

**Stats Table:** *Results of statistical models.* The response variable tested is indicated and what subset of data were included in the model. Error distribution, model fit (AIC), degrees of freedom (df), number of observations included in analysis (N), random factors, fixed factors, and results of statistical models are included. The figure or table summarizing results provide in the last column.

Response	Distribution	model			Random factors	Fixed factors	Slope	$\chi^2$	P	Figure/*Notes
Total cover (all)	nbinomial	2011	12	213	Plot_ID nested in Field Column (block) nested in Field Row (block) nested in Field	cover crop (cat <sup>†</sup> ) Year (cat) Field (cat) Year x Field		19.66 27.15 8.31 43.91	<0.001 <0.001 <0.001 <0.001	S1A
Weed biomass (all)	nbinomial	1506	12	203	Plot_ID nested in Field Column (block) nested in Field Row (block) nested in Field	cover crop (cat) Year (cat) Field (cat) Year x Field		4.47 21.19 23.60 42.99	0.03 <0.001 <0.001 <0.001	S1B
White grubs (all)	Zero-inflated Poisson	577	12	213	Plot_ID nested in Field Column (block) nested in Field	Total Cover (con't*, standardized) Insecticide Treatment (cat) Year (cat) Field (cat) Year*Field	-0.19	5.45 0.68 18.63 17.53 14.15	0.02 0.71 <0.001 <0.001 <0.001	Fig. 1, Table1 * row block estimate is close to 0, convergence issues
White grubs (2017 Corn)	Zero-inflated Poisson	153	7	35	Column (block) Row (block)	Total Cover (con't) Insecticide Treatment (cat)	-0.01	1.33 0.81	0.25 0.67	Table 1, S3
White grubs (2017 Soy)	Poisson	108	7	35	Column (block) Row (block)	Total Cover (con't) Insecticide Treatment (cat)	-0.01	0.43 1.89	0.51 0.39	Table 1, S3
White grubs (2018 Corn)	Poisson	107	7	36	Column (block) Row (block)	Total Cover (con't) Insecticide Treatment (cat)	-0.01	0.15 0.29	0.70 0.86	Table 1, S3
White grubs (2018 Soy)	Zero-inflated Poisson	111	7	36	Column (block) Row (block)	Total Cover (con't) Insecticide Treatment (cat)	-0.02	2.97 0.40	0.08 0.82	Table 1, S3
White grubs (2019 Soy)	Poisson	29	7	36	Column (block) Row (block)	Total Cover (con't) Insecticide Treatment (cat)	-0.15	4.73 0.19	0.03 0.91	Table 1, S3

<sup>†</sup> categorical variable, \* continuous variable

## Stats Table continued

Response	Distribution	model AIC	df	N	Random factors	Fixed factors	Slope	$\chi^2$	P	Figure/*Notes
White grubs (2019 Corn)	Poisson	106	7	35	Column (block) Row (block)	Total Cover (con't) Insecticide Treatment (cat)	-0.02	1.10 1.29	0.29 0.53	Table 1, S3
Slug population (Corn)	Zero-inflated Poisson	335	16	106	Plot_ID nested in Field Column (block) nested in Field Row (block) nested in Field	Total Cover (con't, standardized) Insecticide Treatment (cat) Year (cat)	0.17	1.38 4.48 15.72	0.24 0.11 <b>&lt;0.001</b>	
Slug population (Soy)	Zero-inflated Poisson	320	11	71	Plot_ID nested in Field Column (block) nested in Field Row (block) nested in Field	Total Cover (con't, standardized) Insecticide Treatment (cat) Year (cat)	0.09	1.44 1.18 49.65	0.23 0.56 <b>&lt;0.001</b>	*Slug populations not measured in soy in 2018
Slug population (2017 Soy)	Zero-inflated Poisson	118	7	35	Plot_ID nested in Field Column (block) nested in Field Row (block) nested in Field	Total Cover (con't, standardized) Insecticide Treatment (cat)	0.34	2.32 3.33	0.13 0.19	Table S3
Slug population (2019 Soy)	Zero-inflated Poisson	215	7	36	Plot_ID nested in Field Column (block) nested in Field Row (block) nested in Field	Total Cover (con't, standardized) Insecticide Treatment (cat)	0.09	1.18 2.01	0.28 0.37	Table S3
Slug damage (Corn)	Zero-inflated Beta distribution (link=logit)	35	11	106	Plot_ID nested in Field Column (block) nested in Field Row (block) nested in Field	Total Cover (con't, standardized) Insecticide Treatment (cat) Year (cat)	-0.15	1.72 2.34 82.61	0.19 0.31 <b>&lt;0.001</b>	Table 1, S3
Slug damage (2017 Corn)	Zero-inflated Beta distribution (link=logit)	-14	8	35	Column (block) Row (block)	Total Cover (con't, standardized) Insecticide Treatment (cat)	-0.01	1.18 2.35	0.28 0.31	Table 1, S3
Slug damage (2018 Corn)	Zero-inflated Beta distribution (link=logit)	11	8	36	Column (block) Row (block)	Total Cover (con't, standardized) Insecticide Treatment (cat)	-0.04	6.92 2.73	<b>0.01</b> 0.26	Table 1, S3

## Stats Table continued

Response	Distribution	model AIC	df	N	Random factors	Fixed factors	Slope	$\chi^2$	P	Figure/*Notes
Slug damage (2019 Corn)	Zero-inflated Beta distribution (link=logit)	2	8	36	Column (block) Row (block)	Total Cover (con't, standardized) Insecticide Treatment (cat) Total Cover x Incecticide Treatment	0.06  19.68 16.29	4.94  19.68 16.29	<b>0.03</b> <b>&lt;0.001</b> <b>&lt;0.001</b>	Table 1, S3
Slug damage (Soy 2019)	Beta distribution (link=logit)		8	36	Column (block) nested in Field Row (block) nested in Field	Total Cover (con't, standardized) Insecticide Treatment (cat)	-0.35  4.64	14.39  0.10	<b>&lt;0.001</b> 0.10	* No slug damage in 2017 or 2018 to Soy
Damage (all)	ordinal data	9798	35	5404	Plot_ID nested in Field Column (block) nested in Field Row (block) nested in Field	cover crop (cat) Insecticide Treatment (cat) Crop Year cover crop x Incecticide Treatment cover crop x Crop Insecticide Treatment x Crop cover crop x Year Insecticide Treatment x Year Crop x Year cover crop x Insecticide Treatment x Crop cover crop x Insecticide Treatment x Year cover crop x Crop x Year Insecticide Treatment x Crop x Year cover crop x Insecticide Treatment x Crop x Year	9.16 5.66 48.29 513.12 4.89 11.17 20.96 1.73 5.19 33.49 5.04 7.69 1.19 13.18 12.94	<b>0.002</b> 0.06 <b>&lt;0.001</b> <b>&lt;0.001</b> 0.09 <b>&lt;0.001</b> <b>&lt;0.001</b> 0.42 0.27 <b>&lt;0.001</b> 0.08 0.10 0.55 <b>0.01</b> <b>0.01</b>		
Damage (Corn)	ordinal data	6139	17	3254	Plot_ID nested in Field Column (block) nested in Field Row (block) nested in Field sampling location nested in Plot	cover crop (cat) Insecticide Treatment (cat) Year cover crop x Incecticide Treatment	16.02 2.70 341.36 4.88	<b>&lt;0.001</b> 0.26 <b>&lt;0.001</b> 0.09		

## Stats Table continued

Response	Distribution	model			Random factors	Fixed factors	Slope	$\chi^2$	P	Figure/*Notes
						cover crop x Year		0.72	0.70	
						Insecticide Treatment x Year		10.87	0.03	
						cover crop x Insecticide Treatment x Year		18.6	0.00	
Damage (Soy)	ordinal data	3488	13	2150	Plot_ID nested in Field Column (block) nested in Field Row (block) nested in Field sampling location nested in Plot	cover crop (cat) Insecticide Treatment (cat) Year	0.24 8.88 131.67	0.63 <b>0.01</b> <b>&lt;0.001</b>		Fig. 2A, Table S3
Damage (2017 Corn)	ordinal data	819	10	624	Column (block) Row (block) sampling location nested in Plot	cover crop (cat) Insecticide Treatment (cat)	4.36 2.22	<b>0.04</b> 0.33		Fig. 2B, Table S3
Damage (2018 Corn)	ordinal data		10	722	Column (block) Row (block) sampling location nested in Plot	cover crop (cat) Insecticide Treatment (cat)	7.49 5.95	<b>&lt;0.001</b> 0.05		Fig. 2C, Table S3
Damage (2019 Corn)	ordinal data	1058	5	721	Plot_ID nested in Field Column (block) nested in Field Row (block) nested in Field	cover crop (cat) Insecticide Treatment (cat) cover crop x Insecticide Treatment	2.49 0.00 8.43	0.11 1.00 <b>0.01</b>		Table S3
Damage (2017 Soy)	ordinal data	936	10	720	Column (block) Row (block) sampling location nested in Plot	cover crop (cat) Insecticide Treatment (cat)	0.87 0.96	0.35 0.62		Table S3
Damage (2018 Soy)	ordinal data	1137	9	720	Column (block) Row (block) sampling location nested in Plot	cover crop (cat) Insecticide Treatment (cat)	0.25 4.62	0.61 0.10		Table S3
Damage (2019 Soy)	ordinal data	1225	9	720	Column (block) Row (block) sampling location nested in Plot	cover crop (cat) Insecticide Treatment (cat)	0.05 5.99	0.46 0.05		Table S3

## Stats Table continued

Response	Distribution	model AIC	df	N	Random factors	Fixed factors	Slope	$\chi^2$	P	Figure/*Notes
Crop establishment	Gaussian	618	6	213	Plot_ID nested in Field	Total Cover (con't, standardized)		0.09	0.77	
					Column (block) nested in Field	Insecticide Treatment (cat)		3.66	0.16	
					Row (block) nested in Field	Year		0.02	0.99	
						Crop		0.00	0.97	
Total predators (all)	Poisson	1972	38	213	Plot_ID nested in Field	Total Cover (con't, standardized)	0.34	11.33	<0.001	*Removed Row random effect because value so low
					Column (block)	Insecticide Treatment (cat)		0.65	0.72	
						Crop		5.87	0.02	
						Year		51.67	<0.001	
						Total Cover x Insecticide Treatment		1.86	0.40	
						Total cover x Crop		0.28	0.60	
						Insecticide Treatment x Crop		0.02	0.99	
						Total Cover x Year		20.96	<0.001	
						Insecticide Treatment x Year		14.15	0.01	
						Crop x Year		50.46	<0.001	
						Total Cover x Insecticide Treatment x Crop		5.91	0.05	
						Total Cover x Insecticide Treatment x Year		70.21	<0.001	
						Total Cover x Crop x Year		24.08	<0.001	
						Insecticide Treatment x Crop x Year		0.77	0.94	
						Total Cover x Insecticide Treatment x Crop x Year		62.26	<0.001	

## Stats Table continued

Response	Distribution	model		N	Random factors	Fixed factors	Slope	$\chi^2$	P	Figure/*Notes
Total Predators (Corn)	Poisson	906	20	106	Plot_ID nested in Field	Total Cover (con't, standaridized)	0.15	6.29	<b>0.01</b>	
					Column (block) nested in Field	Insecticide Treatment (cat)		0.60	0.74	
						Year		60.31	<b>&lt;0.001</b>	
						Total Cover x Incecticide Treatment		1.38	0.50	
						Total Cover x Year		5.39	0.07	
						Insecticide Treatment x Year		10.23	<b>0.04</b>	
						Total Cover x Insecticide Treatment x Year		20.28	<b>&lt;0.001</b>	
Total Predators (Soy)	Poisson	947	20	107	Plot_ID nested in Field	Total Cover (con't, standaridized)		21.69	<b>&lt;0.001</b>	
					Column (block) nested in Field	Insecticide Treatment (cat)		0.45	0.80	
					Row (block) nested in Field	Year		27.92	<b>&lt;0.001</b>	
						Total Cover x Incecticide Treatment		13.89	<b>&lt;0.001</b>	
						Total Cover x Year		7.34	0.12	
						Insecticide Treatment x Year		18.41	<b>&lt;0.001</b>	
						Total Cover x Insecticide Treatment x Year		12.35	<b>0.01</b>	
Total Predators (2017 Corn)	Poisson	278	5	35	Column (block)	Total Cover (con't)	0.01	22.08	<b>&lt;0.001</b>	Fig3A, Table1
					Row (block)	Insecticide Treatment (cat)		0.00	0.99	
Total Predators (2017 Soy)	Poisson	363	5	35	Column (block)	<u>Total Cover (con't, standaridized)</u>	0.00	0.99	0.32	Fig3D, Table1
					Row (block)	Total Cover (con't)		1.40	0.24	
Total Predators (2018 Corn)	Poisson	358	8	35	Column (block)	Total Cover (con't)	0.00	0.00	0.95	Fig3B, Table1
					Row (block)	Insecticide Treatment (cat)		22.27	<b>&lt;0.001</b>	
						Total Cover x Incecticide Treatment		25.36	<b>&lt;0.001</b>	
Total Predators (2018 Soy)	Poisson	358	5	36	Column (block)	Total Cover (con't)	0.00	1.07	0.30	Fig3E, Table1
					Row (block)	Insecticide Treatment (cat)		35.10	<b>&lt;0.001</b>	

## Stats Table continued

Response	Distribution	model AIC	df	N	Random factors	Fixed factors	Slope	$\chi^2$	P	Figure/*Notes
Total Predators (2019 Corn)	Poisson	369	8	35	Column (block) Row (block)	Total Cover (con't) Insecticide Treatment (cat) Total Cover x Insecticide Treatment	0.03  26.20 17.30	24.79  <0.001 <0.001		Fig3C, Table1
Total Predators (2019 Soy)	Poisson	74	5	36	Column (block) Row (block)	Total Cover (con't) Insecticide Treatment (cat)	-0.01 0.36	0.20 0.84	0.66	Fig3F, Table1
Predation rates: early season (all)	Binomial	2448	39	1944	Plot_ID nested in Field Column (block) nested in Field Row (block) nested in Field	cover crop (cat) Insecticide Treatment (cat) Crop Year cover crop x Insecticide Treatment cover crop x Crop Insecticide Treatment x Crop cover crop x Year Insecticide Treatment x Year Crop x Year cover crop x Insecticide Treatment x Crop cover crop x Insecticide Treatment x Year cover crop x Crop x Year Insecticide Treatment x Crop x Year cover crop x Insecticide Treatment x Crop x Year	1.09 15.98 0.12 0.48 8.23 0.07 15.59 0.59 19.93 6.29 11.49 16.42 0.86 25.85 11.87	0.30 <0.001 0.73 0.79 0.02 0.79 0.00 0.75 0.00 0.04 0.003 0.002 0.65 <0.001 0.02		
Predation rates: early season (Corn)	Binomial	3327	21	2916	Plot_ID nested in Field Column (block) nested in Field Row (block) nested in Field	cover crop (cat) Insecticide Treatment (cat) Year cover crop x Insecticide Treatment cover crop x Year Insecticide Treatment x Year cover crop x Insecticide Treatment x Year	1.36 14.30 0.36 5.70 0.54 16.03 10.38	0.24 <0.001 0.83 0.06 0.76 0.002 0.03		

## Stats Table continued

Response	Distribution	model AIC	df	N	Random factors	Fixed factors	Slope	$\chi^2$	P	Figure/*Notes
Predation rates: early season (Soy)	Binomial	2960	9	2916	Plot_ID nested in Field	cover crop (cat)		2.57	0.11	
					Column (block) nested in Field	Insecticide Treatment (cat)		2.54	0.28	
					Row (block) nested in Field	Year		168.45	<0.001	
Predation rates: early season (2017 Soy)	Binomial	415	7	324	Plot_ID	cover crop (cat)		0.03	0.86	Fig4D, Table1
					Column (block) nested in Field	Insecticide Treatment (cat)		1.60	0.21	
					Row (block) nested in Field	cover crop x Insecticide Treatment		4.98	0.03	
Predation rates: early season (2017 Corn)	Binomial	405	7	324	Plot_ID	cover crop (cat)		3.60	0.06	Fig4A, Table1
					Column (block) nested in Field	Insecticide Treatment (cat)		13.51	<0.001	
					Row (block) nested in Field	cover crop x Insecticide Treatment		7.26	0.01	
Predation rates: early season (2018 Corn)	Binomial	422	9	324	Plot_ID	cover crop (cat)		0.73	0.39	Fig4B, Table1
					Column (block)	Insecticide Treatment (cat)		4.29	0.12	
					Row (block)					
Predation rates: early season (2018 Soy)	Binomial	331	7	324	Plot_ID	cover crop (cat)		2.12	0.15	Fig4E, Table1
					Column (block)	Insecticide Treatment (cat)		4.34	0.11	
					Row (block)					
Predation rates: early season (2019 Corn)	Binomial	433	7	324	Plot_ID	cover crop (cat)		0.25	0.62	Fig4C, Table1
					Column (block)	Insecticide Treatment (cat)		3.28	0.19	
					Row (block)					
Predation rates: early season (2019 Soy)	Binomial	440	7	324	Plot_ID	cover crop (cat)		0.72	0.40	Fig4F, Table1
					Column (block)	Insecticide Treatment (cat)		4.18	0.12	
					Row (block)					
Predation rates: mid-season (all)	Binomial	1062	12	1944	Plot_ID nested in Field	cover crop (cat)		0.22	0.64	Fig 4G
					Column (block) nested in Field	Insecticide Treatment (cat)		2.36	0.31	
					Row (block) nested in Field	Year		35.26	<0.001	
						Crop		9.53	0.002	
						Year x Crop		31.64	<0.001	



## Stats Table continued

Response	Distribution	model AIC	df	N	Random factors	Fixed factors	Slope	$\chi^2$	P	Figure/*Notes
Predation rates: late-season (all)	Binomial	1359	12	1944	Plot_ID nested in Field	cover crop (cat)		6.38	<b>0.01</b>	Fig 4H
					Column (block) nested in Field	Insecticide Treatment (cat)		0.17	0.92	
					Row (block) nested in Field	Year		34.54	<b>&lt;0.001</b>	
						Crop		66.74	<b>&lt;0.001</b>	
						Year x Crop		105.74	<b>&lt;0.001</b>	
Yield (all)	Gaussian	3682	13	216	Plot_ID nested in Field	cover crop (cat)		0.087	0.77	
					Column (block) nested in Field	Insecticide Treatment (cat)		1.728	0.42	
					Row (block) nested in Field	Year		153.7	<b>&lt;0.001</b>	
						Crop		337.6	<b>&lt;0.001</b>	
						Crop x Year		52.77	<b>&lt;0.001</b>	
Yield (Soy)	Gaussian	1581	13	108	Column (block)	cover crop (cat)		3.636	0.06	*Plot_ID removed, close to 0
					Row (block)	Insecticide Treatment (cat)		5.504	0.06	
						Year		86.73	<b>&lt;0.001</b>	
						Insecticide Treatment x Year		12.63	<b>0.01</b>	
Yield (Corn)	Gaussian	1914	9	108	Column (block)	cover crop (cat)		0.001	0.97	*Plot_ID removed, close to 0
					Row (block)	Insecticide Treatment (cat)		1.057	0.59	
						Year		78.98	<b>&lt;0.001</b>	
Yield (2017 Soy)	Gaussian	550	6	36	Column (block)	cover crop (cat)		0.11	0.74	Fig 5D
					Row (block)	Insecticide Treatment (cat)		3.51	0.06	
Yield (2017 Corn)	Gaussian	665	6	36		cover crop (cat)		0.08	0.77	Fig 5A *Block and row removed b/c estimates too small
						Insecticide Treatment (cat)		0.58	0.45	
Yield (2018 Soy)	Gaussian	495	7	36	Column (block)	cover crop (cat)		0.97	0.33	Fig 5E
					Row (block)	Insecticide Treatment (cat)		2.02	0.36	

## Stats Table continued

Response	Distribution	model			Random factors	Fixed factors	Slope	$\chi^2$	P	Figure/*Notes
Yield (2018 Corn)	Gaussian	595	7	36	Column (block)	cover crop (cat)		1.25	0.26	Fig 5B
					Row (block)	Insecticide Treatment (cat)		0.59	0.74	
Yield (2019 Soy)	Gaussian	513	7	36	Column (block)	cover crop (cat)		23.00	<0.001	Fig 5F *Row removed because estimate too small
						Insecticide Treatment (cat)		38.49	<0.001	
Yield (2019 Corn)	Gaussian	526	7	36	Column (block)	cover crop (cat)		0.11	0.74	Fig 5C
					Row (block)	Insecticide Treatment (cat)		2.25	0.32	
Centipedes (all)	Poisson	347	11	213	Plot_ID nested in Field	Total Cover (con't, standardized)		0.72	0.40	Table S4
					Column (block) nested in Field	Insecticide Treatment (cat)		0.56	0.75	
					Row (block) nested in Field	Year		16.58	<0.001	
						Crop		0.89	0.35	
Spiders (all)	Zero-inflated Poisson	1368	40	213	Plot_ID nested in Field	Total Cover (con't, standardized)	0.67	13.05	<0.001	*Row block removed because too close to zero to estimate
					Column (block) nested in Field	Insecticide Treatment (cat)		0.25	0.88	
					Row (block) nested in Field	Crop		10.29	0.01	
						Year		0.83	0.36	
						Total Cover x Insecticide Treatment		4.05	0.13	
						Total cover x Crop		6.35	0.01	
						Insecticide Treatment x Crop		3.68	0.16	
						Total Cover x Year		13.53	0.001	
						Insecticide Treatment x Year		0.90	0.92	
						Crop x Year		11.35	0.003	
						Total Cover x Insecticide Treatment x Crop		0.05	0.97	
						Total Cover x Insecticide Treatment x Year		12.31	0.02	

## Stats Table continued

Response	Distribution	model AIC	df	N	Random factors	Fixed factors	Slope	$\chi^2$	P	
						Total Cover x Crop x Year		10.68	<b>0.005</b>	
						Insecticide Treatment x Crop x Year		3.93	0.42	
						Total Cover x Insecticide Treatment x Crop x Year		11.04	<b>0.03</b>	
Spiders (2017 Corn)	Poisson	192	6	35	Column (block)	Total Cover (con't)		7.93	<b>0.004</b>	Table S4,S5
						Insecticide Treatment (cat)		2.55	0.11	
						Total Cover x Insecticide Treatment		3.98	<b>0.05</b>	
Spiders (2017 Soy)	Zero-inflated Poisson	236	6	35	Column (block)	Total Cover (con't)	-0.01	0.51	0.48	Table S4,S5
					Row (block)	Insecticide Treatment (cat)		0.41	0.52	
Spiders (2018 Soy)	Poisson	272	9	36	Column (block)	Total Cover (con't)	0.01	3.24	0.07	Table S4,S5
					Row (block)	Insecticide Treatment (cat)		11.79	<b>0.002</b>	
						Total Cover x Insecticide Treatment		18.09	<b>&lt;0.001</b>	
Spiders (2018 Corn)	Poisson	189	7	36	Column (block)	Total Cover (con't)	0.01	1.23	0.27	Table S4,S5
					Row (block)	Insecticide Treatment (cat)		5.00	0.08	
Spiders (2019 Corn)	Poisson	216	6	35	Column (block)	Total Cover (con't)	0.00	0.66	0.42	Table S4,S5
					Row (block)	Insecticide Treatment (cat)		0.84	0.66	
Spiders (2019 Soy)	Poisson	291	7	36	Column (block)	Total Cover (con't)	0.01	4.57	<b>0.03</b>	Table S4,S5
					Row (block)	Insecticide Treatment (cat)		23.15	<b>&lt;0.001</b>	
Harvestmen (all)	Zero-inflated Poisson	1072	13	213	Plot_ID nested in Field	Total Cover (con't, standardized)	0.05	1.39	0.24	
					Column (block) nested in Field	Insecticide Treatment (cat)		14.76	<b>&lt;0.001</b>	
					Row (block) nested in Field	Crop		0.06	0.80	
						Year		64.71	<b>&lt;0.001</b>	
						Crop x Year		19.96	<b>&lt;0.001</b>	
Harvestmen (2017 Corn)	Zero-inflated Poisson	150	5	35	Column (block)	Total Cover (con't)	0.01	1.31	0.25	Table S4,S5
						Insecticide Treatment (cat)		0.04	0.84	

## Stats Table continued

Response	Distribution	model		N	Random factors	Fixed factors	Slope	$\chi^2$	P	Figure/*Notes
Harvestmen (2017 Soy)	Zero-inflated Poisson	153	6	35	Column (block) Row (block)	Total Cover (con't) Insecticide Treatment (cat)	-0.01 4.32	0.74 <b>0.04</b>	0.39	Table S4,S5
Harvestmen (2018 Soy)	Zero-inflated Poisson	272	9	36	Column (block) Row (block)	Total Cover (con't) Insecticide Treatment (cat) Total Cover x Insecticide Treatment	-0.07 10.42 9.97	10.99 <b>0.01</b> <b>0.01</b>	<b>0.00</b>	Table S4,S5
Harvestmen (2018 Corn)	Poisson	179	6	36	Column (block) Row (block)	Total Cover (con't) Insecticide Treatment (cat)	0.01 29.46	0.92 <b>&lt;0.001</b>	0.34	Table S4,S5
Harvestmen (2019 Corn)	Poisson	215	6	35	Row (block)	Total Cover (con't) Insecticide Treatment (cat)	0.00 11.72	0.10 <b>0.002</b>	0.76	Table S4,S5
Harvestmen (2019 Soy)	Poisson	235	6	36	Column (block)	Total Cover (con't) Insecticide Treatment (cat)	-0.01 11.95	0.76 <b>0.002</b>	0.38	Table S4,S5
Ants (all)	Poisson	1830	36	213	Plot_ID nested in Field Column (block) nested in Field Row (block) nested in Field	Total Cover (con't, standardized) Insecticide Treatment (cat) Crop Year Total Cover x Insecticide Treatment Total cover x Crop Insecticide Treatment x Crop Total Cover x Year Insecticide Treatment x Year Crop x Year Total Cover x Insecticide Treatment x Crop Total Cover x Insecticide Treatment x Year Total Cover x Crop x Year Insecticide Treatment x Crop x Year Total Cover x Insecticide Treatment x Crop x Year	-0.21 1.66 41.19 11.96 1.42 12.96 0.51 15.02 7.56 92.96 8.00 36.82 18.54 11.89 40.13	1.36 0.44 <b>&lt;0.001</b> <b>&lt;0.001</b> 0.49 <b>&lt;0.001</b> 0.77 <b>&lt;0.001</b> 0.11 <b>&lt;0.001</b> <b>0.02</b> <b>&lt;0.001</b> <b>&lt;0.001</b> <b>0.02</b> <b>&lt;0.001</b>	0.24	

## Stats Table continued

Response	Distribution	model AIC	df	N	Random factors	Fixed factors	Slope	$\chi^2$	P	Figure/*Notes
Ants (2017 Corn)	Poisson	261	7	36	Column (block)	Total Cover (con't)	0.01	23.19	<b>&lt;0.001</b>	Table S4,S5
					Row (block)	Insecticide Treatment (cat)		0.54	0.46	
Ants (2017 Soy)	Poisson	309	7	35	Column (block)	Total Cover (con't)	0.01	3.95	<b>0.05</b>	Table S4,S5
					Row (block)	Insecticide Treatment (cat)		0.61	0.43	
Ants (2018 Corn)	Poisson	381	8	36	Column (block)	Total Cover (con't)	-0.01	1.65	0.20	Table S4,S5
					Row (block)	Insecticide Treatment (cat)		24.30	<b>&lt;0.001</b>	
						Total Cover x Insecticide Treatment		20.58	<b>&lt;0.001</b>	
Ants (2018 Soy)	Poisson	259	7	36	Column (block)	Total Cover (con't)	0.00	3.00	0.08	Table S4,S5
					Row (block)	Insecticide Treatment (cat)		22.73	<b>&lt;0.001</b>	
Ants (2019 Corn)	Poisson	379	9	36	Column (block)	Total Cover (con't)	0.05	20.09	<b>&lt;0.001</b>	Table S4,S5
					Row (block)	Insecticide Treatment (cat)		14.27	<b>&lt;0.001</b>	
						Total Cover x Insecticide Treatment		7.22	<b>0.03</b>	
Ants (2019 Soy)	Poisson	238	7	36	Column (block)	Total Cover (con't)	0.00	0.38	0.54	Table S4,S5
					Row (block)	Insecticide Treatment (cat)		13.76	<b>0.001</b>	
Rove beetles (all)	Zero-inflated Poisson	947	12	213	Plot_ID nested in Field	Total Cover (con't, standaridized)	0.42	40.30	<b>&lt;0.001</b>	
					Column (block) nested in Field	Insecticide Treatment (cat)		7.14	<b>0.03</b>	
					Row (block) nested in Field	Crop		25.38	<b>&lt;0.001</b>	
						Year		41.65	<b>&lt;0.001</b>	
						Total cover x Crop		20.56	<b>&lt;0.001</b>	
Rove beetles (2017 Corn)	Poisson	137	6	35	Column (block)	Total Cover (con't)	0.02	17.25	<b>&lt;0.001</b>	Table S4,S5
					Row (block)	Insecticide Treatment (cat)		0.03	0.85	
Rove beetles (2017 Soy)	Poisson	110	6	35	Column (block)	Total Cover (con't)	0.01	0.07	0.79	Table S4,S5
					Row (block)	Insecticide Treatment (cat)		0.15	0.70	

## Stats Table continued

Response	Distribution	model		N	Random factors	Fixed factors	Slope	$\chi^2$	P	Figure/*Notes
Rove beetles (2018 Corn)	Zero-inflated Poisson	134	7	36	Column (block)	Total Cover (con't)	0.03	12.06	<0.001	Table S4,S5
					Row (block)	Insecticide Treatment (cat)		9.51	0.01	
Rove beetles (2018 Soy)	Poisson	217	7	36	Column (block)	Total Cover (con't)	0.00	0.76	0.38	Table S4,S5
					Row (block)	Insecticide Treatment (cat)		6.44	0.04	
Rove beetles (2019 Corn)	Poisson	171	9	35	Column (block)	Total Cover (con't)	0.03	2.63	0.10	Table S4,S5
					Row (block)	Insecticide Treatment (cat)		6.19	0.05	
						Total Cover x Insecticide Treatment		7.88	0.02	
Rove beetles (2019 Soy)	Zero-inflated Poisson	151	7	36	Column (block)	Total Cover (con't)	0.04	6.20	0.01	Table S4,S5
					Row (block)	Insecticide Treatment (cat)		4.39	0.11	
Carabids (all)	Poisson	853	13	213	Plot_ID nested in Field	Total Cover (con't, standardized)	0.45	43.97	<0.001	
					Column (block) nested in Field	Insecticide Treatment (cat)		2.29	0.32	
						Crop		0.13	0.72	
						Year		13.87	<0.001	
						Total cover x Crop		38.00	<0.001	
						Crop x Year		31.11	<0.001	
Carabids (2017 Corn)	Poisson	147	6	35	Column (block)	Total Cover (con't)	0.04	8.17	0.004	Table S4,S5
					Row (block)	Insecticide Treatment (cat)		5.50	0.02	
Carabids (2017 Soy)	Poisson	132	6	35	Column (block)	Total Cover (con't)	0.01	1.06	0.30	Table S4,S5
					Row (block)	Insecticide Treatment (cat)		0.73	0.39	
Carabids (2018 Corn)	Poisson	115	7	36	Column (block)	Total Cover (con't)	0.04	4.22	0.04	Table S4,S5
					Row (block)	Insecticide Treatment (cat)		2.04	0.36	
Carabids (2018 Soy)	Poisson	200	7	36	Column (block)	Total Cover (con't)	-0.01	2.89	0.09	Table S4,S5
					Row (block)	Insecticide Treatment (cat)		1.03	0.60	
Carabids (2019 Corn)	Poisson	132	7	35	Column (block)	Total Cover (con't)	0.02	1.91	0.17	Table S4,S5

Stats Table continued

Response	Distribution	model			Random factors	Fixed factors	Slope	$\chi^2$	P	Figure/*Notes
		AIC	df	N						
Carabids (2019 Soy)	Poisson	129	8	36	Row (block)	Insecticide Treatment (cat)		9.83	<b>0.01</b>	Table S4,S5 *Column Block removed because estimate so small
					Row (block)	Total Cover (con't)	-0.14	4.85	<b>0.03</b>	
						Insecticide Treatment (cat)		2.09	0.35	
						Insecticide Treatment x Total Cover		4.67	0.10	