Table S1. Dates and rates of nutrients application to the different treatments through the experimental period.

		Seeding				F1				F2				F3				F4			
		C	B	L	Br/L	C	B	L	Br/L	C	B	L	Br/ L	C	B	L	Br/ L	C	B	L	Br/L
Nitrogen	kg N ha^{-1}	30	30	30	30	69	-	-	-	40	68,5	-	-	100	40	-	-	-	-	-	-
Phosphorus	kg P_2O_5 ha^{-1}	280	280	280	280	-	-	-	-	-	-	-	-	-	-	-	-	55	55	55	55
Potassium	kg k_2O ha^{-1}	180	180	180	180	-	-	-	-	-	-	-	-	-	-	-	-	93	93	93	93
Sulfur	kg S ha^{-1}	40	40	40	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium oxide	kg MgO ha^{-1}	30	30	30	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calcium borate	kg B_2O_3 ha^{-1}	5	5	5	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

C = Control; B = *Bromus valdivianus*, L = *Lotus corniculatus*, Br/L = *Bromus valdivianus* + *Lotus corniculatus*.
F1 to F4 = Fertilization 1 to fertilization 4.

Table S2. Example of the variation in the N-N_2O daily flux (µg N_2O-N m^{-2} hr^{-1}) in threes chambers at three different dates [1].

	24-03-2012			26-03-2012			28-03-2012		
Flux emission (µg N_2O-N m^{-2} hr^{-1}) at:	Ch 1	Ch2	Ch3	Ch 1	Ch2	Ch3	Ch 1	Ch2	Ch3
2:28:54 h	3,752	5,045	2,299	3,060	1,950	0,119	5,812	6,827	2,227
5:28:48 h	6,016	4,934	4,311	1,076	0,992	3,465	0,368	3,668	1,494
8:28:43 h	2,549	6,020	4,160	1,092	2,263	1,148	5,627	4,462	1,676
11:28:37 h	6,169	7,146	5,555	2,999	4,712	3,797	3,177	5,461	4,731
14:28:32 h	8,327	8,091	10,283	3,142	5,676	7,114	5,123	1,176	7,815
17:28:26 h	7,469	10,379	6,587	5,529	4,485	5,205	0,985	2,547	9,928
20:28:21 h	2,954	4,380	3,915	5,455	6,115	4,127	2,846	1,654	3,990
23:28:15 h	8,429	7,624	4,112	5,041	6,847	1,176	6,114	5,022	0,593
Daily average	5.71±0.835	6.7±0.710	5.15±0.856	3.42±0.634	4.13±0.759	3.27±0.828	3.76±0.798	3.85±0.693	4.06±1.170

[1] Hube, S.; Alfaro, M.; Ramirez, L. 2014. *Validación y evaluación de dos sistemas de muestreo y análisis para cálculo de flujo de gases de efecto invernadero.* Osorno: Serie Actas - Instituto de Investigaciones Agropecuarias. no. 54. https://biblioteca.inia.cl/handle/20.500.14001/8693 (accessed on 30 March 2022)

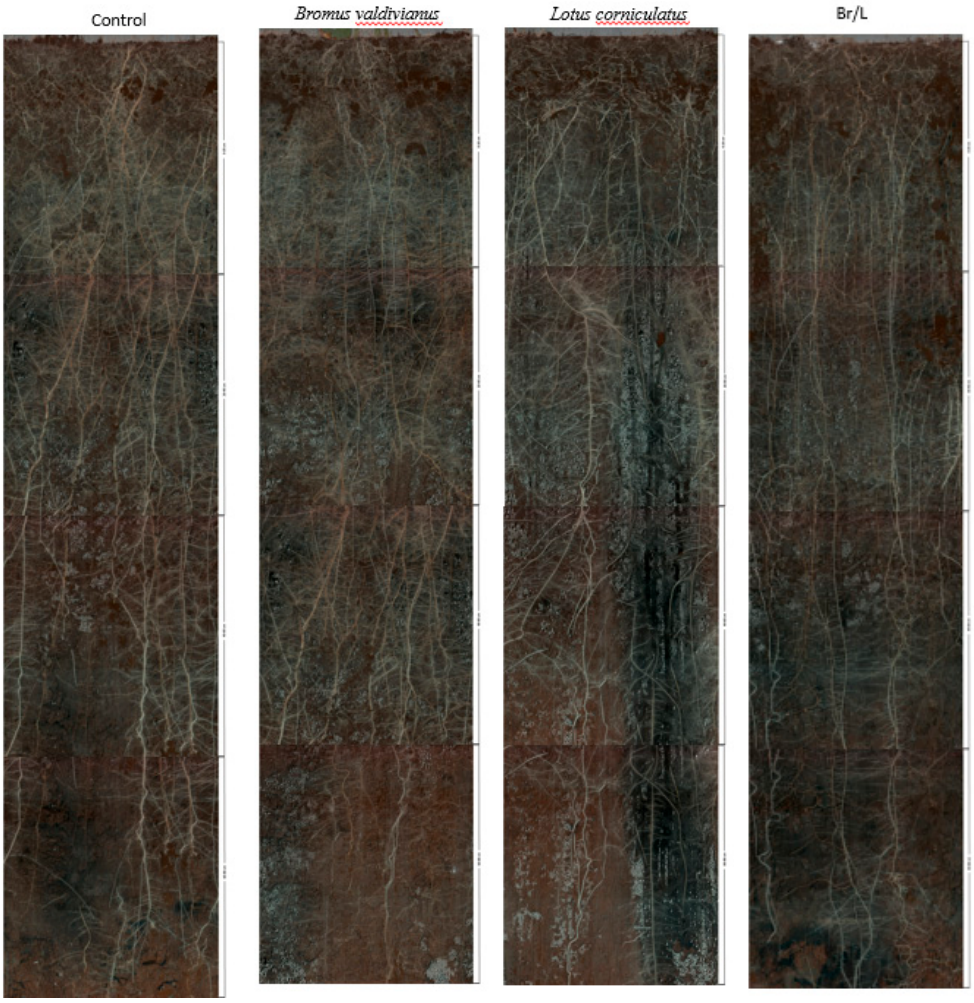

Figure S1. Examples of root development for all treatments (0-0.8 m depth).C = Control; B = *Bromus valdivianus*, L = *Lotus corniculatus*, Br/L = *Bromus valdivianus* + *Lotus corniculatus*. Root development was measured using minirizotrons in all plots (2 acrilic tubes per plot, 0- 0.8 m depth) in one occasion during each season using a scaner (CI-600, CID Bio-Science). All images were analysed using the software RootSnap (CID, Bio-Science).