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Appendix 1

Plant species-specific contribution towards dissimilarities in species composition in plots where herbivores were present versus when herbivores were reduced for 2007, 2008 and 2009. Results from similarity percentage (SIMPER) analysis indicating species-specific abundance, percent contribution (Contrib %) and cumulative contribution (Cum %) towards dissimilarity in composition.

2007					2008				
Species	Herb Present	Herb Reduced	Contrib%	Cum. %	Species	Herb Present	Herb Reduced	Contrib%	Cum. %
<i>A. pilosum</i>	2.27	1.73	9.56	9.56	<i>A. pilosum</i>	2.18	2.22	7.34	7.34
<i>L. cuneata</i>	1.71	1.28	7.82	17.37	<i>L. cuneata</i>	0.84	1.31	7.22	14.56
<i>V. occidentalis</i>	3.33	2.45	6.79	24.16	<i>Desmodium</i>	2.36	2.12	6.67	21.23
<i>V. virginica</i>	2	2.31	6.64	30.8	<i>R. argutus</i>	2.85	3.1	6.31	27.54
<i>R. argutus</i>	2.64	2.61	6.36	37.15	<i>S. altissima</i>	3.06	3.79	6.16	33.7
<i>Desmodium</i>	1.79	2.19	5.48	42.63	<i>V. virginica</i>	1.33	1.89	6.05	39.75
Species	N-added	Control	Contrib%	Cum. %	Species	N-added	Control	Contrib%	Cum. %
<i>L. cuneata</i>	0.75	1.72	9.05	9.05	<i>R. argutus</i>	2.98	2.98	7.87	7.87
<i>A. pilosum</i>	2.12	1.83	8.69	17.74	<i>A. pilosum</i>	2.04	2.13	6.79	14.66
<i>Desmodium</i>	1.33	2.27	7.01	24.74	<i>Ulmus sp.</i>	0.79	1.09	6.27	20.93
<i>V. virginica</i>	2.31	2.53	6.68	31.42	<i>Desmodium</i>	1.95	2.4	6.2	27.13
<i>R. argutus</i>	2.86	2.71	5.46	36.88	<i>V. virginica</i>	1.51	1.89	6.1	33.23
<i>Ulmus sp.</i>	0.79	0.68	4.76	41.64	<i>S. altissima</i>	3.26	3.44	5.69	38.92
Species	N-added	N-reduced	Contrib%	Cum. %	Species	N-added	N-reduced	Contrib%	Cum. %
<i>L. cuneata</i>	0.75	2.02	9.58	9.58	<i>R. argutus</i>	2.98	2.98	7.87	7.87
<i>A. pilosum</i>	2.12	2.05	8.98	18.57	<i>A. pilosum</i>	2.04	2.13	6.79	14.66
<i>Desmodium</i>	1.33	2.37	7.91	26.47	<i>Ulmus sp.</i>	0.79	1.09	6.27	20.93
<i>V. virginica</i>	2.31	1.62	7.88	34.35	<i>Desmodium</i>	1.95	2.4	6.2	27.13
<i>R. argutus</i>	2.86	2.31	6.82	41.17	<i>V. virginica</i>	1.51	1.89	6.1	33.23
<i>S. halpense</i>	0.68	0.65	5.27	46.44	<i>S. altissima</i>	3.26	3.44	5.69	38.92
Species	Control	N-reduced	Contrib%	Cum. %	Species	Control	N-reduced	Contrib%	Cum. %
<i>A. pilosum</i>	1.83	2.05	9.05	9.05	<i>R. argutus</i>	2.98	2.95	8.46	8.46
<i>L. cuneata</i>	1.72	2.02	8.71	17.76	<i>L. cuneata</i>	0.71	1.45	8.33	16.79
<i>V. virginica</i>	2.53	1.62	7.71	25.47	<i>Desmodium</i>	1.95	2.37	7.97	24.76
<i>R. argutus</i>	2.71	2.31	6.59	32.06	<i>A. pilosum</i>	2.04	2.43	7.91	32.67
<i>Desmodium</i>	2.27	2.37	5.79	37.85	<i>S. altissima</i>	3.26	3.57	6.08	38.76
<i>V. occidentalis</i>	2.62	3.06	5.29	43.14	<i>V. virginica</i>	1.51	1.42	5.15	43.9

2009				
Species	Herb Present	Herb Reduced	Contrib%	Cum.%
<i>L. cuneata</i>	1.11	1.09	8.35	8.35
<i>R. argutus</i>	2.65	2.94	7.55	15.9
<i>V. virginica</i>	1.35	1.85	6.43	22.33
<i>E. umbellatta</i>	0.87	0.45	6.38	28.7
<i>Desmodium</i>	1.04	1.97	6.37	35.07
<i>A. pilosum</i>	1.07	1.08	6.22	41.29
Species	N-added	Control	Contrib%	Cum.%
<i>R. argutus</i>	2.86	2.76	7.97	7.97
<i>astpil</i>	0.83	1.04	6.22	14.19
<i>E. umbelatta</i>	0.31	1.04	6.21	20.4
<i>L. cuneata</i>	0.84	0.99	6.03	26.43
<i>V. occidentalis</i>	2.54	2.27	5.36	31.79
<i>V. virginica</i>	1.3	1.66	5.24	37.04
Species	N-added	N-reduced	Contrib%	Cum.%
<i>L. cuneata</i>	0.84	1.46	10.23	10.23
<i>Desmodium</i>	1.09	2.29	9.23	19.47
<i>V. virginica</i>	1.3	1.84	7.19	26.66
<i>R. argutus</i>	2.86	2.77	6.44	33.1
<i>A. pilosum</i>	0.83	1.36	5.92	39.02
<i>V. virginica</i>	2.54	2.4	5.28	44.31
Species	Control	N-reduced	Contrib%	Cum.%
<i>Desmodium</i>	1.14	2.29	8.49	8.49
<i>L. cuneata</i>	0.99	1.46	8	16.49
<i>A. pilosum</i>	1.04	1.36	7.77	24.26
<i>E. umbellatta</i>	1.04	0.64	7.75	32.01
<i>R. argutus</i>	2.76	2.77	7.29	39.29
<i>V. virginica</i>	1.66	1.84	6.53	45.82

Appendix 2

Soil nutrients interact with insect herbivores to alter compositional similarity. Specifically, forbs (*Verbesina occidentalis*, *Elaeagnus umbellata*) and N-fixers (*Desmodium nudiflorum*) had greater abundance in control plots and N manipulated plots respectively where insect herbivores were present (Table 3). Plant species-specific contribution towards dissimilarities in species composition in control (PA, RA), nitrogen reduced (PC, RC), and N added (PN, RN) plots when herbivores were present and when herbivores were reduced for 2008. Results from similarity percentage (SIMPER) analysis indicating species-specific abundance, percent contribution (Contrib %) and cumulative contribution (Cum %) towards dissimilarity in species composition.

Species	PA	RA	Contrib%	Cum.%
<i>Lespedeza cuneata</i>	0.46	1.67	7.33	7.33
<i>Ulmus sp.</i>	0.63	1.56	6.85	14.18
<i>Elaeagnus umbellata</i>	1.3	0.07	6.75	20.93
<i>Aster pilosum</i>	1.81	2.46	6.52	27.45
<i>Verbesina occidentalis</i>	3.15	2.02	6.12	33.57
Species	PN	RN	Contrib%	Cum.%
<i>Rubus argutus</i>	2.75	3.21	8.93	8.93
<i>Verbesina virginica</i>	0.74	2.27	8.36	17.29
<i>Aster pilosum</i>	2.75	1.76	6.26	23.55
<i>Desmodium nudiflorum</i>	2.02	1.88	6.21	29.75
<i>Solidago altissima</i>	2.99	3.53	5.89	35.64
Species	PC	RC	Contrib%	Cum.%
<i>Aster pilosum</i>	2.42	2.44	9.45	9.45
<i>Desmodium nudiflorum</i>	2.79	1.95	9.27	18.72
<i>Lespedeza cuneata</i>	1.86	1.04	9.08	27.8
<i>Solidago altissima</i>	3.06	4.07	7.16	34.96
<i>Ulmus sp.</i>	1.26	0.2	6.39	41.35

Appendix 3

The plant species that consistently contributed towards approximately half of the dissimilarity between insect herbivore and amongst soil nutrient treatments include herbaceous *Solidago altissima*, *Verbesina occidentalis*, *Verbesina virginica*, *Desmodium nudiflorum* and woody *Rubus argutus* and *Lespedeza cuneata*- each contributing between 6–9% towards overall dissimilarity between treatment combinations across all years. Plant species-specific contribution towards dissimilarities in species composition between herbivore (Herb Present = Herbivore Present and Herb Reduced = Herbivore Reduced) and amongst nutrient (N-added, Control, N-reduced) treatments across time (2004–2009) treatments. Results from similarity percentage (SIMPER) analysis indicating species-specific abundance, percent contribution (Contrib %) and cumulative contribution towards dissimilarity (Cum %) in species composition.

Species	Herb Present	Herb Reduced	Contrib%	Cum.%
<i>Rubus argutus</i>	2.36	2.53	8.71	8.71
<i>Aster pilosum</i>	1.54	1.4	8.17	16.89
<i>Desmodium nudiflorum</i>	1.67	2.03	7.43	24.32
<i>Verbesina virginica</i>	1.46	1.98	6.88	31.2
<i>Lespedeza cuneata</i>	1.08	1.1	6.88	38.07
<i>Verbesina occidentalis</i>	2.68	2.5	5.83	43.9
Species	N-added	Control	Contrib%	Cum.%
<i>Rubus argutus</i>	2.51	2.49	8.84	8.84
<i>Aster pilosum</i>	1.3	1.53	7.71	16.55
<i>Desmodium nudiflorum</i>	1.35	1.93	6.97	23.53
<i>Verbesina virginica</i>	1.57	1.97	6.66	30.19
<i>Lespedeza cuneata</i>	0.72	1.11	6.11	36.29
<i>Verbesina occidentalis</i>	2.89	2.43	5.82	42.11
Species	N-added	N-reduced	Contrib%	Cum.%
<i>Rubus argutus</i>	2.51	2.33	8.92	8.92
<i>Desmodium nudiflorum</i>	1.35	2.27	8.73	17.64
<i>Aster pilosum</i>	1.3	1.57	8.33	25.97
<i>Lespedeza cuneata</i>	0.72	1.44	7.35	33.32
<i>Verbesina virginica</i>	1.57	1.62	6.87	40.19
<i>Verbesina occidentalis</i>	2.89	2.46	5.97	46.16
Species	Control	N-reduced	Contrib%	Cum.%
<i>Aster pilosum</i>	1.53	1.57	8.46	8.46
<i>Rubus argutus</i>	2.49	2.33	8.35	16.82
<i>Lespedeza cuneata</i>	1.11	1.44	7.67	24.48
<i>Desmodium nudiflorum</i>	1.93	2.27	7.08	31.56
<i>Verbesina virginica</i>	1.97	1.62	6.56	38.12
<i>Verbesina occidentalis</i>	2.43	2.46	5.85	43.98