SUPPLEMENTARY DATA

TABLE S1. Leaf dry matter content (mg g^{-1}) for each species for the four datasets and the control, and correlations between datasets.

	Field measurements				Common garden[†]
	Ercé	Aubrac	Cantal	Margeride	Auzeville database
Species found at all the four sites					
Agrostis capillaris L.	264	270	274	292	242
Anthoxanthum odoratum L.	222	228	241	270	223
Dactylis glomerata L.	265	240	268	261	225
Festuca rubra L.	296	297	296	333	245
Holcus lanatus L.	223	234	222	257	198
Lolium perenne L.	237	234	238	246	196
Phleum pratense L.	232	252	263	289	245
Poa trivialis L.	244	223	242	272	220
Trisetum flavescens (L.) Beauv	263	259	278	289	241
Mean	250	249	258	279	226
Correlation with Auzeville database	0.59[+]	0.70*	0.86**	0.83**	
Species found at 1–3 of the sites					
Agropyron repens L.		217		272	263[‡]
Agrostis stolonifera L.	266		264		247[‡]
Alopecurus sp. L.				265	218[‡]
Arrhenatherum elatius (L.) Beauv.	247				218
Avenula marginata L.	293				263
Avenula pubescens (Huds.) Dumort				253	250
Briza media L.	254				274
Cynosurus cristatus L.			313	297	262
Danthonia decumbens L.	326	279		308	351
Festuca arundinacea Schreb.	208	254		256	221
Festuca pratensis L.	247				244[‡]
Holcus mollis L.				261	259[‡]
Lolium multiflorum L.	228				196
Molinia coerulea L.	344				301
Poa pratensis L.		264	261	269	220
Number of species found per site	89	50	45	51	
Grass species (%: mean ± s.e.)	57±0.16	76±0.08	84±0.08	80±0.15	

[†] From Al Haj Khaled, 2005; no limitation of nutrient and water for plant growth.
*** $P < 0.001$; ** $P < 0.01$; * $P < 0.05$; [+] $P < 0.1$
[‡] Data recorded from a separate experiment (P. Cruz, unpublished data).

TABLE S2**.** Standing herbage mass and rate of herbage utilization for the different treatments in dataset 1.

Treatments and effects $	Plant nutrient index	Ellenberg-N.w	Date of the first harvest (Julian days)	LDMCw.meas (g m-²)	Standing herbage mass (t DM ha^{-1})								
					Growth cycle 1			Growth cycle 2			Growth cycles effect		
					Be	Af	RHU	Be	Af	RHU	Be	Af	RHU
M+	0.74	5.8	173	224	6.3	0.8	0.87	2.3	0.4	0.83	***	ns	***
M–	0.61	5.7	176	232	5	0.8	0.84	3.0	0.8	0.73	**	ns	**
GM+	0.73	5.1	106	261	2.6	1.3	0.50	4.2	1.0	0.76	***	ns	***
GM–	0.61	4.2	109	262	2.1	0.8	0.62	4.3	1.1	0.74	***	ns	***
P+	0.83	6.7	132	249	3.1	1.2	0.61	4	2.3	0.43	*	*	ns
P–	0.53	5.9	132	292	1.8	0.6	0.67	2.6	1.4	0.46	*	*	ns
Defoliation regime effect †	*	*	***	***	***	ns	***	***	ns	**			
Fertility effect ‡	***	ns	ns	*	*	ns	ns	*	ns	ns			

ANOVA for treatments (lines) or growth cycle effects (last columns) on standing herbage mass before and after defoliation (dataset 1).
Be: before defoliation; Af: after defoliation; rate of herbage utilization (RHU) = (Be – Af)/Be.
$ 3 replications per treatment.
†: comparison of M, GM and P.
‡: comparison of X+ and X–.
***: $P < 0.001$; **: $P < 0.01$; *: $P < 0.05$.

The meadows were cut last (around 175 Julian days), and in spring the pastures were grazed later than when the meadows were grazed. There were significant effects of defoliation regime ($P < 0.05$) and of fertility ($P < 0.001$) on herbage mass before harvest, and of defoliation regime on the difference in herbage mass before and after harvest and on the rate of herbage utilization. For the first growth, the reproductive phase occurred only on meadows, which had twice the amount of standing herbage mass as the meadows grazed in spring and pastures. On the other hand, the maximum standing herbage mass was observed for the second growth cycle on meadows grazed in spring and pastures. Differences between standing herbage mass before and after defoliation were greatest during the first growth cycle for the meadows and during the second one for the meadows grazed in spring. The pastures had the highest residual herbage mass in the second growth cycle.