

Supplement

Table S1. Parameters from the light response curve derived for each of the sites using Eq. 3 whenever we had enough data to estimate statistically. Site names correspond to the following; Crop = oat crop, Exc = enclosure, Ovg = overgrazed, Mod= moderate grazed, Shenc = shrub encroachment. Estimates are mean \pm 1 SE.

Month-year	Site	-	$-A_{\max}$	Rd	LCP	$-A_{2000}$
Oct 2008	Crop	0.0241 ± 0.0038	6.2830 ± 0.8883	1.3873 ± 0.3283	73.876	4.171
Oct 2008	Exc	0.0129 ± 0.0014	16.7767 ± 1.4141	2.5833 ± 0.1493	236.704	7.583
Oct 2008	Shenc	0.0068 ± 0.0008	10.5573 ± 4.5114	0.7383 ± 0.0366	116.737	5.205
Oct 2008	Ovg	0.0059 ± 0.0013	2.6100 ± 0.4681	0.3299 ± 0.0458	64.005	1.807
Oct 2008	Mod	0.0133 ± 0.0015	17.9667 ± 2.2730	2.6520 ± 0.2457	233.928	8.072
Nov 2008	Exc	0.0032 ± 0.0032	2.0560 ± 1.0210	0.4760 ± 0.4029	193.563	1.080
Nov 2008	Shenc	0.0069 ± 0.0049	1.2672 ± 0.2542	0.3080 ± 0.2328	58.971	0.853
Nov 2008	Mod	0.0066 ± 0.0052	3.6502 ± 1.0998	1.2447 ± 0.5874	286.175	1.615
Jun 2009	Crop	0.0044 ± 0.0011	31.3400 ± 14.4102	2.9373 ± 0.4339	736.606	3.933

Jun 2009	Exc	0.0131 ± 0.0045	12.1447 ± 1.4578	3.4570 ± 0.2328	368.901	4.841
Jun 2009	Shenc	0.0127 ± 0.0060	1.9460 ± 0.2151	1.3143 ± 0.1291	318.803	0.493
Jun 2009	Mod	0.0375 ± 0.0092	10.3590 ± 1.4417	3.9743 ± 0.7401	171.952	5.128
Jun 2009	Ovg	0.0011 ± 0.0009	60.0000 ± 6.5000	0.6833 ± 0.0146	628.338	1.439
Jul 2009	Exc	0.0187 ± 0.0014	8.9060 ± 1.2670	4.4930 ± 0.1407	484.890	2.700
Jul 2009	Ovg	0.0054 ± 0.0014	4.3100 ± 0.5860	1.3040 ± 0.0164	346.236	1.777
Jul 2009	Shenc	0.0594 ± 0.0206	3.2847 ± 0.4618	2.0877 ± 0.1232	96.446	1.109
Jul 2009	Mod	0.0350 ± 0.0218	9.5417 ± 1.9809	3.4163 ± 0.0990	152.047	4.981
Aug 2009	Crop	0.0327 ± 0.0029	26.8500 ± 3.2529	3.1510 ± 0.4577	109.173	15.884
Aug 2009	Exc	0.0259 ± 0.0106	15.0493 ± 4.5391	3.3480 ± 0.2270	166.252	8.313
Aug 2009	Shenc	0.0125 ± 0.0008	8.1767 ± 0.4087	2.2827 ± 0.1310	253.342	3.879
Aug 2009	Ovg	0.0195 ± 0.0137	20.6597 ± 16.2592	1.1149 ± 0.1063	60.436	12.391
Aug 2009	Mod	0.0330 ± 0.0105	5.8840 ± 0.4071	3.4310 ± 0.2890	249.392	1.971
Sep 2009	Crop	0.0457 ± 0.0110	13.6100 ± 1.0786	3.1230 ± 0.1523	88.688	8.723
Sep 2009	Exc	0.0208 ± 0.0017	12.7333 ± 0.8077	3.8983 ± 0.1892	270.114	5.851

Sep 2009	Ovg	0.0044 ± 0.0005	42.6213 ± 17.3787	0.5222 ± 0.0670	120.154	6.772
Sep 2009	Mod	0.0388 ± 0.0181	16.1418 ± 2.2452	6.7942 ± 1.6954	302.384	6.568

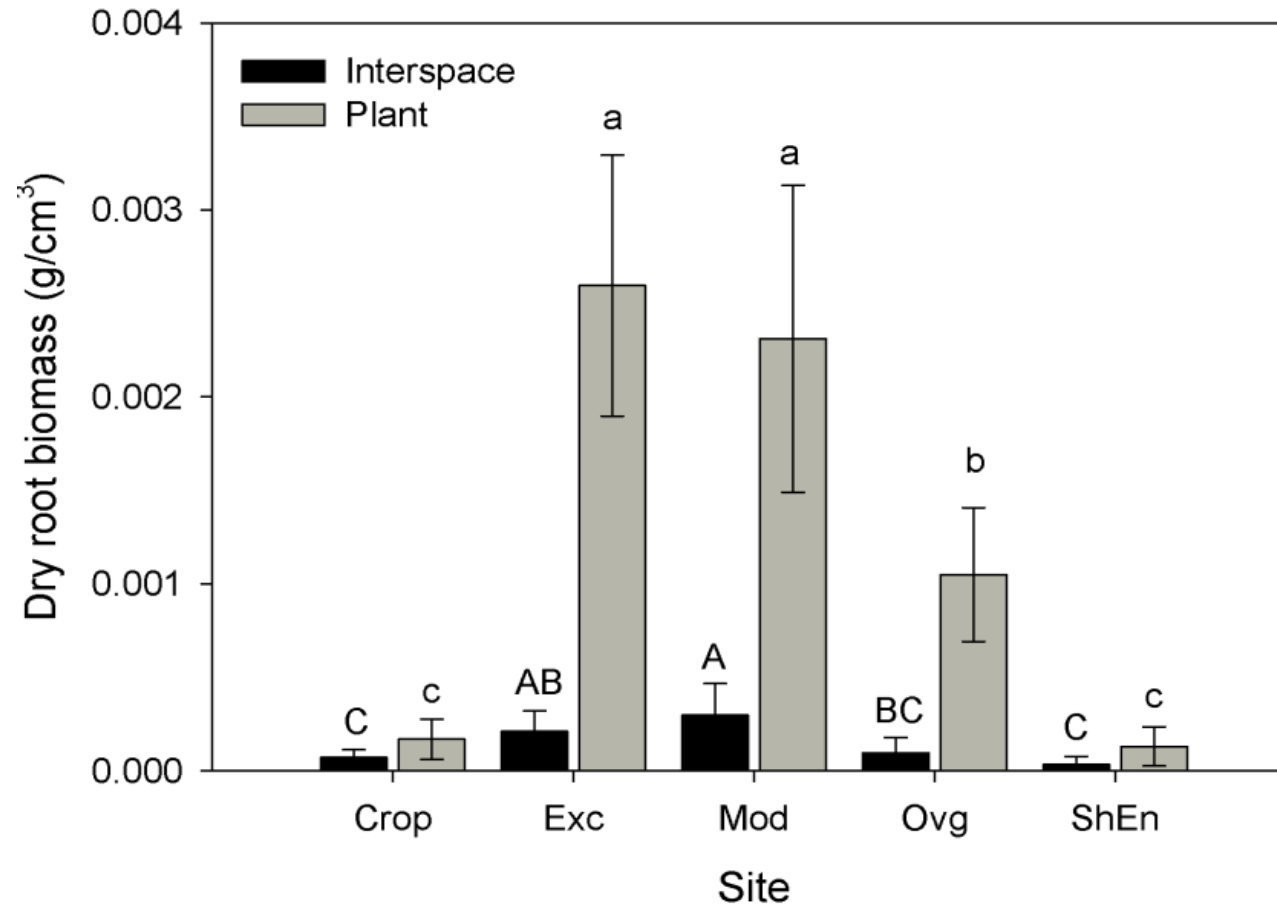


Figure S1. Root biomass (dry basis) in five experimental study sites sampled between 0 - 15 cm soil depth for both interspaces and under plant. Acronyms correspond to; Crop= oat crop site, Exc = exclosure to cattle site, Mod = moderate grazing site, Ovg = Overgrazed site, ShEn = shrub encroachment site. Capital letters statistically compare interspaces treatments while small letters compare plant treatments (P<0.05).