance: 1.968e-09
```

```
$Invasion$Pa3
Nonlinear regression model
  model: response ~ a + sowndiv^c
  data: DF
      a      c
-0.78071 -0.08258
residual sum-of-squares: 1.951
```

```
Number of iterations to convergence: 9
Achieved convergence tolerance: 1.029e-06
```

```
$Invasion$Pa4
Nonlinear regression model
  model: response ~ b * sowndiv^c
  data: DF
      b      c
0.2413 -0.7030
residual sum-of-squares: 1.942
```

```
Number of iterations to convergence: 11
Achieved convergence tolerance: 2.792e-06
```

```
$Invasion$Pa5
Nonlinear regression model
  model: response ~ sowndiv^c
  data: DF
      c
-2.211
residual sum-of-squares: 11.03
```

```
Number of iterations to convergence: 12
Achieved convergence tolerance: 1.480e-06
```

```
$Invasion$AS1
Nonlinear regression model
  model: response ~ SSasymp(sowndiv, Asym, R0, lrc)
```

```

data: DF
  Asym      R0      lrc
0.01214  0.31703 -1.13375
residual sum-of-squares: 1.904

```

```

Number of iterations to convergence: 3
Achieved convergence tolerance: 3.384e-06

```

```

$Invasion$BIEXP
Nonlinear regression model
model: response ~ SSbiexp(sowndiv, A1, lrc1, A2, lrc2)
data: DF
  A1      lrc1      A2      lrc2
0.30291 -1.11141  0.01553 -4.54329
residual sum-of-squares: 1.904

```

```

Number of iterations to convergence: 6
Achieved convergence tolerance: 3.934e-06

```

```

$Bioturbation
$Bioturbation$L0

```

```

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
data = DF)

```

```

Coefficients:
  (Intercept)      blockB2      blockB3      blockB4
sowndiv
  0.939685      -0.122863      -0.173566      -0.133465
0.014722
  funcgr      grass      leg  sowndiv:funcgr
sowndiv:grass
 -0.025605      -0.225735      -0.356849      -0.002209
0.004379
  sowndiv:leg  funcgr:grass  funcgr:leg  grass:leg
 -0.009272      -0.015221      0.018932      0.094472

```

```

$Bioturbation$L011
Generalized least squares fit by maximum likelihood
Model: response ~ block + (sowndiv + funcgr + grass + leg)^2
Data: DF
Log-likelihood: 43.91721

```

```

Coefficients:
  (Intercept)      blockB2      blockB3      blockB4
sowndiv
  0.742155563  -0.134158757  -0.172586132  -0.129674857
0.010753177
  funcgr      grass      leg  sowndiv:funcgr
sowndiv:grass

```



0.030415536	-0.090909158	-0.287848871	-0.001553369
0.004761870			
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg
-0.007974406	-0.054381154	0.010477109	0.053746029

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

0.1361320

Degrees of freedom: 82 total; 68 residual

Residual standard error: 0.1157163

\$Bioturbation\$L021

Generalized least squares fit by maximum likelihood

Model: response ~ block + (sowndiv + funcgr + grass + leg)^2

Data: DF

Log-likelihood: 43.03142

Coefficients:

(Intercept)	blockB2	blockB3	blockB4
sowndiv			
1.069665907	-0.104227676	-0.170014302	-0.130936916
0.015708100			
funcgr	grass	leg	sowndiv:funcgr
sowndiv:grass			
-0.058696115	-0.299784756	-0.414645863	-0.002523603
0.004693034			
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg
-0.009789191	0.000832551	0.030207881	0.119718590

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.009508292

Degrees of freedom: 82 total; 68 residual

Residual standard error: 0.1553492

\$Bioturbation\$L2

Call:

lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:

(Intercept)	sowndiv	funcgr	leg
0.348149	0.001355	0.014130	-0.162175

\$Bioturbation\$L21

Generalized least squares fit by maximum likelihood

Model: response ~ sowndiv + funcgr + leg

Data: DF  
Log-likelihood: 51.24852

Coefficients:  
(Intercept)            sowndiv            funcgr            leg  
0.3453936054   0.0004288869   0.0188291929   -0.1617153986

Variance function:  
Structure: Power of variance covariate  
Formula: ~fitted(.)  
Parameter estimates:  
  power  
0.6301896  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.5123178

\$Bioturbation\$L22  
Generalized least squares fit by maximum likelihood  
Model: response ~ sowndiv + funcgr + leg  
Data: DF  
Log-likelihood: 51.39079

Coefficients:  
(Intercept)            sowndiv            funcgr            leg  
0.3547843965   0.0004500239   0.0158132682   -0.1644044363

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~fitted(.)  
Parameter estimates:  
  expon  
5.367966  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.05791745

\$Bioturbation\$L211  
Generalized least squares fit by maximum likelihood  
Model: response ~ sowndiv + funcgr + leg  
Data: DF  
Log-likelihood: 33.49418

Coefficients:  
(Intercept)            sowndiv            funcgr            leg  
0.34899051   0.00157920   0.01169825   -0.16065109

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
  power  
0.06728227  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1455421

\$Bioturbation\$L222

Generalized least squares fit by maximum likelihood

Model: response ~ sowndiv + funcgr + leg

Data: DF

Log-likelihood: 33.55628

Coefficients:

(Intercept)	sowndiv	funcgr	leg
0.3544782684	0.0007802275	0.0165363208	-0.1661246254

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon
-0.008501686

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1728776

\$Bioturbation\$M1

Nonlinear regression model

model: response ~ a \* sowndiv/(b + sowndiv)

data: DF

a	b
0.2871	4.1803

residual sum-of-squares: 2.71

Number of iterations to convergence: 13

Achieved convergence tolerance: 5.113e-06

\$Bioturbation\$M1a

Nonlinear regression model

model: response ~ SSmicmen(sowndiv, Vm, k)

data: DF

Vm	k
0.2871	4.1808

residual sum-of-squares: 2.71

Number of iterations to convergence: 8

Achieved convergence tolerance: 4.668e-06

\$Bioturbation\$M2

Nonlinear regression model

model: response ~ d + a \* sowndiv/(b + sowndiv)

data: DF

a	b	d
0.31275	17.74720	0.07374

residual sum-of-squares: 2.656

Number of iterations to convergence: 17

Achieved convergence tolerance: 7.513e-06

\$Bioturbation\$M211

Generalized nonlinear least squares fit

Model: response ~ d + a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 24.64247

Coefficients:

	a	b	d
	0.32431482	20.03155883	0.07691525

Variance function:

Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:

power  
 0.0671265

Degrees of freedom: 82 total; 79 residual

Residual standard error: 0.1652203

\$Bioturbation\$M222

Generalized nonlinear least squares fit

Model: response ~ d + a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 24.49748

Coefficients:

	a	b	d
	0.28653389	14.47177598	0.07072373

Variance function:

Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:

expon  
 -0.006697846

Degrees of freedom: 82 total; 79 residual

Residual standard error: 0.1936798

\$Bioturbation\$M311

Generalized nonlinear least squares fit

Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 32.90006

Coefficients:

a.(Intercept)	a.leg	b.(Intercept)	b.leg
0.5541098	-0.2505078	2.5021192	-1.1931605

Variance function:

Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:

power  
 0.01571449

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1622717

\$Bioturbation\$M4

Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 23.64752

Coefficients:

a.(Intercept)	a.grass	b.(Intercept)	b.grass
0.4289151	-0.1264902	8.7289961	-3.9222587

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1859425

\$Bioturbation\$M422

Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 23.87064

Coefficients:

a.(Intercept)	a.grass	b.(Intercept)	b.grass
0.40143641	-0.09754347	8.15533856	-3.28576836

Variance function:

Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:

expon  
 -0.00708299

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1970636

\$Bioturbation\$M5

Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 27.55336

Coefficients:

a.(Intercept)	a.funcgr	b.(Intercept)	b.funcgr
-0.02603163	0.09617381	-1.53596020	1.23768316

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1772933

\$Bioturbation\$M511

Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 27.66535

Coefficients:

a.(Intercept)	a.funcgr	b.(Intercept)	b.funcgr
---------------	----------	---------------	----------

-0.02671433    0.09678689    -1.56736239    1.26587898

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

0.03694585

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1676017

\$Bioturbation\$M522

Generalized nonlinear least squares fit

Model: response ~ a \* sowndiv/(b + sowndiv)

Data: DF

Log-likelihood: 27.88576

Coefficients:

a.(Intercept)	a.funcgr	b.(Intercept)	b.funcgr
-0.01518126	0.08702784	-1.21398056	0.94363987

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.007720393

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1886765

\$Bioturbation\$M6

Generalized nonlinear least squares fit

Model: response ~ a \* sowndiv/(b + sowndiv)

Data: DF

Log-likelihood: 35.50639

Coefficients:

a.(Intercept)	a.funcgr	a.leg	b.(Intercept)	b.funcgr
0.31027217	0.06294473	-0.17187777	-2.17669471	1.77695252
	b.leg			
	0.07244900			

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.1630089

\$Bioturbation\$M611

Generalized nonlinear least squares fit

Model: response ~ a \* sowndiv/(b + sowndiv)

Data: DF

Log-likelihood: 36.17238

Coefficients:

a.(Intercept)	a.funcgr	a.leg	b.(Intercept)	b.funcgr
0.26527518	0.07358406	-0.15378081	-2.57961594	1.98117606

b.leg  
0.20326822

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
0.1015376  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1390651

\$Bioturbation\$M622  
Generalized nonlinear least squares fit  
Model: response ~ a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 35.59414

Coefficients:

a.(Intercept)	a.funcgr	a.leg	b.(Intercept)	b.funcgr
0.31944992	0.05565844	-0.17251619	-1.93111160	1.54661207
	b.leg			
	0.06606451			

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.00409521  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1686615

\$Bioturbation\$M7  
Generalized nonlinear least squares fit  
Model: response ~ a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 28.97385

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
-0.2151597	0.1187088	0.0965719	-5.5950727	1.8310602
	b.grass			
	1.7680605			

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1765263

\$Bioturbation\$M711  
Generalized nonlinear least squares fit  
Model: response ~ a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 29.10370

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
-0.2140510	0.1195090	0.0943110	-5.6241783	1.8639799
	b.grass			
	1.7524778			

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 0.04073174  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1659053

\$Bioturbation\$M722  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 29.35075

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
-0.2101225	0.1099884	0.1015824	-5.2978240	1.5558792
	b.grass			
	1.7920335			

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.008194379  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1885240

\$Bioturbation\$M81  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 33.34542

Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
0.5646320	-0.0671946	-0.2056116	2.1323027	-0.7826511
	b.leg			
	-0.4690916			

Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1673619

\$Bioturbation\$M832  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)



Data: DF  
Log-likelihood: 33.92761

Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
0.57984693	-0.04420419	-0.23295275	2.29658918	-0.40430943
	b.leg			
	-0.86995521			

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.01006584  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1811775

\$Bioturbation\$M91  
Generalized nonlinear least squares fit  
Model: response ~ a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 36.35256

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
0.23574086	0.06231327	0.03300789	-0.14675267	-19.18522971
	b.funcgr	b.grass	b.leg	
	3.08922815	5.15865452	5.50224685	

Degrees of freedom: 82 total; 74 residual  
Residual standard error: 0.1635011

\$Bioturbation\$M932  
Generalized nonlinear least squares fit  
Model: response ~ a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 36.47370

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
0.24751758	0.05484814	0.03364624	-0.14906852	-18.01221774
	b.funcgr	b.grass	b.leg	
	2.79301174	4.88419441	5.18981073	

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.004752046  
Degrees of freedom: 82 total; 74 residual  
Residual standard error: 0.1700582

\$Bioturbation\$M121

Generalized nonlinear least squares fit

Model: response ~ d + a \* sowndiv/(b + sowndiv)

Data: DF

Log-likelihood: 28.33993

Coefficients:

a.(Intercept)	a.funcgr	b.(Intercept)	b.funcgr	d.(Intercept)
-0.19442137	0.17373657	5.46986504	-1.17232284	0.19444129
	d.funcgr			
	-0.08975697			

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.1778963

\$Bioturbation\$M1221

Generalized nonlinear least squares fit

Model: response ~ d + a \* sowndiv/(b + sowndiv)

Data: DF

Log-likelihood: 28.49348

Coefficients:

a.(Intercept)	a.funcgr	b.(Intercept)	b.funcgr	d.(Intercept)
-0.18798742	0.16615799	6.13880172	-1.33266112	0.18659237
	d.funcgr			
	-0.08178482			

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

0.04303777

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.1665733

\$Bioturbation\$M1232

Generalized nonlinear least squares fit

Model: response ~ d + a \* sowndiv/(b + sowndiv)

Data: DF

Log-likelihood: 28.62024

Coefficients:

a.(Intercept)	a.funcgr	b.(Intercept)	b.funcgr	d.(Intercept)
-0.1994389	0.1833977	4.2538311	-0.9363812	0.2102266
	d.funcgr			
	-0.1061460			

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.00711942

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1884637

\$Bioturbation\$M1321

Generalized nonlinear least squares fit  
Model: response ~ d + a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 36.17853

Coefficients:

a.(Intercept)	a.funcgr	a.leg	b.(Intercept)	b.funcgr
0.66997800	-0.01625768	-0.31048317	58.77468031	-9.08573990
	b.leg	d.(Intercept)	d.funcgr	d.leg
-21.18018131	0.36180386	-0.04782457	-0.13442095	

Variance function:

Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:

power  
0.06807649

Degrees of freedom: 82 total; 73 residual  
Residual standard error: 0.1491093

\$Bioturbation\$M1432

Generalized nonlinear least squares fit  
Model: response ~ d + a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 30.41767

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
-2.41670451	0.81372146	0.80777882	-0.45988788	0.01829668
	b.grass	d.(Intercept)	d.funcgr	d.grass
0.51768074	2.14713253	-0.70461381	-0.66367097	

Variance function:

Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:

expon  
-0.008350164

Degrees of freedom: 82 total; 73 residual  
Residual standard error: 0.1901263

\$Bioturbation\$E2

Nonlinear regression model  
model: response ~ a + b \* exp(sowndiv)  
data: DF

a	b
1.439e-01	1.170e-27

residual sum-of-squares: 2.871

Number of iterations to convergence: 4

Achieved convergence tolerance: 4.662e-08

\$Bioturbation\$E4

Nonlinear regression model

model: response ~ a + exp(sowndiv)

data: DF

a

1

residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0

Achieved convergence tolerance: 6.17e-20

\$Bioturbation\$E5

Nonlinear regression model

model: response ~ b \* exp(sowndiv)

data: DF

b

2.43e-27

residual sum-of-squares: 4.487

Number of iterations to convergence: 4

Achieved convergence tolerance: 2.04e-08

\$Bioturbation\$E22

Generalized nonlinear least squares fit

Model: response ~ a + b \* exp(sowndiv)

Data: DF

Log-likelihood: 21.15609

Coefficients:

a

b

1.464626e-01 1.147535e-27

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.004039713

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.1959470

\$Bioturbation\$E31

Generalized nonlinear least squares fit

Model: response ~ a + exp(c \* sowndiv)

Data: DF

Log-likelihood: 23.46193

Coefficients:

a

c

-0.885548703 0.003653482

Variance function:

Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
0.08739955  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.1616268

\$Bioturbation\$E32  
Generalized nonlinear least squares fit  
    Model: response ~ a + exp(c \* sowndiv)  
    Data: DF  
    Log-likelihood: 22.87766

Coefficients:  
            a                    c  
-0.877117952  0.003109013

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.003097963  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.1903309

\$Bioturbation\$E41  
Generalized nonlinear least squares fit  
    Model: response ~ a + exp(sowndiv)  
    Data: DF  
    Log-likelihood: -1746.568

Coefficients:  
            a  
-2.616607

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
14.98847  
Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.09396732

\$Bioturbation\$E42  
Generalized nonlinear least squares fit  
    Model: response ~ a + exp(sowndiv)  
    Data: DF  
    Log-likelihood: -801.2417

Coefficients:  
            a

-3.263914

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

1.014480

Degrees of freedom: 82 total; 81 residual

Residual standard error: 0.7038134

\$Bioturbation\$E51

Generalized nonlinear least squares fit

Model: response ~ b \* exp(sowndiv)

Data: DF

Log-likelihood: 4.582206

Coefficients:

b

2.430036e-27

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

0.1443433

Degrees of freedom: 82 total; 81 residual

Residual standard error: 0.1858206

\$Bioturbation\$E52

Generalized nonlinear least squares fit

Model: response ~ b \* exp(sowndiv)

Data: DF

Log-likelihood: 2.81848

Coefficients:

b

2.430036e-27

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

0.003316847

Degrees of freedom: 82 total; 81 residual

Residual standard error: 0.2286297

\$Bioturbation\$E61

Generalized nonlinear least squares fit

Model: response ~ exp(c \* sowndiv)

Data: DF

Log-likelihood: 6.736101

Coefficients:

    c  
-2.143234

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

    power  
0.2256813  
Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.1604146

\$Bioturbation\$E62

Generalized nonlinear least squares fit

Model: response ~ exp(c \* sowndiv)

Data: DF

Log-likelihood: 4.096374

Coefficients:

    c  
-2.092924

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

    expon  
0.01624483  
Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.2014474

\$Bioturbation\$Ea10

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF

Log-likelihood: -4912.516

Coefficients:

a.(Intercept)	a.leg
-2963126.2	911705.8

Degrees of freedom: 82 total; 80 residual

Residual standard error: 2.553606e+25

\$Bioturbation\$Ea12

Generalized nonlinear least squares fit

Model: response ~ exp(c \* sowndiv)

Data: DF

Log-likelihood: 4.91415

Coefficients:

c.(Intercept)	c.leg
---------------	-------

1.374812      -2.348107

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.2307268

\$Bioturbation\$Ea911  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(c \* sowndiv)  
Data: DF  
Log-likelihood: 33.42807

Coefficients:  
a.(Intercept)              a.leg c.(Intercept)              c.leg  
-0.625548077    -0.160907125    0.004697923    -0.002630952

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
0.07500636  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1476448

\$Bioturbation\$Ea921  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(c \* sowndiv)  
Data: DF  
Log-likelihood: 32.7739

Coefficients:  
a.(Intercept)              a.leg c.(Intercept)              c.leg  
1.439809            -1.193793            -6.042223            3.020886

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.007434664  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1773224

\$Bioturbation\$Ea1011  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -1726.313

Coefficients:  
a.(Intercept)              a.leg  
-2.1156104            -0.2862839

Variance function:



Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
   power  
 15.08313  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.06417506

\$Bioturbation\$Ea1021  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -801.2105

Coefficients:  
 a.(Intercept)           a.leg  
   -3.7086881            0.2563954

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
   expon  
 1.014485  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.7078932

\$Bioturbation\$Ea121  
 Generalized nonlinear least squares fit  
 Model: response ~ exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 13.91363

Coefficients:  
 c.(Intercept)           c.leg  
   1.232690            -2.312641

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
   power  
 0.3349592  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.1257392

\$Bioturbation\$Ea1221  
 Generalized nonlinear least squares fit  
 Model: response ~ exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 8.354766

Coefficients:  
 c.(Intercept)           c.leg

1.333594      -2.331699

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

    expon

0.02174387

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.1835701

\$Bioturbation\$Eb16

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF

Log-likelihood: -4912.516

Coefficients:

a.(Intercept)            a.grass

    -3508713            1286426

Degrees of freedom: 82 total; 80 residual

Residual standard error: 2.553606e+25

\$Bioturbation\$Eb18

Generalized nonlinear least squares fit

Model: response ~ exp(c \* sowndiv)

Data: DF

Log-likelihood: 2.171385

Coefficients:

c.(Intercept)            c.grass

    -5.799670            1.951380

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.2385748

\$Bioturbation\$Eb1511

Generalized nonlinear least squares fit

Model: response ~ a + exp(c \* sowndiv)

Data: DF

Log-likelihood: 23.94108

Coefficients:

a.(Intercept)            a.grass    c.(Intercept)            c.grass

    -0.835820596    -0.038401915    -0.003052411    0.006162009

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

    power

0.06736577

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1676448

\$Bioturbation\$Eb1521

Generalized nonlinear least squares fit  
 Model: response ~ a + exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 23.78207

Coefficients:

a.(Intercept)	a.grass	c.(Intercept)	c.grass
-0.803597842	-0.057815009	-0.005233268	0.007742796

Variance function:

Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.006475795

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1962509

\$Bioturbation\$Eb1611

Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -1744.127

Coefficients:

a.(Intercept)	a.grass
-2.8203552	0.1164274

Variance function:

Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 14.99988

Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.09023714

\$Bioturbation\$Eb1621

Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -801.0719

Coefficients:

a.(Intercept)	a.grass
-4.2990828	0.5968514

Variance function:

Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:

```
    expon
1.014622
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.7058685
```

```
$Bioturbation$Eb1811
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 7.51318
```

```
Coefficients:
c.(Intercept)      c.grass
    -6.013761      2.038840
```

```
Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
0.2386021
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1568538
```

```
$Bioturbation$Eb1821
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 4.545051
```

```
Coefficients:
c.(Intercept)      c.grass
    -5.826237      1.962299
```

```
Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
0.01683463
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.2005782
```

```
$Bioturbation$Ec22
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516
```

```
Coefficients:
a.(Intercept)      a.funcgr
    252095.6      -912137.5
```

```
Degrees of freedom: 82 total; 80 residual
```

Residual standard error: 2.553606e+25

```
$Bioturbation$Ec24
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 7.66888
```

```
Coefficients:
c.(Intercept)      c.funcgr
-2.5935390         0.5919952
```

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.2231045

```
$Bioturbation$Ec2121
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 27.30375
```

```
Coefficients:
a.(Intercept)      a.funcgr c.(Intercept)      c.funcgr
-0.9877393684     0.0614971579  0.0019556117 -0.0003330070
```

```
Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
      expon
-0.008661683
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1915623
```

```
$Bioturbation$Ec2211
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1746.568
```

```
Coefficients:
a.(Intercept)      a.funcgr
  2.053868         -4.670476
```

```
Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
      power
14.98847
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.09455278
```

```
$Bioturbation$Ec2221
```

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF

Log-likelihood: -794.4478

Coefficients:

a.(Intercept)	a.funcgr
3.434836	-6.307975

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

1.021975

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.6112592

\$Bioturbation\$Ec2411

Generalized nonlinear least squares fit

Model: response ~ exp(c \* sowndiv)

Data: DF

Log-likelihood: 13.13934

Coefficients:

c.(Intercept)	c.funcgr
-2.694993	0.611774

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

0.2254497

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.1493404

\$Bioturbation\$Ec2421

Generalized nonlinear least squares fit

Model: response ~ exp(c \* sowndiv)

Data: DF

Log-likelihood: 11.04788

Coefficients:

c.(Intercept)	c.funcgr
-2.6096511	0.5914553

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

0.02027195

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.1798981

\$Bioturbation\$Ed28

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF

Log-likelihood: -4912.516

Coefficients:

a.(Intercept)	a.funcgr	a.leg
872779.2	-990730.5	-307654.9

Degrees of freedom: 82 total; 79 residual

Residual standard error: 2.569717e+25

\$Bioturbation\$Ed2811

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF

Log-likelihood: -1726.313

Coefficients:

a.(Intercept)	a.funcgr	a.leg
2.6264361	-4.7420465	-0.2862839

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

15.08313

Degrees of freedom: 82 total; 79 residual

Residual standard error: 0.06457993

\$Bioturbation\$Ed2821

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF

Log-likelihood: -794.4097

Coefficients:

a.(Intercept)	a.funcgr	a.leg
3.9320377	-6.3696884	-0.2488338

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

1.022049

Degrees of freedom: 82 total; 79 residual

Residual standard error: 0.6144413

\$Bioturbation\$Ed3021

Generalized nonlinear least squares fit

Model: response ~ exp(c \* sowndiv)

Data: DF

Log-likelihood: 15.00419

Coefficients:

c.(Intercept)	c.funcgr	c.leg
0.5083306	0.3186349	-2.0340878

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

0.02611714

Degrees of freedom: 82 total; 79 residual

Residual standard error: 0.1640628

\$Bioturbation\$Ee40

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF

Log-likelihood: -4912.516

Coefficients:

a.(Intercept)	a.funcgr	a.grass
-335851.0	-839615.4	296563.4

Degrees of freedom: 82 total; 79 residual

Residual standard error: 2.569717e+25

\$Bioturbation\$Ee341

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF

Log-likelihood: -1744.127

Coefficients:

a.(Intercept)	a.funcgr	a.grass
1.8210135	-4.6413687	0.1164274

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

14.99988

Degrees of freedom: 82 total; 79 residual

Residual standard error: 0.09080645

\$Bioturbation\$Ee342

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF



Log-likelihood: -794.4417

Coefficients:

a.(Intercept)	a.funcgr	a.grass
3.23598882	-6.28304893	0.09938625

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

1.021987

Degrees of freedom: 82 total; 79 residual

Residual standard error: 0.615008

\$Bioturbation\$Ef40

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF

Log-likelihood: -4912.516

Coefficients:

a.(Intercept)	a.grass	a.leg
-5251826	1394676	1054750

Degrees of freedom: 82 total; 79 residual

Residual standard error: 2.569717e+25

\$Bioturbation\$Ef3721

Generalized nonlinear least squares fit

Model: response ~ a + b \* exp(c \* sowndiv)

Data: DF

Log-likelihood: -2690.078

Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
0.5548137983	0.0260987202	-0.2846109987	-0.0001674899	-0.0000636444
	b.leg	c.(Intercept)	c.grass	c.leg
0.0001480782	1.0000102418	1.0000040363	0.9999908333	

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

4.485142

Degrees of freedom: 82 total; 73 residual

Residual standard error: 0.0008574329

\$Bioturbation\$Ef3921

Generalized nonlinear least squares fit

Model: response ~ a + exp(c \* sowndiv)

Data: DF

Log-likelihood: 34.28635

Coefficients:

a.(Intercept)	a.grass	a.leg	c.(Intercept)	c.grass
1.524922249	-0.069509092	-1.183004918	-4.925669312	0.002784789
	c.leg			
	2.460050374			

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.007472562  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1764148

\$Bioturbation\$Ef4011  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -1726.127

Coefficients:

a.(Intercept)	a.grass	a.leg
-2.17073403	0.02362441	-0.27840908

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 15.08399  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.06435071

\$Bioturbation\$Ef4021  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -800.951

Coefficients:

a.(Intercept)	a.grass	a.leg
-5.5649812	0.7888307	0.5377992

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 1.01468  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.7089252

```
$Bioturbation$Ef4211
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 21.1568
```

```
Coefficients:
c.(Intercept)      c.grass      c.leg
      3.4788405      -0.8482737      -2.9116410
```

```
Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
0.3272253
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1171728
```

```
$Bioturbation$Ef4221
Generalized nonlinear least squares fit
  Model: response ~ exp(c * sowndiv)
  Data: DF
  Log-likelihood: 16.33443
```

```
Coefficients:
c.(Intercept)      c.grass      c.leg
      3.3963682      -0.8468143      -2.8206565
```

```
Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
0.02704742
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1601387
```

```
$Bioturbation$Eg46
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516
```

```
Coefficients:
a.(Intercept)      a.funcgr      a.grass      a.leg
      292091.9      -918391.4      183181.3      -199834.3
```

```
Degrees of freedom: 82 total; 78 residual
Residual standard error: 2.586137e+25
```

```
$Bioturbation$Eg4611
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
```

Data: DF  
Log-likelihood: -1726.127

Coefficients:  
a.(Intercept)      a.funcgr      a.grass      a.leg  
2.5634377      -4.7341717      0.0236244      -0.2784091

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
15.08399  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.06476188

\$Bioturbation\$Eg4621  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -794.4097

Coefficients:  
a.(Intercept)      a.funcgr      a.grass      a.leg  
3.919326225      -6.368099261      0.004593295      -0.247071469

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
1.022049  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.6183672

\$Bioturbation\$Pa1  
Nonlinear regression model  
model: response ~ a + b \* sowndiv^c  
data: DF  
a      b      c  
-0.01253      0.10004      0.29191  
residual sum-of-squares: 2.674

Number of iterations to convergence: 13  
Achieved convergence tolerance: 9.707e-06

\$Bioturbation\$Pa2  
Nonlinear regression model  
model: response ~ a + b \* sowndiv  
data: DF  
a      b  
0.117396      0.003851  
residual sum-of-squares: 2.741

Number of iterations to convergence: 1  
 Achieved convergence tolerance: 1.288e-09

\$Bioturbation\$Pa3  
 Nonlinear regression model  
 model: response ~ a + sowndiv^c  
 data: DF  
           a          c  
 -0.92247 0.04651  
 residual sum-of-squares: 2.684

Number of iterations to convergence: 8  
 Achieved convergence tolerance: 6.969e-07

\$Bioturbation\$Pa4  
 Nonlinear regression model  
 model: response ~ b \* sowndiv^c  
 data: DF  
           b          c  
 0.08883 0.31290  
 residual sum-of-squares: 2.674

Number of iterations to convergence: 6  
 Achieved convergence tolerance: 3.015e-06

\$Bioturbation\$Pa5  
 Nonlinear regression model  
 model: response ~ sowndiv^c  
 data: DF  
           c  
 -2.762  
 residual sum-of-squares: 17.30

Number of iterations to convergence: 19  
 Achieved convergence tolerance: 3.873e-06

\$Bioturbation\$Pb11  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 24.00040

Coefficients:  
           a          b          c  
 -0.01241529 0.09993389 0.29209681

Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.1839685

\$Bioturbation\$Pb21  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 22.97626

Coefficients:

	a	b
	0.117395702	0.003850672

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.1851127

\$Bioturbation\$Pb31

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 23.84666

Coefficients:

	a	c
	-0.92248622	0.04651519

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.1831582

\$Bioturbation\$Pb41

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 23.99912

Coefficients:

	b	c
	0.08882811	0.31289910

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.1828180

\$Bioturbation\$Pb51

Generalized nonlinear least squares fit

Model: response ~ sowndiv<sup>c</sup>

Data: DF

Log-likelihood: -52.56294

Coefficients:

	c
	-2.761908

Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.4621841

\$Bioturbation\$Pc121

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 24.40538

Coefficients:

```
          a          b          c
0.01628969 0.07388651 0.34899243
```

```
Variance function:
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
  power
0.07070471
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1648208
```

```
$Bioturbation$Pc221
Generalized nonlinear least squares fit
Model: response ~ a + b * sowndiv
Data: DF
Log-likelihood: 23.59869
```

```
Coefficients:
          a          b
0.111430210 0.004262715
```

```
Variance function:
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
  power
0.08713694
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1614204
```

```
$Bioturbation$Pc231
Generalized nonlinear least squares fit
Model: response ~ a + b * sowndiv
Data: DF
Log-likelihood: 23.00438
```

```
Coefficients:
          a          b
0.119800789 0.003584724
```

```
Variance function:
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
  expon
-0.002697487
Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1893848
```

```
$Bioturbation$Pc321
Generalized nonlinear least squares fit
Model: response ~ a + sowndiv^c
Data: DF
```

Log-likelihood: 24.20479

Coefficients:

a	c
-0.91947688	0.04465388

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power
0.06698336

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.1650982

\$Bioturbation\$Pc331

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 24.11075

Coefficients:

a	c
-0.92258973	0.04679888

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon
-0.007176073

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.1941709

\$Bioturbation\$Pc421

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 24.40240

Coefficients:

b	c
0.0884446	0.3148123

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power
0.06989742

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.1639898

\$Bioturbation\$Pc431



Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 24.1683

Coefficients:

b	c
0.09161767	0.29669160

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon
-0.00582621

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.1917990

\$Bioturbation\$Pc521

Generalized nonlinear least squares fit

Model: response ~ sowndiv<sup>c</sup>

Data: DF

Log-likelihood: -40.05222

Coefficients:

c
-1.911287

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power
-0.2864076

Degrees of freedom: 82 total; 81 residual

Residual standard error: 0.6070366

\$Bioturbation\$Pc531

Generalized nonlinear least squares fit

Model: response ~ sowndiv<sup>c</sup>

Data: DF

Log-likelihood: -49.41452

Coefficients:

c
-2.685284

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon
-0.01415142

Degrees of freedom: 82 total; 81 residual

Residual standard error: 0.5022324

\$Bioturbation\$Pd61

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv^c

Data: DF

Log-likelihood: 27.66071

Coefficients:

a.(Intercept)	a.funcgr	b.(Intercept)	b.funcgr	c.(Intercept)
0.090422745	0.006870324	-0.033541577	0.024344864	0.826115563
	c.funcgr			
	-0.130010635			

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.1793760

\$Bioturbation\$Pd71

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv

Data: DF

Log-likelihood: 26.93754

Coefficients:

a.(Intercept)	a.funcgr	b.(Intercept)	b.funcgr
2.047334e-02	5.620433e-02	1.280412e-03	-1.063256e-05

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1786298

\$Bioturbation\$Pd81

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv^c

Data: DF

Log-likelihood: 27.49939

Coefficients:

a.(Intercept)	a.funcgr	c.(Intercept)	c.funcgr
-0.93532670	0.02576123	-0.02233440	0.01576871

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1774100

\$Bioturbation\$Pd91

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv^c

Data: DF

Log-likelihood: 27.28719

Coefficients:

b.(Intercept)	b.funcgr	c.(Intercept)	c.funcgr
0.04203848	0.03847577	0.02546373	0.02667007

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1778697

\$Bioturbation\$Pd101  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -50.17306

Coefficients:  
 c.(Intercept)      c.funcgr  
 -4.4580807      0.9698987

Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.4517052

\$Bioturbation\$Pe721  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 27.10298

Coefficients:  
 a.(Intercept)      a.funcgr    b.(Intercept)      b.funcgr  
 0.0260562595    0.0534350924    0.0007781034    0.0001644070

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 0.04570946  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1665738

\$Bioturbation\$Pe731  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 27.30641

Coefficients:  
 a.(Intercept)      a.funcgr    b.(Intercept)      b.funcgr  
 0.0124213469    0.0613230994    0.0019820244    -0.0003323379

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.008631376  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1915062

\$Bioturbation\$Pe821

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 27.68336

Coefficients:

a.(Intercept)	a.funcgr	c.(Intercept)	c.funcgr
-0.93005092	0.02255344	-0.02575398	0.01736256

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

0.04729445

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1650102

\$Bioturbation\$Pe831

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 27.71025

Coefficients:

a.(Intercept)	a.funcgr	c.(Intercept)	c.funcgr
-0.94654717	0.03451148	-0.01568649	0.01146816

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.006667932

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1873800

\$Bioturbation\$Pe921

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 27.46146

Coefficients:

b.(Intercept)	b.funcgr	c.(Intercept)	c.funcgr
0.04893414	0.03558083	-0.01527418	0.03942979

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

0.04695037

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1655419

\$Bioturbation\$Pe931

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv^c

Data: DF

Log-likelihood: 27.57543

Coefficients:

b.(Intercept)	b.funcgr	c.(Intercept)	c.funcgr
0.030621412	0.045334214	0.076371574	0.004510836

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.00775824

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1894535

\$Bioturbation\$Pe1021

Generalized nonlinear least squares fit

Model: response ~ sowndiv^c

Data: DF

Log-likelihood: -28.74399

Coefficients:

c.(Intercept)	c.funcgr
-2.4400868	0.5167844

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.4552348

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.6837095

\$Bioturbation\$Pe1031

Generalized nonlinear least squares fit

Model: response ~ sowndiv^c

Data: DF

Log-likelihood: -38.04807

Coefficients:

c.(Intercept)	c.funcgr
-3.5532481	0.8078551

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon  
 -0.03938309  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.5463622

\$Bioturbation\$Pf121  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 23.61129

Coefficients:  
 a.(Intercept)            a.grass b.(Intercept)            b.grass  
 0.177986911   -0.047795803   -0.003986296   0.007206700

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1860247

\$Bioturbation\$Pf131  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 24.03977

Coefficients:  
 a.(Intercept)            a.grass c.(Intercept)            c.grass  
 -0.97454636   0.03440398   0.07595446   -0.02172944

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1850552

\$Bioturbation\$Pf141  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 24.00855

Coefficients:  
 b.(Intercept)            b.grass c.(Intercept)            c.grass  
 0.09788187   -0.00698996   0.26321239   0.04151768

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1851256

\$Bioturbation\$Pf151  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -52.40454

Coefficients:  
 c.(Intercept)            c.grass  
 -0.4183022   -1.3940567

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.4641662

\$Bioturbation\$Pg171  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 33.07242

Coefficients:  
a.(Intercept)            a.leg b.(Intercept)            b.leg  
0.381032096   -0.164168934   0.004614275   -0.002580315

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1657532

\$Bioturbation\$Pg181  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 33.68927

Coefficients:  
a.(Intercept)            a.leg c.(Intercept)            c.leg  
-0.71136186   -0.11810263   0.07484050   -0.03850862

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1645110

\$Bioturbation\$Pg191  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 33.74637

Coefficients:  
b.(Intercept)            b.leg c.(Intercept)            c.leg  
0.2995776   -0.1236926   0.3610934   -0.1998566

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1643964

\$Bioturbation\$Pg201  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -52.12373

Coefficients:  
c.(Intercept)            c.leg  
0.7240597   -1.9993387

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.4625795

\$Bioturbation\$Ph221

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv

Data: DF

Log-likelihood: 33.79861

Coefficients:

a.(Intercept)	a.funcgr	a.leg	b.(Intercept)	b.funcgr
0.240117748	0.028364952	-0.111920141	0.023275004	-0.003059289
	b.leg			
	-0.009763383			

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.1664394

\$Bioturbation\$Ph231

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv^c

Data: DF

Log-likelihood: 33.87082

Coefficients:

a.(Intercept)	a.funcgr	a.leg	c.(Intercept)	c.funcgr
-0.664039405	-0.009220624	-0.136118062	0.024308912	0.009441823
	c.leg			
	-0.020329905			

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.1662929

\$Bioturbation\$Ph241

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv^c

Data: DF

Log-likelihood: 33.79754

Coefficients:

b.(Intercept)	b.funcgr	b.leg	c.(Intercept)	c.funcgr
0.306084247	0.002209656	-0.128182974	0.260905678	0.013563389
	c.leg			
	-0.166701571			

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.1664416

\$Bioturbation\$Ph251

Generalized nonlinear least squares fit

Model: response ~ sowndiv^c

Data: DF

Log-likelihood: -50.10325

Coefficients:

c.(Intercept)	c.funcgr	c.leg



-2.8356150      0.7626864      -0.7879023

Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.4541682

\$Bioturbation\$Pi271  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 28.42850

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
0.001918873	0.058290644	0.008003733	-0.016566622	0.002038545
	b.grass			
	0.009672533			

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1777043

\$Bioturbation\$Pi281  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 28.60465

Coefficients:

a.(Intercept)	a.funcgr	a.grass	c.(Intercept)	c.funcgr
-0.96974921	0.02889816	0.01750170	-0.08688764	0.02384061
	c.grass			
	0.03346103			

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1773229

\$Bioturbation\$Pi291  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 29.352

Coefficients:

b.(Intercept)	b.funcgr	b.grass	c.(Intercept)	c.funcgr
0.10606916	0.02547831	-0.02889878	-1.08829102	0.18256216
	c.grass			
	0.51668509			

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1757141

\$Bioturbation\$Pi301  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF

Log-likelihood: -50.16532

Coefficients:

c.(Intercept)	c.funcgr	c.grass
-3.7790109	0.8970458	-0.3885011

Degrees of freedom: 82 total; 79 residual

Residual standard error: 0.4545122

\$Bioturbation\$Pj321

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv

Data: DF

Log-likelihood: 34.31503

Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
0.4784603489	-0.0766578880	-0.1550877624	-0.0005561406	0.0067421916
	b.leg			
	-0.0049769486			

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.1653945

\$Bioturbation\$Pj331

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv^c

Data: DF

Log-likelihood: 34.07762

Coefficients:

a.(Intercept)	a.grass	a.leg	c.(Intercept)	c.grass
-0.648312837	-0.024220764	-0.130033650	0.073556770	-0.007021413
	c.leg			
	-0.035390603			

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.1658741

\$Bioturbation\$Pj341

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv^c

Data: DF

Log-likelihood: 34.12622

Coefficients:

b.(Intercept)	b.grass	b.leg	c.(Intercept)	c.grass
0.37245440	-0.04085719	-0.12815813	0.31918751	0.05430574
	c.leg			
	-0.25259056			

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.1657758

\$Bioturbation\$Pj351  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -49.66763

Coefficients:  
 c.(Intercept)          c.grass          c.leg  
                   4.064480        -2.268931        -2.410857

Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.4517619

\$Bioturbation\$Pk371  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 34.36648

Coefficients:  
 a.(Intercept)          a.funcgr          a.grass          a.leg b.(Intercept)  
                   0.4725605157 -0.0006957403 -0.0755600610 -0.1526106880 0.0084821953  
                   b.funcgr          b.grass          b.leg  
 -0.0012143573 0.0049131891 -0.0072629798

Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.1675096

\$Bioturbation\$Pk381  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 34.32068

Coefficients:  
 a.(Intercept)          a.funcgr          a.grass          a.leg c.(Intercept)  
                   -0.476801490 -0.032846402 -0.063298530 -0.166216802 -0.005282417  
                   c.funcgr          c.grass          c.leg  
                   0.013269903 0.012216920 -0.018003920

Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.1676031

\$Bioturbation\$Pk391  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 34.23534

Coefficients:  
 b.(Intercept)          b.funcgr          b.grass          b.leg c.(Intercept)  
                   0.46763535 -0.01691296 -0.05867698 -0.15220321 -0.04461337  
                   c.funcgr          c.grass          c.leg  
                   0.05033639 0.12769118 -0.13942377

Degrees of freedom: 82 total; 74 residual  
Residual standard error: 0.1677777

\$Bioturbation\$Pk401  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -49.65182

Coefficients:

c.(Intercept)	c.funcgr	c.grass	c.leg
3.4426091	0.0805594	-2.1217066	-2.2345531

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.4545609

\$Bioturbation\$Pm1221  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 23.97687

Coefficients:

a.(Intercept)	a.grass	b.(Intercept)	b.grass
0.157518163	-0.035039921	-0.002498814	0.006073544

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
0.06873129

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1672323

\$Bioturbation\$Pm1231  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 23.79105

Coefficients:

a.(Intercept)	a.grass	b.(Intercept)	b.grass
0.191730882	-0.055614764	-0.005252438	0.008047494

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.006311827

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1959533

\$Bioturbation\$Pm1321

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 24.55167

Coefficients:

a.(Intercept)	a.grass	c.(Intercept)	c.grass
-0.98932774	0.04531749	0.08643845	-0.03039373

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

0.08173598

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1628888

\$Bioturbation\$Pm1331

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 24.21951

Coefficients:

a.(Intercept)	a.grass	c.(Intercept)	c.grass
-0.96314922	0.02740374	0.06774067	-0.01597323

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.006130352

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1946287

\$Bioturbation\$Pm1421

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 24.41109

Coefficients:

b.(Intercept)	b.grass	c.(Intercept)	c.grass
0.080762625	0.005975706	0.364261044	-0.041348578

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

0.07299947  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1652983

\$Bioturbation\$Pm1431  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 24.21807

Coefficients:  
 b.(Intercept)            b.grass   c.(Intercept)            c.grass  
           0.11082719    -0.01534247    0.18461061            0.09678874

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:

          expon  
 -0.006659658  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1955185

\$Bioturbation\$Pm1521  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -37.62511

Coefficients:  
 c.(Intercept)            c.grass  
           1.587913            -2.304960

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:

          power  
 -0.3486845  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.650445

\$Bioturbation\$Pm1531  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -49.11184

Coefficients:  
 c.(Intercept)            c.grass  
           0.7071402            -1.9471625

Variance function:  
 Structure: Exponential of variance covariate

Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.01487552  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.5066395

\$Bioturbation\$Pn1721  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 33.47118

Coefficients:  
 a.(Intercept)           a.leg b.(Intercept)           b.leg  
 0.370839580   -0.159109495   0.005187234   -0.002872769

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 0.07493689  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1475824

\$Bioturbation\$Pn1731  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 33.32823

Coefficients:  
 a.(Intercept)           a.leg b.(Intercept)           b.leg  
 0.399144944   -0.173468453   0.003275591   -0.001861383

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.007369728  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1760296

\$Bioturbation\$Pn1821  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 33.80667

Coefficients:  
 a.(Intercept)           a.leg c.(Intercept)           c.leg  
 -0.70464511   -0.12177065   0.07123015   -0.03640052

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 0.04057679  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1546719

\$Bioturbation\$Pn1831  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 34.11719

Coefficients:  
 a.(Intercept)           a.leg c.(Intercept)           c.leg  
   -0.69208397   -0.12778602    0.06437164   -0.03325332

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.008265646  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1756902

\$Bioturbation\$Pn1921  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 33.89558

Coefficients:  
 b.(Intercept)           b.leg c.(Intercept)           c.leg  
   0.3015308    -0.1249988    0.3445728   -0.1850122

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 0.04491114  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1535133

\$Bioturbation\$Pn1931  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 34.10345



Coefficients:  
 b.(Intercept)            b.leg c.(Intercept)            c.leg  
           0.3205605        -0.1342101            0.3012658            -0.1700300

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           expon  
 -0.007821472  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1750508

\$Bioturbation\$Pn2021  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -29.44721

Coefficients:  
 c.(Intercept)            c.leg  
           2.357618            -2.785384

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           power  
 -0.516523  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.7552858

\$Bioturbation\$Pn2031  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -43.2218

Coefficients:  
 c.(Intercept)            c.leg  
           2.595188            -2.928451

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           expon  
 -0.04218271  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.5961022

\$Bioturbation\$Pp2221  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv

Data: DF  
Log-likelihood: 33.94237

Coefficients:  
a.(Intercept)      a.funcgr              a.leg    b.(Intercept)      b.funcgr  
0.259520753    0.023843873    -0.118537958    0.020848350    -0.002624988  
                  b.leg  
-0.008878656

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
0.04694129  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1549636

\$Bioturbation\$Pp2231  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 34.3744

Coefficients:  
a.(Intercept)      a.funcgr              a.leg    b.(Intercept)      b.funcgr  
0.222725163    0.035199923    -0.108112317    0.025739242    -0.003650583  
                  b.leg  
-0.010498597

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.01018459  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1803768

\$Bioturbation\$Pp2321  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 34.12793

Coefficients:  
a.(Intercept)      a.funcgr              a.leg    c.(Intercept)      c.funcgr  
-0.631748888    -0.016364190    -0.148669746    -0.002038307    0.014328145  
                  c.leg  
-0.009882523

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv

Parameter estimates:  
 power  
 0.06342833  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1508749

\$Bioturbation\$Pp2331  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 34.16786

Coefficients:  

a.(Intercept)	a.funcgr	a.leg	c.(Intercept)	c.funcgr
-0.686642087	0.001772718	-0.131300015	0.044089480	0.002979477
	c.leg			
	-0.026028774			

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.007748569  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1770891

\$Bioturbation\$Pp2431  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 34.17012

Coefficients:  

b.(Intercept)	b.funcgr	b.leg	c.(Intercept)	c.funcgr
0.27984895	0.01108098	-0.12012605	0.40888234	-0.01726270
	c.leg			
	-0.23456085			

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.008548835  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1783050

\$Bioturbation\$Pp2521  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -24.89573

Coefficients:  
 c.(Intercept)      c.funcgr      c.leg  
           1.2715910      0.1816573      -2.3540206

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.5329723  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.736788

\$Bioturbation\$Pp2531  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -37.20437

Coefficients:  
 c.(Intercept)      c.funcgr      c.leg  
           -0.02734227      0.39849374      -1.88714463

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.04040393  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.5489716

\$Bioturbation\$Pq2721  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 28.47831

Coefficients:  
 a.(Intercept)      a.funcgr      a.grass      b.(Intercept)      b.funcgr  
 -0.0005616369      0.0574229531      0.0109303811      -0.0161719470      0.0020582164  
           b.grass  
           0.0093075934

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 0.02586895  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1709051

\$Bioturbation\$Pq2731

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv

Data: DF

Log-likelihood: 29.05050

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
-0.0007580935	0.0635892472	0.0042480145	-0.0169238973	0.0017927198
	b.grass			
	0.0103410001			

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.01073567

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.1933892

\$Bioturbation\$Pq2821

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv^c

Data: DF

Log-likelihood: 28.68171

Coefficients:

a.(Intercept)	a.funcgr	a.grass	c.(Intercept)	c.funcgr
-0.97907198	0.02845559	0.02391696	-0.07976082	0.02372241
	c.grass			
	0.02869500			

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

0.03210338

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.1689111

\$Bioturbation\$Pq2831

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv^c

Data: DF

Log-likelihood: 28.99412

Coefficients:

a.(Intercept)	a.funcgr	a.grass	c.(Intercept)	c.funcgr
-0.96944056	0.03816405	0.01015874	-0.09194624	0.02000233
	c.grass			
	0.04043881			

Variance function:

Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.008876756  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1904583

\$Bioturbation\$Pq2921  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 29.35581

Coefficients:

b.(Intercept)	b.funcgr	b.grass	c.(Intercept)	c.funcgr
0.11050423	0.02519128	-0.03165430	-1.10438967	0.18334537
	c.grass			
	0.52813421			

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.007681667  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1777212

\$Bioturbation\$Pq2931  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 30.22263

Coefficients:

b.(Intercept)	b.funcgr	b.grass	c.(Intercept)	c.funcgr
0.13016381	0.02991060	-0.04897648	-1.17168096	0.16929743
	c.grass			
	0.59550747			

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.01255157  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1936400

\$Bioturbation\$Pq3021  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF

Log-likelihood: -26.58377

Coefficients:

c.(Intercept)	c.funcgr	c.grass
-4.6872953	0.8517815	0.9116164

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power
-0.4908771

Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.7065488

\$Bioturbation\$Pq3031

Generalized nonlinear least squares fit

Model: response ~ sowndiv^c

Data: DF

Log-likelihood: -37.23556

Coefficients:

c.(Intercept)	c.funcgr	c.grass
-7.369318	1.415558	1.385722

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon
-0.04021953

Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.5483117

\$Bioturbation\$Pr3221

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv

Data: DF

Log-likelihood: 34.44572

Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
0.4664508357	-0.0686581699	-0.1547717726	0.0003362215	0.0058888736
	b.leg			
	-0.0048624232			

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power
0.04426243

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.154629

```

$Bioturbation$Pr3231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 34.86083

Coefficients:
a.(Intercept)      a.grass      a.leg b.(Intercept)      b.grass
  0.507184515  -0.087926722  -0.161615324  -0.002641003  0.007917389
      b.leg
 -0.004653162

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
      expon
 -0.00990154
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1788748

$Bioturbation$Pr3321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 34.25963

Coefficients:
a.(Intercept)      a.grass      a.leg c.(Intercept)      c.grass
 -0.65109417  -0.01549335  -0.13581529  0.07732550  -0.01453568
      c.leg
 -0.03152467

Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
      power
 0.0531182
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1529561

$Bioturbation$Pr3331
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 34.46845

Coefficients:
a.(Intercept)      a.grass      a.leg c.(Intercept)      c.grass
 -0.611129650  -0.039475637  -0.136811612  0.051503885  0.004337563
      c.leg
 -0.032562667

```



```

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
-0.00840066
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1774316

$Bioturbation$Pr3421
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 34.25591

Coefficients:
b.(Intercept)      b.grass      b.leg c.(Intercept)      c.grass
  0.3722089548 -0.0304760173 -0.1365701987  0.3245319330 -0.0003614163
      c.leg
-0.2040730172

Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
0.04734209
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1542804

$Bioturbation$Pr3431
Generalized nonlinear least squares fit
  Model: response ~ b * sowndiv^c
  Data: DF
  Log-likelihood: 34.5987

Coefficients:
b.(Intercept)      b.grass      b.leg c.(Intercept)      c.grass
  0.40039810 -0.05627665 -0.12960915  0.24286601  0.12028860
      c.leg
-0.27349415

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
-0.009261622
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1784643

$Bioturbation$Pr3521
Generalized nonlinear least squares fit

```

Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -26.20735

Coefficients:  
 c.(Intercept)          c.grass                  c.leg  
                   2.6739484        -0.3836014        -2.6697555

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
                   power  
 -0.5124061  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.7261549

\$Bioturbation\$Pr3531  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -37.3807

Coefficients:  
 c.(Intercept)          c.grass                  c.leg  
                   4.762819        -2.404348        -2.683563

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
                   expon  
 -0.03989264  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.5477437

\$Bioturbation\$Ps3721  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 34.49875

Coefficients:  
 a.(Intercept)          a.funcgr                  a.grass                  a.leg    b.(Intercept)  
                   0.475471300    -0.003060448    -0.070874397    -0.155795203    0.008101759  
                   b.funcgr                  b.grass                  b.leg  
 -0.001040796    0.004350183    -0.006827840

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
                   power  
 0.04478591

Degrees of freedom: 82 total; 74 residual  
Residual standard error: 0.1564817

\$Bioturbation\$Ps3731

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv

Data: DF

Log-likelihood: 34.91548

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
0.467191034	0.004529247	-0.079051421	-0.151226095	0.008820779
	b.funcgr	b.grass	b.leg	
-0.001536411	0.005513315	-0.007538081		

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.009953389

Degrees of freedom: 82 total; 74 residual

Residual standard error: 0.1812358

\$Bioturbation\$Ps3821

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv^c

Data: DF

Log-likelihood: 34.56993

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	c.(Intercept)
-0.475680687	-0.035944710	-0.053255225	-0.173382097	-0.007653094
	c.funcgr	c.grass	c.leg	
0.015093637	0.004818793	-0.012037383		

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

0.06261787

Degrees of freedom: 82 total; 74 residual

Residual standard error: 0.1522613

\$Bioturbation\$Ps3831

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv^c

Data: DF

Log-likelihood: 34.59147

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	c.(Intercept)
-0.4840353021	-0.0241089209	-0.0680978348	-0.1639842895	-0.0006995378

```

      c.funcgr      c.grass      c.leg
0.0088575924  0.0167121841 -0.0207935876

```

```

Variance function:
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
      expon
-0.007444694
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1780763

```

```

$Bioturbation$Ps3921
Generalized nonlinear least squares fit
Model: response ~ b * sowndiv^c
Data: DF
Log-likelihood: 34.42413

```

```

Coefficients:
b.(Intercept)      b.funcgr      b.grass      b.leg c.(Intercept)
0.48321727 -0.02096103 -0.05086292 -0.16416828 -0.04283231
      c.funcgr      c.grass      c.leg
0.05306475  0.06647898 -0.08013323

```

```

Variance function:
Structure: Power of variance covariate
Formula: ~sowndiv
Parameter estimates:
      power
0.0567199
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1538737

```

```

$Bioturbation$Ps3931
Generalized nonlinear least squares fit
Model: response ~ b * sowndiv^c
Data: DF
Log-likelihood: 34.62813

```

```

Coefficients:
b.(Intercept)      b.funcgr      b.grass      b.leg c.(Intercept)
0.451092073 -0.008471912 -0.065189908 -0.143143459 -0.012369136
      c.funcgr      c.grass      c.leg
0.034410303  0.173025733 -0.199523966

```

```

Variance function:
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
      expon
-0.008853391
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1801625

```

\$Bioturbation\$Ps4021

Generalized nonlinear least squares fit

Model: response ~ sowndiv^c

Data: DF

Log-likelihood: -24.70716

Coefficients:

c.(Intercept)	c.funcgr	c.grass	c.leg
0.5115089	0.2788810	0.2216273	-2.2026888

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.5403363

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.7479248

\$Bioturbation\$Ps4031

Generalized nonlinear least squares fit

Model: response ~ sowndiv^c

Data: DF

Log-likelihood: -37.20459

Coefficients:

c.(Intercept)	c.funcgr	c.grass	c.leg
-1.7976692	0.6273966	0.4585626	-1.4909473

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.04052005

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.553032

\$Bioturbation\$AS1

Nonlinear regression model

model: response ~ SSasymp(sowndiv, Asym, R0, lrc)

data: DF

Asym R0 lrc

0.3108 0.0742 -2.7121

residual sum-of-squares: 2.646

Number of iterations to convergence: 13

Achieved convergence tolerance: 8.964e-06

\$Bioturbation\$AS2

Nonlinear regression model

model: response ~ SSasympOff(sowndiv, Asym, lrc, c0)

data: DF

Asym lrc c0

0.3108 -2.7121 -4.1079  
residual sum-of-squares: 2.646

Number of iterations to convergence: 13  
Achieved convergence tolerance: 8.592e-06

\$Bioturbation\$AS3  
Nonlinear regression model  
model: response ~ SSasymOrig(sowndiv, Asym, lrc)  
data: DF  
Asym lrc  
0.2661 -1.8517  
residual sum-of-squares: 2.743

Number of iterations to convergence: 8  
Achieved convergence tolerance: 7.667e-06

\$Bioturbation\$LG1  
Nonlinear regression model  
model: response ~ SSfpl(sowndiv, A, B, xmid, scal)  
data: DF  
A B xmid scal  
0.1146 0.2780 12.0984 0.9216  
residual sum-of-squares: 2.574

Number of iterations to convergence: 4  
Achieved convergence tolerance: 3.830e-06

\$Bioturbation\$LG2  
Nonlinear regression model  
model: response ~ SSlogis(sowndiv, Asym, xmid, scal)  
data: DF  
Asym xmid scal  
0.3087 7.0248 6.8339  
residual sum-of-squares: 2.624

Number of iterations to convergence: 26  
Achieved convergence tolerance: 7.795e-06

\$`Ant activity`  
\$`Ant activity`\$L0

Call:  
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,  
data = DF)

Coefficients:  
(Intercept) blockB2 blockB3 blockB4  
sowndiv 0.564023 0.081826 -0.061935 -0.088584 -  
0.017374  
funcgr grass leg sowndiv:funcgr  
sowndiv:grass

-0.131640	-0.225043	0.045967	0.003315	-
0.001863				
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg	
0.001845	0.074815	0.058675	0.007398	

\$`Ant activity`\$L2

Call:

lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:

(Intercept)	sowndiv	funcgr	leg
-0.094718	-0.005478	0.080125	0.205373

\$`Ant activity`\$M1

Nonlinear regression model

model: response ~ a \* sowndiv/(b + sowndiv)

data: DF

a	b
---	---

0.3108 -0.1547

residual sum-of-squares: 4.208

Number of iterations to convergence: 8

Achieved convergence tolerance: 4.278e-06

\$`Ant activity`\$M1a

Nonlinear regression model

model: response ~ SSmicmen(sowndiv, Vm, k)

data: DF

Vm	k
----	---

0.3108 -0.1547

residual sum-of-squares: 4.208

Number of iterations to convergence: 7

Achieved convergence tolerance: 3.289e-06

\$`Ant activity`\$E2

Nonlinear regression model

model: response ~ a + b \* exp(sowndiv)

data: DF

a	b
---	---

3.405e-01 -1.766e-27

residual sum-of-squares: 4.092

Number of iterations to convergence: 4

Achieved convergence tolerance: 1.546e-08

\$`Ant activity`\$E4

Nonlinear regression model

model: response ~ a + exp(sowndiv)

data: DF

a

```
1
  residual sum-of-squares: 5.217e+52

Number of iterations to convergence: 0
Achieved convergence tolerance: 6.21e-20

$`Ant activity`$E5
Nonlinear regression model
  model: response ~ b * exp(sowndiv)
  data: DF
      b
1.216e-27
  residual sum-of-squares: 13.02

Number of iterations to convergence: 4
Achieved convergence tolerance: 3.943e-09

$`Ant activity`$Pa1
Nonlinear regression model
  model: response ~ a + b * sowndiv^c
  data: DF
      a      b      c
0.38567 -0.01359 0.71096
  residual sum-of-squares: 4.021

Number of iterations to convergence: 7
Achieved convergence tolerance: 1.700e-06

$`Ant activity`$Pa2
Nonlinear regression model
  model: response ~ a + b * sowndiv
  data: DF
      a      b
0.365884 -0.004067
  residual sum-of-squares: 4.027

Number of iterations to convergence: 1
Achieved convergence tolerance: 4.376e-09

$`Ant activity`$Pa3
Nonlinear regression model
  model: response ~ a + sowndiv^c
  data: DF
      a      c
-0.60866 -0.04243
  residual sum-of-squares: 4.085

Number of iterations to convergence: 8
Achieved convergence tolerance: 9.944e-07

$`Ant activity`$Pa4
Nonlinear regression model
  model: response ~ b * sowndiv^c
  data: DF
```



```

      b      c
0.3895 -0.1138
residual sum-of-squares: 4.096

```

```

Number of iterations to convergence: 9
Achieved convergence tolerance: 6.772e-06

```

```

$`Ant activity`$Pa5
Nonlinear regression model
  model: response ~ sowndiv^c
  data: DF
      c
-0.7096
residual sum-of-squares: 11.73

```

```

Number of iterations to convergence: 12
Achieved convergence tolerance: 7.087e-06

```

```

$`Ant activity`$AS1
Nonlinear regression model
  model: response ~ SSasym(sowndiv, Asym, R0, lrc)
  data: DF
      Asym      R0      lrc
0.04215 0.37798 -3.88109
residual sum-of-squares: 4.019

```

```

Number of iterations to convergence: 2
Achieved convergence tolerance: 1.179e-06

```

```

$`Ant activity`$BIEXP
Nonlinear regression model
  model: response ~ SSbiexp(sowndiv, A1, lrc1, A2, lrc2)
  data: DF
      A1      lrc1      A2      lrc2
0.01625 -2.07917 0.36335 -4.14229
residual sum-of-squares: 4.019

```

```

Number of iterations to convergence: 27
Achieved convergence tolerance: 9.841e-06

```

```

$`Vole abundance`
$`Vole abundance`$L0

```

```

Call:
lm(formula = response ~ block + (sowndiv + funcgr + grass + leg)^2,
    data = DF)

```

```

Coefficients:
(Intercept)      blockB2      blockB3      blockB4
sowndiv
  0.951945    -0.126667    -0.105571    -0.131574
0.035584
  funcgr      grass      leg  sowndiv:funcgr
sowndiv:grass

```

-0.126848	-0.122096	-0.368441	0.005076
0.009514			
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg
0.007487	0.008390	0.035045	0.042816

\$`Vole abundance`\$L011

Generalized least squares fit by maximum likelihood

Model: response ~ block + (sowndiv + funcgr + grass + leg)^2

Data: DF

Log-likelihood: 49.8624

Coefficients:

(Intercept)	blockB2	blockB3	blockB4	
sowndiv				-
1.082787755	-0.124169956	-0.083019658	-0.129403829	
0.033465757				
funcgr	grass	leg	sowndiv:funcgr	
sowndiv:grass				
-0.179969156	-0.216867527	-0.423100484	0.004935913	
0.008516873				
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg	
0.006985317	0.043618209	0.046672007	0.073332686	

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.1293169

Degrees of freedom: 82 total; 68 residual

Residual standard error: 0.1596079

\$`Vole abundance`\$L021

Generalized least squares fit by maximum likelihood

Model: response ~ block + (sowndiv + funcgr + grass + leg)^2

Data: DF

Log-likelihood: 49.26548

Coefficients:

(Intercept)	blockB2	blockB3	blockB4	
sowndiv				-
1.000211772	-0.131146507	-0.094938178	-0.138135309	
0.035157579				
funcgr	grass	leg	sowndiv:funcgr	
sowndiv:grass				
-0.146158411	-0.153345828	-0.392806048	0.005064543	
0.009050814				
sowndiv:leg	funcgr:grass	funcgr:leg	grass:leg	
0.007551886	0.020779955	0.040223184	0.055107985	

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:  
 expon  
 -0.006268122  
 Degrees of freedom: 82 total; 68 residual  
 Residual standard error: 0.1400266

\$`Vole abundance`\$L2

Call:  
 lm(formula = response ~ sowndiv + funcgr + leg, data = DF)

Coefficients:  
 (Intercept)      sowndiv      funcgr      leg  
 0.474582      0.001490      -0.046296      -0.202039

\$`Vole abundance`\$L22  
 Generalized least squares fit by maximum likelihood  
 Model: response ~ sowndiv + funcgr + leg  
 Data: DF  
 Log-likelihood: 88.62515

Coefficients:  
 (Intercept)      sowndiv      funcgr      leg  
 0.3370848477      -0.0002421946      -0.0080595177      -0.1561066777

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~fitted(.)  
 Parameter estimates:  
 expon  
 12.57196  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.02731221

\$`Vole abundance`\$L211  
 Generalized least squares fit by maximum likelihood  
 Model: response ~ sowndiv + funcgr + leg  
 Data: DF  
 Log-likelihood: 42.49002

Coefficients:  
 (Intercept)      sowndiv      funcgr      leg  
 0.463158807      0.001440570      -0.043717213      -0.197935026

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.1078284  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1691399

```
$`Vole abundance`$L222
Generalized least squares fit by maximum likelihood
  Model: response ~ sowndiv + funcgr + leg
  Data: DF
  Log-likelihood: 41.63748
```

```
Coefficients:
(Intercept)      sowndiv      funcgr      leg
0.473656633  0.001477073 -0.045965634 -0.201809467
```

```
Variance function:
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
  expon
-0.003760035
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1504038
```

```
$`Vole abundance`$M1
Nonlinear regression model
  model: response ~ a * sowndiv/(b + sowndiv)
  data: DF
      a      b
0.1069 0.5273
residual sum-of-squares: 2.322
```

```
Number of iterations to convergence: 5
Achieved convergence tolerance: 3.976e-06
```

```
$`Vole abundance`$M1a
Nonlinear regression model
  model: response ~ SSmicmen(sowndiv, Vm, k)
  data: DF
      Vm      k
0.1069 0.5273
residual sum-of-squares: 2.322
```

```
Number of iterations to convergence: 3
Achieved convergence tolerance: 2.833e-06
```

```
$`Vole abundance`$M311
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 40.60858
```

```
Coefficients:
a.(Intercept)      a.leg b.(Intercept)      b.leg
0.2734926      -0.1317393      -0.6116736      0.1751649
```

```
Variance function:
Structure: Power of variance covariate
Formula: ~sowndiv
```

Parameter estimates:  
 power  
 -0.1028333  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1761366

\$`Vole abundance`\$M321  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 39.8467

Coefficients:  
 a.(Intercept)            a.leg b.(Intercept)            b.leg  
           0.2814202        -0.1401830            1.0394553            -1.4805730

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.003535839  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1573139

\$`Vole abundance`\$M4  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 31.99636

Coefficients:  
 a.(Intercept)            a.grass b.(Intercept)            b.grass  
           0.24282267        -0.04440752            35.66012829            -17.54511460

Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1679426

\$`Vole abundance`\$M411  
 Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 33.59695

Coefficients:  
 a.(Intercept)            a.grass b.(Intercept)            b.grass  
           0.3285272        -0.0831872            56.7954349            -28.0350094

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.1300518

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1997718

\$`Vole abundance`\$M422  
Generalized nonlinear least squares fit  
Model: response ~ a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 32.49015

Coefficients:  
a.(Intercept)            a.grass b.(Intercept)            b.grass  
0.30982553    -0.07619422    49.43846759    -24.40803505

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.005508889

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1750193

\$`Vole abundance`\$M5  
Generalized nonlinear least squares fit  
Model: response ~ a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 27.79669

Coefficients:  
a.(Intercept)            a.funcgr b.(Intercept)            b.funcgr  
-0.10616378    0.08533021    -9.53424185    5.00684641

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1767680

\$`Vole abundance`\$M511  
Generalized nonlinear least squares fit  
Model: response ~ a \* sowndiv/(b + sowndiv)  
Data: DF  
Log-likelihood: 32.25110

Coefficients:  
a.(Intercept)            a.funcgr b.(Intercept)            b.funcgr  
0.03588480    0.04172376    -2.89874994    2.79180948

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
-0.1294631

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.2029002

\$`Vole abundance`\$M522

Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 31.11355

Coefficients:

a.(Intercept)	a.funcgr	b.(Intercept)	b.funcgr
0.04394466	0.03990742	-2.86165741	2.84958771

Variance function:

Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.005582173  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1780943

\$`Vole abundance`\$M7

Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 34.13117

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
-0.30841402	0.09831412	0.16717467	12.13116531	2.88631678
	b.grass			
	-7.44818755			

Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1657658

\$`Vole abundance`\$M711

Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 36.71778

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
-0.4778884	0.2353747	0.1685602	210.7752506	6.6285879
	b.grass			
	-108.7890121			

Variance function:

Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.1701222  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2067670

\$`Vole abundance`\$M722

Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 34.74957

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
-0.3125675	0.0961427	0.1693153	13.0870667	2.6141543
	b.grass			
	-7.7978309			

Variance function:

Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.005930703  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1731142

\$`Vole abundance`\$M821

Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 41.94184

Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
0.31960853	0.01797969	-0.16704653	8.25378266	-4.40647315
	b.leg			
	0.34866034			

Variance function:

Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.1218059  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1805766

\$`Vole abundance`\$M832

Generalized nonlinear least squares fit  
 Model: response ~ a \* sowndiv/(b + sowndiv)  
 Data: DF  
 Log-likelihood: 40.86461

Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
0.30455382	0.01833347	-0.15875106	6.19309208	-3.48501093
	b.leg			
	0.52387201			



```

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
-0.004108751
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1581804

$`Vole abundance`$M91
Generalized nonlinear least squares fit
  Model: response ~ a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 38.25930

Coefficients:
a.(Intercept)      a.funcgr      a.grass      a.leg b.(Intercept)
-3.171288e-01  3.215469e-01  4.624296e-03 -8.826355e-03  3.455697e+02
      b.funcgr      b.grass      b.leg
  9.516940e+00 -1.784428e+02 -1.821789e-01

Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1597431

$`Vole abundance`$M1221
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 32.5492

Coefficients:
a.(Intercept)      a.funcgr b.(Intercept)      b.funcgr d.(Intercept)
  0.07767281      0.01668098  -9.82795683      9.79809650  -0.03980090
      d.funcgr
  0.03094714

Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
-0.1249480
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.2034385

$`Vole abundance`$M131
Generalized nonlinear least squares fit
  Model: response ~ d + a * sowndiv/(b + sowndiv)
  Data: DF
  Log-likelihood: 45.40044

Coefficients:
a.(Intercept)      a.funcgr      a.leg b.(Intercept)      b.funcgr

```

-1.4775906	1.2810159	0.1793172	1.1419537	-0.1753849
b.leg	d.(Intercept)	d.funcgr	d.leg	
-0.4141376	2.1054205	-1.3344369	-0.4506405	

Degrees of freedom: 82 total; 73 residual  
Residual standard error: 0.1474196

\$`Vole abundance`\$M1321

Generalized nonlinear least squares fit

Model: response ~ d + a \* sowndiv/(b + sowndiv)

Data: DF

Log-likelihood: 47.19049

Coefficients:

a.(Intercept)	a.funcgr	a.leg	b.(Intercept)	b.funcgr
8.432449e-01	-8.605890e-02	-3.589947e-01	-1.061103e+01	1.090989e+01
b.leg	d.(Intercept)	d.funcgr	d.leg	
-7.091420e-02	-5.552650e-02	3.647082e-02	-5.032918e-04	

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.06942761

Degrees of freedom: 82 total; 73 residual  
Residual standard error: 0.1598960

\$`Vole abundance`\$M141

Generalized nonlinear least squares fit

Model: response ~ d + a \* sowndiv/(b + sowndiv)

Data: DF

Log-likelihood: 33.94516

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
-0.44770532	0.41705771	0.03275953	-224.50033132	237.56505455
b.grass	d.(Intercept)	d.funcgr	d.grass	
-16.93938825	-0.15631705	0.02957062	0.11915057	

Degrees of freedom: 82 total; 73 residual  
Residual standard error: 0.1695218

\$`Vole abundance`\$M1632

Generalized nonlinear least squares fit

Model: response ~ d + a \* sowndiv/(b + sowndiv)

Data: DF

Log-likelihood: 45.66862

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
-9.94477890	2.90179225	2.33078388	2.34358288	0.74125341
b.funcgr	b.grass	b.leg	d.(Intercept)	d.funcgr
-0.10093264	-0.06497991	-0.24888993	10.47661201	-2.94270443

```

      d.grass      d.leg
-2.29912889    -2.60001580

```

```

Variance function:
Structure: Exponential of variance covariate
Formula: ~sowndiv
Parameter estimates:
      expon
-0.002255671
Degrees of freedom: 82 total; 70 residual
Residual standard error: 0.1529881

```

```

$`Vole abundance`$E2
Nonlinear regression model
  model: response ~ a + b * exp(sowndiv)
  data:  DF
      a      b
8.668e-02 7.766e-28
residual sum-of-squares: 2.304

```

```

Number of iterations to convergence: 4
Achieved convergence tolerance: 2.076e-09

```

```

$`Vole abundance`$E4
Nonlinear regression model
  model: response ~ a + exp(sowndiv)
  data:  DF
a
1
residual sum-of-squares: 5.217e+52

```

```

Number of iterations to convergence: 0
Achieved convergence tolerance: 6.17e-20

```

```

$`Vole abundance`$E5
Nonlinear regression model
  model: response ~ b * exp(sowndiv)
  data:  DF
      b
1.536e-27
residual sum-of-squares: 2.890

```

```

Number of iterations to convergence: 4
Achieved convergence tolerance: 8.364e-09

```

```

$`Vole abundance`$E11
Generalized nonlinear least squares fit
  Model: response ~ a + b * exp(c * sowndiv)
  Data:  DF
  Log-likelihood: 31.78908

```

```

Coefficients:
      a      b      c
-0.816273255  0.893358489  0.001749862

```

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.1267338  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.2019313

\$`Vole abundance`\$E12  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 30.71219

Coefficients:  
                     a                    b                    c  
 -0.448858136  0.526439423  0.002853185

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.005592654  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.1778479

\$`Vole abundance`\$E22  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* exp(sowndiv)  
 Data: DF  
 Log-likelihood: 30.60478

Coefficients:  
                     a                    b  
 8.719291e-02  7.721511e-28

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.005548607  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.1768976

\$`Vole abundance`\$E31  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 31.78908

Coefficients:

a	c
-0.922963866	0.001572206

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power
-0.1267367

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.2006661

\$`Vole abundance`\$E32

Generalized nonlinear least squares fit

Model: response ~ a + exp(c \* sowndiv)

Data: DF

Log-likelihood: 30.71209

Coefficients:

a	c
-0.922714163	0.001563299

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon
-0.005593602

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.1767345

\$`Vole abundance`\$E41

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF

Log-likelihood: -1739.972

Coefficients:

a
-2.650185

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power
15.01930

Degrees of freedom: 82 total; 81 residual

Residual standard error: 0.0828256

\$`Vole abundance`\$E42

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF  
Log-likelihood: -801.1801

Coefficients:

a  
-3.293645

Variance function:

Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
1.014558  
Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.7028127

\$`Vole abundance`\$E51  
Generalized nonlinear least squares fit  
Model: response ~ b \* exp(sowndiv)  
Data: DF  
Log-likelihood: 21.77960

Coefficients:

b  
1.535657e-27

Variance function:

Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
-0.1019726  
Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.2171815

\$`Vole abundance`\$E52  
Generalized nonlinear least squares fit  
Model: response ~ b \* exp(sowndiv)  
Data: DF  
Log-likelihood: 21.34804

Coefficients:

b  
1.535709e-27

Variance function:

Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
-0.006176123  
Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.1978747

\$`Vole abundance`\$E61  
 Generalized nonlinear least squares fit  
 Model: response ~ exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 20.45969

Coefficients:

          c  
 -2.467515

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           power  
 -0.02697761  
 Degrees of freedom: 82 total; 81 residual  
 Residual standard error: 0.1974517

\$`Vole abundance`\$E62  
 Generalized nonlinear least squares fit  
 Model: response ~ exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 20.40241

Coefficients:

          c  
 -2.476849

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           expon  
 0.001092734  
 Degrees of freedom: 82 total; 81 residual  
 Residual standard error: 0.1880599

\$`Vole abundance`\$Ea10  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -4912.516

Coefficients:

a.(Intercept)	a.leg
-2963126.3	911705.8

Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 2.553606e+25

\$`Vole abundance`\$Ea12  
 Generalized nonlinear least squares fit  
 Model: response ~ exp(c \* sowndiv)

Data: DF  
Log-likelihood: 26.32071

Coefficients:  
c.(Intercept)           c.leg  
      2.837536           -3.767779

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.1777146

\$`Vole abundance`\$Ea911  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(c \* sowndiv)  
Data: DF  
Log-likelihood: 39.94793

Coefficients:  
a.(Intercept)           a.leg c.(Intercept)           c.leg  
-0.707468603   -0.137632468   0.001568491   -0.001305327

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
      power  
-0.1178584  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1815666

\$`Vole abundance`\$Ea921  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(c \* sowndiv)  
Data: DF  
Log-likelihood: 38.95136

Coefficients:  
a.(Intercept)           a.leg c.(Intercept)           c.leg  
-0.694924700   -0.144032404   0.001225303   -0.001120110

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
      expon  
-0.00427486  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1600532

\$`Vole abundance`\$Ea1011  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -1722.982



Coefficients:

a.(Intercept)	a.leg
-2.2344510	-0.2375622

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

15.09869

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.06021289

\$`Vole abundance`\$Ea1021

Generalized nonlinear least squares fit

Model: response ~ a + exp(sowndiv)

Data: DF

Log-likelihood: -801.1458

Coefficients:

a.(Intercept)	a.leg
-3.7595644	0.2685874

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

1.014567

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.7068375

\$`Vole abundance`\$Ea121

Generalized nonlinear least squares fit

Model: response ~ exp(c \* sowndiv)

Data: DF

Log-likelihood: 26.36015

Coefficients:

c.(Intercept)	c.leg
2.816248	-3.757761

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

0.01962412

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.1725288

\$`Vole abundance`\$Ea1221

Generalized nonlinear least squares fit

Model: response ~ exp(c \* sowndiv)

Data: DF  
Log-likelihood: 26.53524

Coefficients:  
c.(Intercept)           c.leg  
          2.829921       -3.764135

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
0.003498243  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.1720059

\$`Vole abundance`\$Eb16  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -4912.516

Coefficients:  
a.(Intercept)           a.grass  
          -3508714       1286426

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 2.553606e+25

\$`Vole abundance`\$Eb18  
Generalized nonlinear least squares fit  
Model: response ~ exp(c \* sowndiv)  
Data: DF  
Log-likelihood: 20.93076

Coefficients:  
c.(Intercept)           c.grass  
          -17.810731       7.839853

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.1897884

\$`Vole abundance`\$Eb1511  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(c \* sowndiv)  
Data: DF  
Log-likelihood: 34.42448

Coefficients:  
a.(Intercept)           a.grass   c.(Intercept)           c.grass  
-1.013023893   0.051730191   -0.002319126   0.004423846

Variance function:  
Structure: Power of variance covariate

Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.1414914  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.2011532

\$`Vole abundance`\$Eb1521  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 33.04809

Coefficients:  
 a.(Intercept)           a.grass c.(Intercept)           c.grass  
 -1.020325836    0.057280218   -0.001823701    0.003973504

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.005804109  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1742737

\$`Vole abundance`\$Eb1611  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -1738.08

Coefficients:  
 a.(Intercept)           a.grass  
 -2.80907787    0.09079603

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 15.02814  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.08037925

\$`Vole abundance`\$Eb1621  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -801.0112

Coefficients:  
 a.(Intercept)           a.grass  
 -4.3247248    0.5944908

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
  expon  
1.014698  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.704887

\$`Vole abundance`\$Eb1811  
Generalized nonlinear least squares fit  
Model: response ~ exp(c \* sowndiv)  
Data: DF  
Log-likelihood: 20.98078

Coefficients:  
c.(Intercept)           c.grass  
-19.510549           8.694368

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
  power  
-0.02162383  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.1958604

\$`Vole abundance`\$Eb1821  
Generalized nonlinear least squares fit  
Model: response ~ exp(c \* sowndiv)  
Data: DF  
Log-likelihood: 20.9619

Coefficients:  
c.(Intercept)           c.grass  
-19.495897           8.682048

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
  expon  
0.001322912  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.1875738

\$`Vole abundance`\$Ec22  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -4912.516

## Coefficients:

a.(Intercept)	a.funcgr
252095.6	-912137.5

Degrees of freedom: 82 total; 80 residual

Residual standard error: 2.553606e+25

## \$`Vole abundance`\$Ec24

Generalized nonlinear least squares fit

Model: response ~ exp(c \* sowndiv)

Data: DF

Log-likelihood: 22.11827

## Coefficients:

c.(Intercept)	c.funcgr
-3.1193576	0.6694901

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.1870597

## \$`Vole abundance`\$Ec1921

Generalized nonlinear least squares fit

Model: response ~ a + b \* exp(c \* sowndiv)

Data: DF

Log-likelihood: -2892.173

## Coefficients:

a.(Intercept)	a.funcgr	b.(Intercept)	b.funcgr	c.(Intercept)
0.4790783847	-0.4272080730	0.0033461113	-0.0008365248	0.9997909708
	c.funcgr			
	1.0000522573			

## Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

4.812509

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.0005945556

## \$`Vole abundance`\$Ec2121

Generalized nonlinear least squares fit

Model: response ~ a + exp(c \* sowndiv)

Data: DF

Log-likelihood: 30.85769

## Coefficients:

a.(Intercept)	a.funcgr	c.(Intercept)	c.funcgr
-0.9221932781	0.0034840587	-0.0015671817	0.0007422668

## Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:  
 expon  
 -0.005608878  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1786919

\$`Vole abundance`\$Ec2211  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -1739.972

Coefficients:  
 a.(Intercept)      a.funcgr  
                   2.042045      -4.692230

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 15.01930  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.08334164

\$`Vole abundance`\$Ec2221  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -794.2974

Coefficients:  
 a.(Intercept)      a.funcgr  
                   3.433087      -6.334346

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 1.022225  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.608831

\$`Vole abundance`\$Ec2411  
 Generalized nonlinear least squares fit  
 Model: response ~ exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 22.19316

Coefficients:  
 c.(Intercept)      c.funcgr  
                   -3.107804      0.666768

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.02584390  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.1941988

\$`Vole abundance`\$Ec2421  
 Generalized nonlinear least squares fit  
 Model: response ~ exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 22.16077

Coefficients:  
 c.(Intercept)    c.funcgr  
     -3.1206664    0.6697517

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 0.001532718  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.1845187

\$`Vole abundance`\$Ed28  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -4912.516

Coefficients:  
 a.(Intercept)    a.funcgr    a.leg  
     872779.2    -990730.6    -307654.9

Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 2.569717e+25

\$`Vole abundance`\$Ed2811  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -1722.982

Coefficients:  
 a.(Intercept)    a.funcgr    a.leg  
     2.5171693    -4.7516203    -0.2375622

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv

Parameter estimates:  
 power  
 15.09869  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.06059276

\$`Vole abundance`\$Ed2821  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -794.2623

Coefficients:  
 a.(Intercept)      a.funcgr      a.leg  
                   3.908710      -6.393405      -0.238022

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 1.022291  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.6120607

\$`Vole abundance`\$Ed3021  
 Generalized nonlinear least squares fit  
 Model: response ~ exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 27.43937

Coefficients:  
 c.(Intercept)      c.funcgr      c.leg  
                   2.3063235      0.2067950      -3.6031252

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 0.003707495  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.1708858

\$`Vole abundance`\$Ee40  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -4912.516

Coefficients:  
 a.(Intercept)      a.funcgr      a.grass  
                   -335851.0      -839615.5      296563.4



Degrees of freedom: 82 total; 79 residual  
Residual standard error: 2.569717e+25

\$`Vole abundance`\$Ee341  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -1738.08

Coefficients:  
a.(Intercept)      a.funcgr      a.grass  
1.86045293      -4.66953078      0.09079602

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
power  
15.02814  
Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.08088636

\$`Vole abundance`\$Ee342  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -794.2918

Coefficients:  
a.(Intercept)      a.funcgr      a.grass  
3.24387873      -6.31063313      0.09457138

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
expon  
1.022235  
Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.6125763

\$`Vole abundance`\$Ef40  
Generalized nonlinear least squares fit  
Model: response ~ a + exp(sowndiv)  
Data: DF  
Log-likelihood: -4912.516

Coefficients:  
a.(Intercept)      a.grass      a.leg  
-5251826      1394676      1054750

Degrees of freedom: 82 total; 79 residual  
Residual standard error: 2.569717e+25

```

$`Vole abundance`$Ef3721
Generalized nonlinear least squares fit
  Model: response ~ a + b * exp(c * sowndiv)
  Data: DF
  Log-likelihood: -2672.509

Coefficients:
a.(Intercept)      a.grass      a.leg b.(Intercept)      b.grass
4.543203e-01  1.327729e-02 -2.339733e-01 -1.662374e-05 -7.583310e-06
      b.leg c.(Intercept)      c.grass      c.leg
1.637401e-05  1.000001e+00  1.000001e+00  9.999990e-01

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
  4.464989
Degrees of freedom: 82 total; 73 residual
Residual standard error: 0.0008228012

$`Vole abundance`$Ef3921
Generalized nonlinear least squares fit
  Model: response ~ a + exp(c * sowndiv)
  Data: DF
  Log-likelihood: 40.37047

Coefficients:
a.(Intercept)      a.grass      a.leg c.(Intercept)      c.grass
-0.783111120  0.041861886 -0.133089755 -0.000903571  0.002870171
      c.leg
-0.001270419

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
  -0.00464513
Degrees of freedom: 82 total; 76 residual
Residual standard error: 0.1598710

$`Vole abundance`$Ef4011
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1722.917

Coefficients:
a.(Intercept)      a.grass      a.leg
-2.26492367  0.01305971 -0.23320894

Variance function:
  Structure: Power of variance covariate

```

Formula: ~sowndiv  
 Parameter estimates:  
 power  
 15.09899  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.0605182

\$`Vole abundance`\$Ef4021  
 Generalized nonlinear least squares fit  
 Model: response ~ a + exp(sowndiv)  
 Data: DF  
 Log-likelihood: -800.8841

Coefficients:  
 a.(Intercept)          a.grass          a.leg  
                   -5.6212139        0.7911002        0.5508086

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 1.014764  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.7078377

\$`Vole abundance`\$Ef4211  
 Generalized nonlinear least squares fit  
 Model: response ~ exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 27.79898

Coefficients:  
 c.(Intercept)          c.grass          c.leg  
                   4.2421441        -0.5333544        -4.1849064

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 0.02257006  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.169853

\$`Vole abundance`\$Ef4221  
 Generalized nonlinear least squares fit  
 Model: response ~ exp(c \* sowndiv)  
 Data: DF  
 Log-likelihood: 26.05006

Coefficients:  
 c.(Intercept)          c.grass          c.leg  
                   -17.99137        10.13706        -3.28580

```

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
0.003413014
Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1742458

$`Vole abundance`$Eg46
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -4912.516

Coefficients:
a.(Intercept)      a.funcgr      a.grass      a.leg
      292092.0      -918391.5      183181.3      -199834.3

Degrees of freedom: 82 total; 78 residual
Residual standard error: 2.586137e+25

$`Vole abundance`$Eg4611
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -1722.917

Coefficients:
a.(Intercept)      a.funcgr      a.grass      a.leg
      2.48234347      -4.74726710      0.01305970      -0.23320896

Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
15.09899
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.06090489

$`Vole abundance`$Eg4621
Generalized nonlinear least squares fit
  Model: response ~ a + exp(sowndiv)
  Data: DF
  Log-likelihood: -794.2623

Coefficients:
a.(Intercept)      a.funcgr      a.grass      a.leg
      3.898153176      -6.392085011      0.003814884      -0.236558433

Variance function:
  Structure: Exponential of variance covariate

```

Formula: ~sowndiv  
Parameter estimates:  
  expon  
1.022291  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.6159715

\$`Vole abundance`\$Pa1  
Nonlinear regression model  
  model: response ~ a + b \* sowndiv^c  
  data: DF  
          a          b          c  
0.0789408 0.0009802 1.1247634  
residual sum-of-squares: 2.298

Number of iterations to convergence: 5  
Achieved convergence tolerance: 9.193e-06

\$`Vole abundance`\$Pa2  
Nonlinear regression model  
  model: response ~ a + b \* sowndiv  
  data: DF  
          a          b  
0.077016 0.001630  
residual sum-of-squares: 2.298

Number of iterations to convergence: 1  
Achieved convergence tolerance: 1.488e-11

\$`Vole abundance`\$Pa3  
Nonlinear regression model  
  model: response ~ a + sowndiv^c  
  data: DF  
          a          c  
-0.93067 0.01436  
residual sum-of-squares: 2.312

Number of iterations to convergence: 8  
Achieved convergence tolerance: 1.148e-06

\$`Vole abundance`\$Pa4  
Nonlinear regression model  
  model: response ~ b \* sowndiv^c  
  data: DF  
          b          c  
0.06845 0.17678  
residual sum-of-squares: 2.309

Number of iterations to convergence: 8  
Achieved convergence tolerance: 1.599e-06

\$`Vole abundance`\$Pa5  
Nonlinear regression model  
  model: response ~ sowndiv^c

```

data: DF
      c
-3.039
residual sum-of-squares: 16.64

Number of iterations to convergence: 14
Achieved convergence tolerance: 8.808e-06

```

```

$`Vole abundance`$Pb11
Generalized nonlinear least squares fit
Model: response ~ a + b * sowndiv^c
Data: DF
Log-likelihood: 30.20772

```

```

Coefficients:
      a          b          c
0.0789407874 0.0009802535 1.1247620868

```

```

Degrees of freedom: 82 total; 79 residual
Residual standard error: 0.1705563

```

```

$`Vole abundance`$Pb21
Generalized nonlinear least squares fit
Model: response ~ a + b * sowndiv
Data: DF
Log-likelihood: 30.20531

```

```

Coefficients:
      a          b
0.077015819 0.001629815

```

```

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1694920

```

```

$`Vole abundance`$Pb31
Generalized nonlinear least squares fit
Model: response ~ a + sowndiv^c
Data: DF
Log-likelihood: 29.96347

```

```

Coefficients:
      a          c
-0.93066862 0.01435921

```

```

Degrees of freedom: 82 total; 80 residual
Residual standard error: 0.1699926

```

```

$`Vole abundance`$Pb41
Generalized nonlinear least squares fit
Model: response ~ b * sowndiv^c
Data: DF
Log-likelihood: 30.01754

```

```

Coefficients:

```

b          c  
0.06844269 0.17679967

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.1698805

\$`Vole abundance`\$Pb51  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -50.95346

Coefficients:

          c  
-3.03919

Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.4532009

\$`Vole abundance`\$Pc121  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv^c  
Data: DF  
Log-likelihood: 31.79059

Coefficients:

          a          b          c  
0.078384127 0.001126413 1.091312173

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
-0.1267101  
Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.2019204

\$`Vole abundance`\$Pc131  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv^c  
Data: DF  
Log-likelihood: 30.71338

Coefficients:

          a          b          c  
0.078604726 0.001090269 1.098087326

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.005591308

Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.1778432

\$`Vole abundance`\$Pc221  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 31.78887

Coefficients:  
          a                  b  
0.076613763 0.001649942

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
-0.1267606  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.2006738

\$`Vole abundance`\$Pc231  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 30.7117

Coefficients:  
          a                  b  
0.076930403 0.001638873

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.005594652  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.1767369

\$`Vole abundance`\$Pc321  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 31.40529

Coefficients:  
          a                  c  
-0.93667327 0.01782072

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv



Parameter estimates:  
 power  
 -0.1214991  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.2000460

\$`Vole abundance`\$Pc331  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 30.38030

Coefficients:  
 a c  
 -0.93396730 0.01711384

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.005142579  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.1767652

\$`Vole abundance`\$Pc421  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 31.52889

Coefficients:  
 b c  
 0.06242188 0.21899122

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.1248596  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.2007436

\$`Vole abundance`\$Pc431  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 30.47989

Coefficients:  
 b c  
 0.06526755 0.20603574

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.005417345  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.1769677

\$`Vole abundance`\$Pc521  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -24.12052

Coefficients:  
    c  
-2.639352

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
-0.4137499  
Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.6038647

\$`Vole abundance`\$Pc531  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -44.47803

Coefficients:  
    c  
-2.999267

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.0195558  
Degrees of freedom: 82 total; 81 residual  
Residual standard error: 0.495348

\$`Vole abundance`\$Pd71  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 30.35339

Coefficients:

a.(Intercept)	a.funcgr	b.(Intercept)	b.funcgr
0.0798936945	0.0023909157	-0.0018755688	0.0008597466

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1713415

\$`Vole abundance`\$Pd81

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 30.46955

Coefficients:

a.(Intercept)	a.funcgr	c.(Intercept)	c.funcgr
-0.89895464	-0.01615720	-0.01888243	0.01289533

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1710990

\$`Vole abundance`\$Pd91

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 30.40186

Coefficients:

b.(Intercept)	b.funcgr	c.(Intercept)	c.funcgr
0.093230941	-0.009808833	-0.146829760	0.110422719

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1712403

\$`Vole abundance`\$Pd101

Generalized nonlinear least squares fit

Model: response ~ sowndiv<sup>c</sup>

Data: DF

Log-likelihood: -50.77987

Coefficients:

c.(Intercept)	c.funcgr
-4.5152470	0.8127435

Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.4550602

\$`Vole abundance`\$Pe631

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 31.49123

Coefficients:

a.(Intercept)	a.funcgr	b.(Intercept)	b.funcgr	c.(Intercept)
0.095152522	-0.009078972	-0.004145131	0.002800389	1.808680157

c.funcgr  
-0.278565001

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.00587033  
Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1800382

\$`Vole abundance`\$Pe721  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 31.99404

Coefficients:  
a.(Intercept)          a.funcgr    b.(Intercept)          b.funcgr  
0.0759751150    0.0044370019    -0.0015719101    0.0007519266

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
-0.1288829  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.2033621

\$`Vole abundance`\$Pe731  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 30.86338

Coefficients:  
a.(Intercept)          a.funcgr    b.(Intercept)          b.funcgr  
0.0785083127    0.0031259622    -0.0016908823    0.0007931503

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.005606957  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1786765

\$`Vole abundance`\$Pe821  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF

Log-likelihood: 32.11842

Coefficients:

a.(Intercept)	a.funcgr	c.(Intercept)	c.funcgr
-0.89966558	-0.01470493	-0.02004739	0.01278562

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.1289414

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.2030715

\$`Vole abundance`\$Pe831

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv^c

Data: DF

Log-likelihood: 30.97963

Coefficients:

a.(Intercept)	a.funcgr	c.(Intercept)	c.funcgr
-0.89986251	-0.01546389	-0.01853382	0.01261290

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.005598414

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1784103

\$`Vole abundance`\$Pe921

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv^c

Data: DF

Log-likelihood: 32.04834

Coefficients:

b.(Intercept)	b.funcgr	c.(Intercept)	c.funcgr
0.09906529	-0.01214795	-0.18238953	0.12351020

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.1291012

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.2032933

\$`Vole abundance`\$Pe931

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 30.91448

Coefficients:

b.(Intercept)	b.funcgr	c.(Intercept)	c.funcgr
0.09373521	-0.01000327	-0.14671765	0.11015871

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.005613898

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1785759

\$`Vole abundance`\$Pe1021

Generalized nonlinear least squares fit

Model: response ~ sowndiv<sup>c</sup>

Data: DF

Log-likelihood: -22.02938

Coefficients:

c.(Intercept)	c.funcgr
-3.7143127	0.7467815

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.4502701

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.6253284

\$`Vole abundance`\$Pe1031

Generalized nonlinear least squares fit

Model: response ~ sowndiv<sup>c</sup>

Data: DF

Log-likelihood: -43.24639

Coefficients:

c.(Intercept)	c.funcgr
-4.931776	1.089301

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.02466727

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.5130306

\$`Vole abundance`\$Pf121

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv

Data: DF

Log-likelihood: 32.46372

Coefficients:

a.(Intercept)	a.grass	b.(Intercept)	b.grass
-0.023046861	0.059128725	-0.001492139	0.003793059

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1669882

\$`Vole abundance`\$Pf131

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv^c

Data: DF

Log-likelihood: 32.17638

Coefficients:

a.(Intercept)	a.grass	c.(Intercept)	c.grass
-1.090012521	0.094059781	0.038268965	-0.007618348

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1675743

\$`Vole abundance`\$Pf141

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv^c

Data: DF

Log-likelihood: 32.28669

Coefficients:

b.(Intercept)	b.grass	c.(Intercept)	c.grass
-0.05352398	0.07536039	0.77738208	-0.28692536

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1673491

\$`Vole abundance`\$Pf151

Generalized nonlinear least squares fit

Model: response ~ sowndiv^c

Data: DF

Log-likelihood: -50.77963

Coefficients:

c.(Intercept)	c.grass
-9.161434	3.312493

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.4550589

\$`Vole abundance`\$Pg171

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv

Data: DF

Log-likelihood: 38.63271

Coefficients:

a.(Intercept)	a.leg	b.(Intercept)	b.leg
0.307917361	-0.145449126	0.001007519	-0.001009557

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1548863

\$`Vole abundance`\$Pg181

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 38.92439

Coefficients:

a.(Intercept)	a.leg	c.(Intercept)	c.leg
-0.62936659	-0.17704150	-0.03009162	0.01301985

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1543363

\$`Vole abundance`\$Pg191

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 39.00287

Coefficients:

b.(Intercept)	b.leg	c.(Intercept)	c.leg
0.39420850	-0.18929986	-0.02186961	-0.10960806

Degrees of freedom: 82 total; 78 residual

Residual standard error: 0.1541887

\$`Vole abundance`\$Pg201

Generalized nonlinear least squares fit

Model: response ~ sowndiv<sup>c</sup>

Data: DF

Log-likelihood: -50.1793

Coefficients:

c.(Intercept)	c.leg
1.964560	-3.581039

Degrees of freedom: 82 total; 80 residual

Residual standard error: 0.4517395

\$`Vole abundance`\$Ph221

Generalized nonlinear least squares fit



Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 41.42962

Coefficients:

a.(Intercept)	a.funcgr	a.leg	b.(Intercept)	b.funcgr
0.4959472982	-0.0498806776	-0.2094746796	-0.0032253563	0.0008218878
	b.leg			
	0.0015264708			

Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1516493

\$`Vole abundance`\$Ph231

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 41.72677

Coefficients:

a.(Intercept)	a.funcgr	a.leg	c.(Intercept)	c.funcgr
-0.43771992	-0.07433160	-0.23114121	-0.06196593	0.01775905
	c.leg			
	0.02396972			

Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1511007

\$`Vole abundance`\$Ph251

Generalized nonlinear least squares fit

Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -49.46622

Coefficients:

c.(Intercept)	c.funcgr	c.leg
6.044629	-2.862539	-3.980330

Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.4506536

\$`Vole abundance`\$Pi271

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 34.07151

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
-0.054197929	0.018869247	0.065498296	-0.016591142	0.002478395
	b.grass			
	0.008267967			

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.1658864

\$`Vole abundance`\$Pi281

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 34.02786

Coefficients:

a.(Intercept)	a.funcgr	a.grass	c.(Intercept)	c.funcgr
-1.024173432	-0.001993515	0.063001522	-0.090342065	0.021769792
	c.grass			
	0.037451023			

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.1659748

\$`Vole abundance`\$Pi291

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 35.13921

Coefficients:

b.(Intercept)	b.funcgr	b.grass	c.(Intercept)	c.funcgr
-0.0112032739	0.0006383142	0.0537368615	-1.3837995806	0.3044935216
	c.grass			
	0.4969289846			

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.1637405

\$`Vole abundance`\$Pi301

Generalized nonlinear least squares fit

Model: response ~ sowndiv<sup>c</sup>

Data: DF

Log-likelihood: -50.53705

Coefficients:

c.(Intercept)	c.funcgr	c.grass
-9.310887	1.511906	2.025215

Degrees of freedom: 82 total; 79 residual

Residual standard error: 0.4565772

\$`Vole abundance`\$Pj321

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv

Data: DF

Log-likelihood: 39.96735

Coefficients:

a.(Intercept)	a.grass	a.leg	b.(Intercept)	b.grass
0.2208274872	0.0429144322	-0.1360146876	-0.0009587644	0.0025272729

b.leg  
-0.0009751508

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1543778

\$`Vole abundance`\$Pj331  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 39.78445

Coefficients:  
a.(Intercept)            a.grass            a.leg c.(Intercept)            c.grass  
-0.737310260    0.044420199    -0.158682853    -0.015508749    0.003156306  
                  c.leg  
                  0.007169930

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1547225

\$`Vole abundance`\$Pj341  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 40.11465

Coefficients:  
b.(Intercept)            b.grass            b.leg c.(Intercept)            c.grass  
0.23047684    0.05463177    -0.15092247    0.98757059    0.06823424  
                  c.leg  
                  -1.07946390

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.1541008

\$`Vole abundance`\$Pj351  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -50.06684

Coefficients:  
c.(Intercept)            c.grass            c.leg  
3.3117007    -0.5966959    -3.9713695

Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.4539666

\$`Vole abundance`\$Pk361  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv^c  
Data: DF  
Log-likelihood: 46.9446

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
7.847449e-01	-1.223023e-01	-4.801509e-04	-2.863335e-01	-4.552387e-01
b.funcgr	b.grass	b.leg	c.(Intercept)	c.funcgr
9.413775e-02	2.277085e-02	1.275719e-01	-1.661144e+01	2.396583e+00
c.grass	c.leg			
4.778142e+00	2.408685e+00			

Degrees of freedom: 82 total; 70 residual  
Residual standard error: 0.147737

\$`Vole abundance`\$Pk371  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 42.40291

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
0.716424823	-0.077502805	-0.069830636	-0.250224079	-0.045582142
b.funcgr	b.grass	b.leg		
0.006067793	0.012961395	0.009944191		

Degrees of freedom: 82 total; 74 residual  
Residual standard error: 0.1518716

\$`Vole abundance`\$Pk381  
Generalized nonlinear least squares fit  
Model: response ~ a + sowndiv^c  
Data: DF  
Log-likelihood: 42.34188

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	c.(Intercept)
-0.24460589	-0.09985782	-0.06553000	-0.26111208	-0.22974318
c.funcgr	c.grass	c.leg		
0.03921618	0.05455568	0.05291474		

Degrees of freedom: 82 total; 74 residual  
Residual standard error: 0.1519846

\$`Vole abundance`\$Pk401  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -49.37142

Coefficients:

c.(Intercept)	c.funcgr	c.grass	c.leg
21.111250	-2.590060	-4.725122	-9.875522

Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.4530092

```

$`Vole abundance`$Pm1221
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 34.40372

Coefficients:
a.(Intercept)      a.grass b.(Intercept)      b.grass
-0.014823201      0.052597787 -0.002269727      0.004520349

```

```

Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
-0.1411505
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.2011023

```

```

$`Vole abundance`$Pm1231
Generalized nonlinear least squares fit
  Model: response ~ a + b * sowndiv
  Data: DF
  Log-likelihood: 33.03548

Coefficients:
a.(Intercept)      a.grass b.(Intercept)      b.grass
-0.022083157      0.058125573 -0.001715965      0.004019599

```

```

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
-0.005796744
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.1742894

```

```

$`Vole abundance`$Pm1321
Generalized nonlinear least squares fit
  Model: response ~ a + sowndiv^c
  Data: DF
  Log-likelihood: 33.76109

Coefficients:
a.(Intercept)      a.grass c.(Intercept)      c.grass
-1.098037903      0.095950827  0.040187954      -0.006847478

```

```

Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power

```

-0.1279833  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1987610

\$`Vole abundance`\$Pm1331  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 32.62988

Coefficients:  
 a.(Intercept)            a.grass c.(Intercept)            c.grass  
 -1.098887599    0.097994234    0.042785508    -0.009240569

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:

    expon  
 -0.005256648  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1743434

\$`Vole abundance`\$Pm1421  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 34.05113

Coefficients:  
 b.(Intercept)            b.grass c.(Intercept)            c.grass  
 -0.05109205    0.07105312    0.79119688    -0.27304166

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:

    power  
 -0.1355715  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.200303

\$`Vole abundance`\$Pm1431  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 32.81991

Coefficients:  
 b.(Intercept)            b.grass c.(Intercept)            c.grass  
 -0.05477547    0.07533179    0.80910027    -0.29663420

Variance function:  
 Structure: Exponential of variance covariate

Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.005646374  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1745228

\$`Vole abundance`\$Pm1521  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -23.95272

Coefficients:  
 c.(Intercept)           c.grass  
     -8.354208           3.069212

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.4131694  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.6058627

\$`Vole abundance`\$Pm1531  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -44.32019

Coefficients:  
 c.(Intercept)           c.grass  
     -9.095510           3.296466

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.01952035  
 Degrees of freedom: 82 total; 80 residual  
 Residual standard error: 0.4973244

\$`Vole abundance`\$Pn1721  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 39.94771

Coefficients:  
 a.(Intercept)           a.leg   b.(Intercept)           b.leg  
     0.292586136   -0.137673126   0.001559042   -0.001295385

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.1178497  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1815648

\$`Vole abundance`\$Pn1731  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 38.95131

Coefficients:  
 a.(Intercept)           a.leg b.(Intercept)           b.leg  
   0.305140670   -0.144074831    0.001213468   -0.001109618

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.004274248  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1600525

\$`Vole abundance`\$Pn1821  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 39.98889

Coefficients:  
 a.(Intercept)           a.leg c.(Intercept)           c.leg  
 -0.665653030   -0.158405210   -0.010831946   0.002962058

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.1089451  
 Degrees of freedom: 82 total; 78 residual  
 Residual standard error: 0.1790904

\$`Vole abundance`\$Pn1831  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 39.13389



Coefficients:  
a.(Intercept)                    a.leg c.(Intercept)                    c.leg  
-0.640863887   -0.171255891   -0.021836249   0.008835745

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.003578656  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1587457

\$`Vole abundance`\$Pn1921  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 40.00391

Coefficients:  
b.(Intercept)                    b.leg c.(Intercept)                    c.leg  
0.3463813       -0.1649692       0.1911618       -0.2534415

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
-0.1068579  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1785036

\$`Vole abundance`\$Pn1931  
Generalized nonlinear least squares fit  
Model: response ~ b \* sowndiv^c  
Data: DF  
Log-likelihood: 39.18293

Coefficients:  
b.(Intercept)                    b.leg c.(Intercept)                    c.leg  
0.37794755       -0.18113704       0.05073633       -0.15188384

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.003355335  
Degrees of freedom: 82 total; 78 residual  
Residual standard error: 0.1583469

\$`Vole abundance`\$Pn2021  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c

Data: DF  
Log-likelihood: -20.44487

Coefficients:  
c.(Intercept)           c.leg  
      3.452673           -4.315749

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
      power  
-0.4566172  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.619168

\$`Vole abundance`\$Pn2031  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -43.55967

Coefficients:  
c.(Intercept)           c.leg  
      2.558113           -3.876942

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
      expon  
-0.01983887  
Degrees of freedom: 82 total; 80 residual  
Residual standard error: 0.4940825

\$`Vole abundance`\$Pp2221  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv  
Data: DF  
Log-likelihood: 42.50794

Coefficients:  
a.(Intercept)           a.funcgr           a.leg   b.(Intercept)           b.funcgr  
      4.691199e-01   -4.528620e-02   -1.980373e-01   1.201864e-04   3.211153e-04  
      b.leg  
      8.883403e-05

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
      power  
-0.1071863  
Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.1754839

\$`Vole abundance`\$Pp2231

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv

Data: DF

Log-likelihood: 41.67058

Coefficients:

a.(Intercept)	a.funcgr	a.leg	b.(Intercept)	b.funcgr
0.4913693942	-0.0489742282	-0.2076973444	-0.0023500675	0.0006768582
	b.leg			
	0.0011819605			

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.003684938

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.1560643

\$`Vole abundance`\$Pp2321

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv^c

Data: DF

Log-likelihood: 42.73913

Coefficients:

a.(Intercept)	a.funcgr	a.leg	c.(Intercept)	c.funcgr
-0.45376943	-0.07135171	-0.22365382	-0.05082786	0.01607519
	c.leg			
	0.01845584			

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.1030781

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.1739258

\$`Vole abundance`\$Pp2331

Generalized nonlinear least squares fit

Model: response ~ a + sowndiv^c

Data: DF

Log-likelihood: 41.94920

Coefficients:

a.(Intercept)	a.funcgr	a.leg	c.(Intercept)	c.funcgr
-0.44100562	-0.07362988	-0.22980002	-0.05852121	0.01716541
	c.leg			

0.02250007

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.00353983

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.1553413

\$`Vole abundance`\$Pp2421

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv^c

Data: DF

Log-likelihood: 34.22236

Coefficients:

b.(Intercept)	b.funcgr	b.leg	c.(Intercept)	c.funcgr
0.58611893	0.03103045	-0.30095113	2.21424738	-2.13193742
	c.leg			
	-0.02255772			

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

0.07938477

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.1471733

\$`Vole abundance`\$Pp2431

Generalized nonlinear least squares fit

Model: response ~ b \* sowndiv^c

Data: DF

Log-likelihood: 34.38259

Coefficients:

b.(Intercept)	b.funcgr	b.leg	c.(Intercept)	c.funcgr
0.60168935	0.02819242	-0.30707189	2.16391561	-2.10688598
	c.leg			
	-0.02525788			

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

0.00700676

Degrees of freedom: 82 total; 76 residual

Residual standard error: 0.1556102

\$`Vole abundance`\$Pp2521

Generalized nonlinear least squares fit

Model: response ~ sowndiv<sup>c</sup>

Data: DF

Log-likelihood: -19.80458

Coefficients:

c.(Intercept)	c.funcgr	c.leg
2.6896497	0.1706482	-4.0724945

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.4691893

Degrees of freedom: 82 total; 79 residual

Residual standard error: 0.6298753

\$`Vole abundance`\$Pp2531

Generalized nonlinear least squares fit

Model: response ~ sowndiv<sup>c</sup>

Data: DF

Log-likelihood: -42.67968

Coefficients:

c.(Intercept)	c.funcgr	c.leg
0.9808754	0.4869266	-3.5042830

Variance function:

Structure: Exponential of variance covariate

Formula: ~sowndiv

Parameter estimates:

expon

-0.02470518

Degrees of freedom: 82 total; 79 residual

Residual standard error: 0.5128787

\$`Vole abundance`\$Pq2621

Generalized nonlinear least squares fit

Model: response ~ a + b \* sowndiv<sup>c</sup>

Data: DF

Log-likelihood: 39.7284

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
-2.926480919	-0.013162358	1.526432276	2.894745708	0.005785932
	b.grass	c.(Intercept)	c.funcgr	c.grass
-1.451830976	-1.375646908	0.011621307	1.353889499	

Variance function:

Structure: Power of variance covariate

Formula: ~sowndiv

Parameter estimates:

power

-0.1862281  
 Degrees of freedom: 82 total; 73 residual  
 Residual standard error: 0.2082887

\$`Vole abundance`\$Pq2721  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 36.6959

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
-0.041194429	0.019160936	0.055787754	-0.018100948	0.002548047
	b.grass			
	0.009364162			

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.1619676  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2043334

\$`Vole abundance`\$Pq2731  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 34.73776

Coefficients:

a.(Intercept)	a.funcgr	a.grass	b.(Intercept)	b.funcgr
-0.053124092	0.019275022	0.064146751	-0.016811480	0.002453020
	b.grass			
	0.008515193			

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.006096945  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1733865

\$`Vole abundance`\$Pq2821  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 36.66455

Coefficients:

a.(Intercept)	a.funcgr	a.grass	c.(Intercept)	c.funcgr

-0.973401379 -0.007412538 0.037646072 -0.122444728 0.025585678  
 c.grass  
 0.052892517

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.1634284  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.2048553

\$`Vole abundance`\$Pq2831  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 34.69199

Coefficients:  
 a.(Intercept) a.funcgr a.grass c.(Intercept) c.funcgr  
 -1.018068479 -0.002219154 0.059485739 -0.095748771 0.022145704  
 c.grass  
 0.040490393

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.006095389  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1734809

\$`Vole abundance`\$Pq2931  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 35.95712

Coefficients:  
 b.(Intercept) b.funcgr b.grass c.(Intercept) c.funcgr  
 -0.0060985319 -0.0004308258 0.0515797528 -1.4177682139 0.3114536174  
 c.grass  
 0.5103819231

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.006572376  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1715259

\$`Vole abundance`\$Pq3021  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -19.31187

Coefficients:  
 c.(Intercept)      c.funcgr      c.grass  
                   -8.505518      1.499956      1.789284

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           power  
 -0.4691684  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.6260825

\$`Vole abundance`\$Pq3031  
 Generalized nonlinear least squares fit  
 Model: response ~ sowndiv^c  
 Data: DF  
 Log-likelihood: -42.70443

Coefficients:  
 c.(Intercept)      c.funcgr      c.grass  
                   -9.268504      1.733189      1.765749

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
           expon  
 -0.02495763  
 Degrees of freedom: 82 total; 79 residual  
 Residual standard error: 0.5141467

\$`Vole abundance`\$Pr3221  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 41.72591

Coefficients:  
 a.(Intercept)      a.grass      a.leg      b.(Intercept)      b.grass  
                   0.206004348      0.037615057      -0.124395866      -0.001229467      0.003763056  
                   b.leg  
                   -0.001687273

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv





Coefficients:

a.(Intercept)	a.grass	a.leg	c.(Intercept)	c.grass
-0.756805516	0.048389934	-0.152024633	-0.004721652	0.001704376
	c.leg			
	0.002911354			

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.003970387  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1595670

\$`Vole abundance`\$Pr3421  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 41.84573

Coefficients:

b.(Intercept)	b.grass	b.leg	c.(Intercept)	c.grass
0.135078715	0.076818068	-0.123559096	2.357160041	-0.009710363
	c.leg			
	-2.210164741			

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.1399466  
 Degrees of freedom: 82 total; 76 residual  
 Residual standard error: 0.1857233

\$`Vole abundance`\$Pr3431  
 Generalized nonlinear least squares fit  
 Model: response ~ b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 40.42276

Coefficients:

b.(Intercept)	b.grass	b.leg	c.(Intercept)	c.grass
0.185071097	0.070375940	-0.143140942	1.890842563	0.008824552
	c.leg			
	-1.840698625			

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.004326799

Degrees of freedom: 82 total; 76 residual  
Residual standard error: 0.159333

\$`Vole abundance`\$Pr3521  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -20.31241

Coefficients:  
c.(Intercept)          c.grass                  c.leg  
          3.7415652        -0.1782686        -4.3660832

Variance function:  
Structure: Power of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    power  
-0.4574991  
Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.6228837

\$`Vole abundance`\$Pr3531  
Generalized nonlinear least squares fit  
Model: response ~ sowndiv^c  
Data: DF  
Log-likelihood: -42.97099

Coefficients:  
c.(Intercept)          c.grass                  c.leg  
          4.905948        -1.017078        -4.605116

Variance function:  
Structure: Exponential of variance covariate  
Formula: ~sowndiv  
Parameter estimates:  
    expon  
-0.0225535  
Degrees of freedom: 82 total; 79 residual  
Residual standard error: 0.5052832

\$`Vole abundance`\$Ps3621  
Generalized nonlinear least squares fit  
Model: response ~ a + b \* sowndiv^c  
Data: DF  
Log-likelihood: 46.30401

Coefficients:  
a.(Intercept)          a.funcgr                  a.grass                  a.leg    b.(Intercept)  
          -0.76039308      0.22436929              0.38262097            -0.08550191        1.57200865  
                  b.funcgr                  b.grass                  b.leg    c.(Intercept)                  c.funcgr  
          -0.32676752     -0.48628540            -0.17034684            1.98433650        -0.23809136  
                  c.grass                  c.leg  
          -0.42052385     -0.69425026

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.1287107  
 Degrees of freedom: 82 total; 70 residual  
 Residual standard error: 0.1802469

\$`Vole abundance`\$Ps3631  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv^c  
 Data: DF  
 Log-likelihood: 47.06927

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
0.794944514	-0.122995550	-0.006427293	-0.287810017	-0.449301456
b.funcgr	b.grass	b.leg	c.(Intercept)	c.funcgr
0.091168810	0.025734382	0.124905843	-14.928440392	2.167524360
c.grass	c.leg			
4.275294681	2.176129477			

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     expon  
 -0.002647236  
 Degrees of freedom: 82 total; 70 residual  
 Residual standard error: 0.1509035

\$`Vole abundance`\$Ps3721  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 43.77621

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
0.714687880	-0.075905263	-0.077827992	-0.243687619	-0.044794336
b.funcgr	b.grass	b.leg		
0.005873409	0.013761632	0.009032228		

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
     power  
 -0.1194679  
 Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.1783321

\$`Vole abundance`\$Ps3731  
 Generalized nonlinear least squares fit  
 Model: response ~ a + b \* sowndiv  
 Data: DF  
 Log-likelihood: 42.67946

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	b.(Intercept)
0.713579451	-0.076804487	-0.070342344	-0.248832870	-0.044958020
	b.funcgr	b.grass	b.leg	
0.005952149	0.013032557	0.009661657		

Variance function:  
 Structure: Exponential of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 expon  
 -0.003883419  
 Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.1564917

\$`Vole abundance`\$Ps3821  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 43.77068

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	c.(Intercept)
-0.18399675	-0.10677176	-0.09199864	-0.26485977	-0.27231114
	c.funcgr	c.grass	c.leg	
0.04438086	0.07213438	0.05615780		

Variance function:  
 Structure: Power of variance covariate  
 Formula: ~sowndiv  
 Parameter estimates:  
 power  
 -0.123143  
 Degrees of freedom: 82 total; 74 residual  
 Residual standard error: 0.1793198

\$`Vole abundance`\$Ps3831  
 Generalized nonlinear least squares fit  
 Model: response ~ a + sowndiv^c  
 Data: DF  
 Log-likelihood: 42.61936

Coefficients:

a.(Intercept)	a.funcgr	a.grass	a.leg	c.(Intercept)
-0.24068717	-0.09997592	-0.06809891	-0.26083185	-0.23380218
	c.funcgr	c.grass	c.leg	
0.03950142	0.05698643	0.05278702		

```

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
-0.003894833
Degrees of freedom: 82 total; 74 residual
Residual standard error: 0.1566218

$`Vole abundance`$Ps4021
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -18.88881

Coefficients:
c.(Intercept)      c.funcgr      c.grass      c.leg
-0.6425910      0.5901654      0.8141783     -3.2245857

Variance function:
  Structure: Power of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    power
-0.4789888
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.6360464

$`Vole abundance`$Ps4031
Generalized nonlinear least squares fit
  Model: response ~ sowndiv^c
  Data: DF
  Log-likelihood: -42.63452

Coefficients:
c.(Intercept)      c.funcgr      c.grass      c.leg
-2.9446339      0.9812844      0.9134404     -2.4618169

Variance function:
  Structure: Exponential of variance covariate
  Formula: ~sowndiv
  Parameter estimates:
    expon
-0.02496867
Degrees of freedom: 82 total; 78 residual
Residual standard error: 0.51704

$`Vole abundance`$AS3
Nonlinear regression model
  model: response ~ SSasymOrig(sowndiv, Asym, lrc)
  data: DF
    Asym      lrc
0.09731 0.30727
residual sum-of-squares: 2.325

```

Number of iterations to convergence: 4  
Achieved convergence tolerance: 8.61e-06

\$`Vole abundance`\$LG2

Nonlinear regression model

model: response ~ SSlogis(sowndiv, Asym, xmid, scal)

data: DF

Asym xmid scal

0.2643 33.5784 38.3153

residual sum-of-squares: 2.298

Number of iterations to convergence: 3  
Achieved convergence tolerance: 8.755e-07