

Table A. Plant traits and their respective trait states analysed in this study, description and data sources.

Trait	Trait state	Description	Data source
Storage organs	Presence/absence	Occurrence and type of storage organ identified following Krumbiegel (2002) and Klimešová and de Bello (2009). The presence of storage organs is in most cases closely related to the capacity for vegetative reproduction and spread.	Klotz et al. (2002), Klimešová and Klimeš (2006), checked and supplemented by field observations
Vegetative propagation	Absence	Presence/absence and type of vegetative propagation, identified following Krumbiegel (2002) and Klimešová and de Bello (2009).	Klotz et al. (2002), Klimešová and Klimeš (2006), checked and supplemented by field observations
	Clonal growth organs with prevalent horizontal spread (including hypogeogenous rhizome, runner, runner-like rhizome, root shoot, rhizome-like pleiocorm). Clonal growth organs, with prevalent vertical development and short horizontal spread (including epigeogenous rhizome, root tuber, stem tuber, root splitter, and bulb)		
Horizontal space occupation	Caespitose; pleiocorm; reptant; rosulate; absent	Classification of horizontal growth form, according to the categories indicated in Krumbiegel (2002).	Field observations
Vertical space occupation	Leafy stem, narrow leaves (grass); no leafy stem, narrow basal leaves (sedge); no leafy stem, broad basal leaves (rosette forb); hemirosulate upright forb; erosulate upright forb	Classification based on the width of leaves and on their position along the stem (Liira and Zobel 2000; Krumbiegel 2002).	Field observations
Flowering phenology	March-April; May-June; July-September	Flowering time	Field observations

References

- Klimešová, J., de Bello, F., 2009. Clo-Pla: the database of clonal and bud bank traits of Central European flora. *J. Veg. Sci.* 20, 511–516. <https://doi.org/10.1111/j.1654-1103.2009.01050.x>
- Klimešová, J., Klimeš, L., 2006. Clo-Pla3: A database of clonal growth architecture of Central-European plants. <http://clopla.butbn.cas.cz/> (accessed 15 June 2018).
- Klotz, S., Kühn, I., Durka, W., 2002. Biolflor: Eine Datenbank zu biologisch-ökologischen Merkmalen der Gefäßpflanzen in Deutschland. Schriftenreihe für Vegetationskunde 38, Bonn, Bundesamt für Naturschutz. <http://www.ufz.de/biolflor/index.jsp> (accessed 15 Jun 2018).
- Krumbiegel, A., 2002. Morphologie der vegetative Organe (außer Blätter), in: Klotz, S., Kühn, I., Durka, W. (Eds.), *Biolflor: Eine Datenbank zu biologischökologischen Merkmalen der Gefäßpflanzen in Deutschland*, Schriftenreihe für Vegetationskunde 38. Bonn, DE, pp. 93–118.
- Liira, J., Zobel, K., 2000. Vertical structure of a species-rich grassland canopy, treated with additional illumination, fertilization and mowing. *Plant Ecol.* 146, 185–195. <https://doi.org/10.1023/A:1009811117681>

Table B. Minimum, maximum, mean, standard deviation (SD), median, and interquartile range (IR) of *Brachypodium rupestre* cover (%); total cover including/excluding *B. rupestre* (%), and litter cover (%) in the mown area (before the start of the treatment and 1, 2, 4, 5, and 6 years later) and unmown area (before the start of the treatment and 6 years later).

		No. years	Min	Max	Mean (SD)	Median (IR)	
<i>Brachypodium rupestre</i> cover (%)	Mown	0	16	86	50.7 (19.75)	48.5 (25.50)	
		1	10	72	33.3 (15.56)	31.0 (17.00)	
		2	4	71	25.3 (17.43)	22.5 (25.50)	
		4	0	51	17.2 (13.26)	13.5 (15.75)	
		5	2	40	16.7 (12.00)	13.5 (12.00)	
		6	0.5	30	9.0 (7.19)	7.0 (6.50)	
	Unmown	0	20	92	49.6 (19.4)	49.5 (24.5)	
		6	25	100	75.9 (18.7)	67.0 (18.8)	
	Litter cover (%)	Mown	0	0	90	48.0 (30.0)	40.0 (57.5)
			1	0	20	3.3 (5.5)	0.0 (4.0)
			2	0	20	4.3 (5.2)	2.0 (6.5)
			4	0	25	8.2 (7.4)	6.5 (7.8)
5			1	12	4.0 (3.0)	3.0 (3.0)	
6			0	10	2.6 (2.4)	2.0 (3.4)	
Unmown		0	4	98	49.8 (27.0)	50.0 (44.0)	
		6	5	90	47.0 (24.0)	45.0 (33.0)	

Table D. Minimum, maximum, mean, standard deviation (SD), median, and interquartile range (IR) of species richness (S), Shannon evenness (E_H), exponential Shannon (e^H) in the mown area (before the start of the treatment and 1, 2, 4, 5, and 6 years later).

Index	Year	Min	Max	Mean (SD)	Median (IR)
S	0	9	23	16.6 (3.00)	16.5 (3.00)
	1	13	31	21.4 (4.86)	20.5 (7.50)
	2	12	30	23.2 (4.10)	23.5 (4.00)
	4	15	34	25.0 (4.44)	24.0 (7.50)
	5	17	33	25.6 (4.58)	25.5 (6.75)
	6	19	33	26.8 (3.23)	27.5 (4.75)
E_H	0	0.33	0.84	0.53 (0.14)	0.54 (0.22)
	1	0.35	0.85	0.64 (0.15)	0.64 (0.25)
	2	0.35	0.82	0.56 (0.13)	0.54 (0.19)
	4	0.37	0.71	0.56 (0.09)	0.56 (0.11)
	5	0.45	0.72	0.59 (0.07)	0.57 (0.07)
	6	0.40	0.70	0.54 (0.07)	0.55 (0.10)
e^H	0	3.0	15.9	8.8 (2.8)	8.8 (4.2)
	1	4.5	25.5	14.0 (5.6)	13.3 (8.3)
	2	5.3	23.6	13.1 (4.3)	12.5 (5.3)
	4	7.8	19.3	13.7 (3.1)	14.0 (4.6)
	5	9.5	21.5	14.9 (2.6)	14.8 (2.6)
	6	9.2	20.4	14.4 (2.7)	14.3 (2.4)

Table E. Akaike Information Criterion (AIC) value, AIC weights (AICw), log-likelihood values (logLik), and the significance (*P*) of the selected mixed-effect models for Shannon evenness and exponential Shannon, fitted using the maximum likelihood method.

Taxonomic index	AIC	AICw	logLik	<i>P</i>
Shannon evenness	-355.0	0.558	184.5	< 0.0001
Exponential Shannon	933.0	0.479	-461.5	< 0.0001

Table F. Minimum, maximum, mean, standard deviation (SD), median, and interquartile range (IQR) of each trait state in the mown area (before the start of the treatment and 1, 2, 4, 5, and 6 years later). For pastoral value we calculated the relative cover of each species including also *Brachypodium rupestre*, while for the other traits, we removed *B. rupestre* and we expressed the abundance of trait states as absolute cover values.

Trait	Trait state	Year	Min	Max	Mean (SD)	Median (IQR)
Pastoral value	Relative cover of non-pabular species	0	0.40	0.78	0.58 (0.11)	0.56 (0.19)
		1	0.29	0.76	0.50 (0.11)	0.50 (0.15)
		2	0.25	0.60	0.45 (0.10)	0.44 (0.16)
		4	0.20	0.66	0.47 (0.12)	0.47 (0.16)
		5	0.27	0.59	0.41 (0.11)	0.39 (0.19)
		6	0.18	0.56	0.34 (0.08)	0.34 (0.12)
	Relative cover of pabular species	0	0.13	0.60	0.39 (0.12)	0.38 (0.15)
		1	0.24	0.63	0.47 (0.10)	0.50 (0.15)
		2	0.39	0.75	0.55 (0.10)	0.55(0.16)
		4	0.33	0.80	0.53 (0.12)	0.53 (0.16)
		5	0.39	0.73	0.60 (0.11)	0.60 (0.19)
		6	0.43	0.82	0.64 (0.08)	0.64 (0.11)
Vegetative propagation	Absence of vegetative propagation	0	2.0	64.5	17.8 (12.3)	17.0 (14.0)
		1	0.0	68.0	23.0 (17.0)	22.0 (22.8)
		2	1.0	84.0	25.0 (17.5)	23.0 (20.1)
		4	7.6	63.0	27.2 (14.2)	24.3 (20.5)
		5	11.0	55.5	27.1 (10.1)	25.7 (13.1)
		6	7.5	56.5	28.2 (10.9)	26.8 (15.3)
	Clonal growth organs, with prevalent vertical development and short horizontal spread	0	84.0	188.5	123.9 (25.7)	118.2 (40.4)
		1	83.5	180.0	122.8 (23.1)	119.0 (30.9)
		2	35.0	172.0	118 (40.43)	131.2 (77.6)
		4	34.0	164.0	96.3 (26.7)	94.8 (109.55)
		5	78.0	174.0	111.8 (25.5)	109.5 (33.3)
		6	52.5	145.0	97.0 (23.3)	90.7 (29.25)
	Clonal growth organs, with prevalent horizontal spread	0	36.0	100.5	66.0 (19.5)	66.2 (34.0)
		1	26.0	102.0	57.6 (17.2)	58.0 (21.0)
		2	9.5	100.5	49.7 (26.8)	40.5 (46.4)
		4	1.6	60.0	30.7 (15)	31.5 (21.7)
		5	5.5	6.0	24.3 (12)	22.7 (18.9)
		6	6.0	46.5	17.9 (10.7)	13.8 (13.5)
Storage organ	Presence	0	103.0	207.5	148.6 (30.0)	142.0 (53.3)
		1	87.5	242.0	157.4 (38.4)	154.5 (59.5)
		2	57.0	246.0	153.9 (58.1)	166.2 (102.4)
		4	55.3	201.0	122.3 (30.8)	119.7 (40.1)
		5	96.5	192.5	135.4 (27.1)	127.5 (41.8)
		6	88.0	150.1	121.1 (18.9)	116.3 (37.0)
	Absence	0	0.0	20.0	2.5 (4.6)	0.3 (2.0)
		1	0.0	10.0	2.3 (3.5)	0.5 (3.5)
		2	0.0	6.0	1.4 (1.6)	0.8 (1.5)
		4	0.0	6.0	5.9 (4.5)	5.5 (8.8)
		5	1.0	15.0	6.3 (4.6)	5.0 (5.0)

		6	0.1	22.5	6.0 (6.1)	3.5 (6.3)
Horizontal space occupation	Absence	0	1.0	37.5	16.8 (10.1)	14.5 (13.8)
		1	1.0	46.0	16.5 (12.7)	12 (20.0)
		2	1.0	32.0	12.3 (9.7)	8.7 (15.0)
		4	6.0	57.7	18.3 (11.8)	15.0 (8.5)
		5	3.5	40.0	18.9 (9.0)	17.0 (10.0)
		6	5.0	37.0	15.0 (7.0)	14.0 (9.5)
	Caespitose	0	50.0	132.0	96.7 (20.9)	99.0 (31.6)
		1	48.0	112.0	82.3 (14.4)	80.7 (18.8)
		2	22.5	124.0	79.4 (29.4)	49.4 (17.7)
		4	16.0	95.0	49.4 (17.6)	51.2 (24.7)
		5	23.0	112.5	57.4 (21.1)	51.2 (24.7)
		6	15.0	102.0	43.6 (21.9)	37.2 (23.1)
	Pleiocorm	0	4.0	62.0	25.4 (14.3)	22.7 (20.3)
		1	4.0	83.0	34.7 (19.9)	34.2 (25.5)
		2	1.0	116.0	34.4 (22.6)	29.7 (24.6)
		4	1.5	97.0	41.3 (22.4)	41.2 (28.2)
		5	21.0	73.0	44.9 (16.3)	42.0 (27.4)
		6	14.5	87.1	49.6 (17.9)	49.0 (19.6)
	Reptant	0	22.0	94.0	60.3 (20.9)	59.0 (34.0)
		1	24.0	104.5	58.9 (19.9)	56.0 (21.0)
		2	22.0	119.0	60.2 (26.9)	51.8 (43.9)
		4	12.6	68.0	43.3 (17.6)	42.5 (29.3)
		5	6.5	63.0	32.4 (13.5)	29.0 (15.5)
		6	8.0	54.0	20.2 (10.4)	16.5 (9.7)
Rosulate	0	0.0	18.0	5.6 (5.6)	4 (9.8)	
	1	0.0	36.0	12.0 (9.6)	11 (13.7)	
	2	0.0	56.0	16.9 (15.9)	11.5 (22.4)	
	4	0.0	42.5	16.2 (10.9)	14 (16.8)	
	5	2.6	46.0	16.4 (11.4)	15.3 (15.3)	
	6	0.0	51.0	16.7 (12.6)	14 (18.25)	
Scandent	0	-	-	-	-	
	1	0.0	8.0	0.3 (1.5)	0 (0)	
	2	-	-	-	-	
	4	-	-	-	-	
	5	-	-	-	-	
	6	-	-	-	-	
Prostrate	0	-	-	-	-	
	1	-	-	-	-	
	2	-	-	-	-	
	4	-	-	-	-	
	5	0.0	1.0	0.1 (0.2)	0.0 (0.0)	
	6	0.0	0.5	0.0 (0.1)	0.0 (0.0)	
Vertical space occupation	Sedge	0	-	-	-	-
		1	0.0	10.0	0.6 (2.1)	0.0 (0.0)
		2	0.0	3.0	0.2 (0.6)	0.0 (0.0)
		4	0.0	2.0	0.2 (0.4)	0.0 (0.0)

		5	0.0	4.0	0.5 (0.9)	0.0 (0.6)
		6	0.0	3.0	0.3 (0.8)	0.0 (0.0)
	Grass	0	50.0	122.0	94.0 (19.5)	97.7 (27.5)
		1	42.0	108.0	79.0 (15.8)	79.0 (23.4)
		2	21.0	117.0	76.8 (27.5)	74.0 (42.0)
		4	14.0	95.0	50.7 (17.6)	52.7 (24.3)
		5	24.0	113.5	57.4 (17.2)	56.5 (21.7)
		6	16.0	102.0	43.3 (22)	56.5 (21.7)
	Rosette	0	0.0	18.0	5.6 (5.6)	4.0 (9.9)
		1	0.0	36.0	12.0 (9.6)	11.0 (13.7)
		2	0.0	56.0	16.9 (15.9)	11.5 (22.4)
		4	0.0	42.5	16.2 (10.9)	14.0 (16.8)
		5	2.0	46.0	16.4 (11.4)	15.0 (14.6)
		6	0.0	51.0	16.6 (12.7)	14.0 (18.4)
	Hemiosulate upright forb	0	9.0	72.5	32.1 (15.8)	29.2 (25.1)
		1	4.0	108.0	44.0 (24.4)	41.0 (28.2)
		2	11.5	74.5	40.2 (17.4)	37.7 (28.2)
		4	4.6	93.0	41.9 (22.7)	40.0 (26.4)
		5	22.0	83.0	46.8 (18.1)	39.3 (28.7)
		6	23.5	79.2	47.7 (13.6)	47.0 (18.1)
	Erosulate upright forb	0	1.0	44.0	19.1 (10.4)	19.3 (15.6)
		1	3.0	52.0	22.3 (16.4)	20.0 (32.8)
		2	1.0	44.5	15.6 (12.7)	18.0 (17.2)
		4	5.0	55.1	20.4 (13.0)	18.0 (17.2)
		5	3.0	54.0	19.8 (10.1)	19.0 (10.0)
		6	1.2	51.5	18.4 (13.8)	14.0 (17.3)
	Scandent	0	-	-	-	-
		1	0.0	8.0	0.3 (1.5)	0.0 (0.0)
		2	-	-	-	-
		4	-	-	-	-
		5	-	-	-	-
		6	-	-	-	-
	Prostrate	0	0.0	6.0	0.4 (1.2)	0.0 (0.0)
		1	0.0	8.0	0.8 (2.1)	0.0 (0.0)
		2	0.0	24.0	2.1 (5.4)	0.0 (0.4)
		4	0.0	2.0	0.1 (0.4)	0.0 (0.0)
		5	0.0	2.0	0.1 (0.4)	0.0 (0.0)
		6	0.0	1.0	0.1 (0.2)	0.0 (0.0)
Flowering timing	March-April	0	0.0	44.0	15.5 (11.3)	12.2 (13.5)
		1	0.0	50.0	18.8 (15.6)	17.0 (28.3)
		2	1.0	64.0	19.0 (18.1)	12.5 (22.3)
		4	1.5	45.0	15.0 (9.7)	12.8 (10.5)
		5	0.5	37.2	19.3 (8)	19.3 (5.9)
		6	2.5	30.0	12.9 (6.6)	11.7 (7.7)
	May-June	0	98.0	190.0	136.7 (28.7)	131.0 (44.5)
		1	89.5	222.0	148.5 (34.8)	149.7 (52.1)
		2	48.0	214.0	138.6 (50.0)	157.7 (96.6)

	4	48.3	184.0	119.1 (30.4)	122.0 (40.3)
	5	84.5	191.5	131.6 (27.8)	125.1 (36.1)
	6	77.0	153.6	115.8 (22.4)	111.4 (31.9)
	0	32.0	106.5	67.4 (19.9)	63.3 (30.3)
	1	30.0	100.5	61.0 (17.5)	58.0 (24.6)
	2	19.0	97.0	51.6 (23.0)	44.2 (37.1)
July-September	4	22.1	92.0	50.9 (20.2)	49.8 (32.2)
	5	18.0	88.5	46.3 (18.2)	44.0 (24.9)
	6	11.0	84.0	46.3 (17.2)	44.0 (22.6)

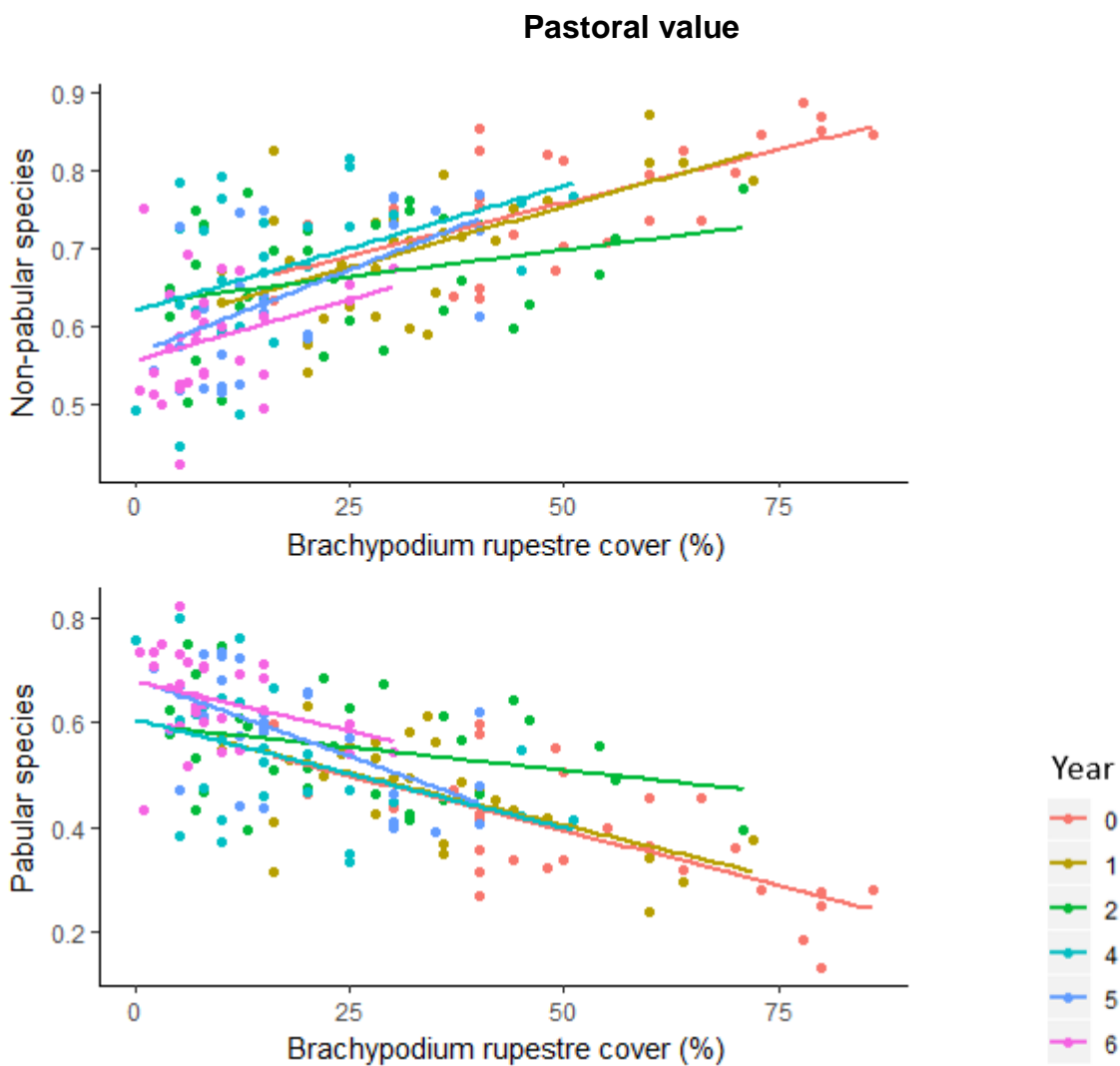
Table G. Akaike Information Criterion (AIC) value and AIC weights (AICw), log-likelihood values (logLik), and the significance (*P*) of the selected linear mixed-effect models, fitted using the maximum likelihood method, explaining the effect of *Brachypodium rupestre* cover percentage, number of years since the beginning of treatment and their interactions (fixed effects) on community-weighted means or community absolute values of functional traits, with sample identity (one different sample per year). The models account for potential spatial autocorrelation. The correlation structures used, if any, are indicated with a superscript. Only significant models are shown.

Trait	Trait state	AIC	AICw	logLik	<i>P</i>
¹ Pastoral value	Relative cover of pabular species	-329.1	0.589	169.6	<0.0001
	Relative cover of non-pabular species ^a	-431.2	0.366	220.6	<0.0001
² Vegetative propagation	Absence of vegetative propagation ^b	622.8	0.995	-304.4	<0.0001
	Clonal growth organs, with prevalent horizontal spread ^c	131.9	1.000	-58.9	<0.0001
	Clonal growth organs, with prevalent vertical development and short horizontal spread ^a	1691.5	0.371	-839.7	0.002
² Storage organ	Presence ^c	630.1	0.498	-310.1	0.021
² Horizontal space occupation	Caespitose ^a	568.8	0.838	-277.4	<0.0001
	Pleiocorm ^a	656.4	0.527	-322.2	<0.0001
	Reptant ^a	506.0	0.369	-246.0	<0.0001
	Rosulate ^a	681.4	0.573	-335.7	<0.0001
² Vertical space occupation	Grass ^a	555.0	0.885	-270.5	<0.0001
	Rosette forbs ^a	682.8	0.583	-336.4	<0.0001
	Hemirosulate upright forbs ^a	651.6	0.383	-318.8	0.010
² Flowering phenology	March-April ^c	638.3	0.422	-313.2	0.003
	July-September	552.2	0.446	-271.1	<0.0001

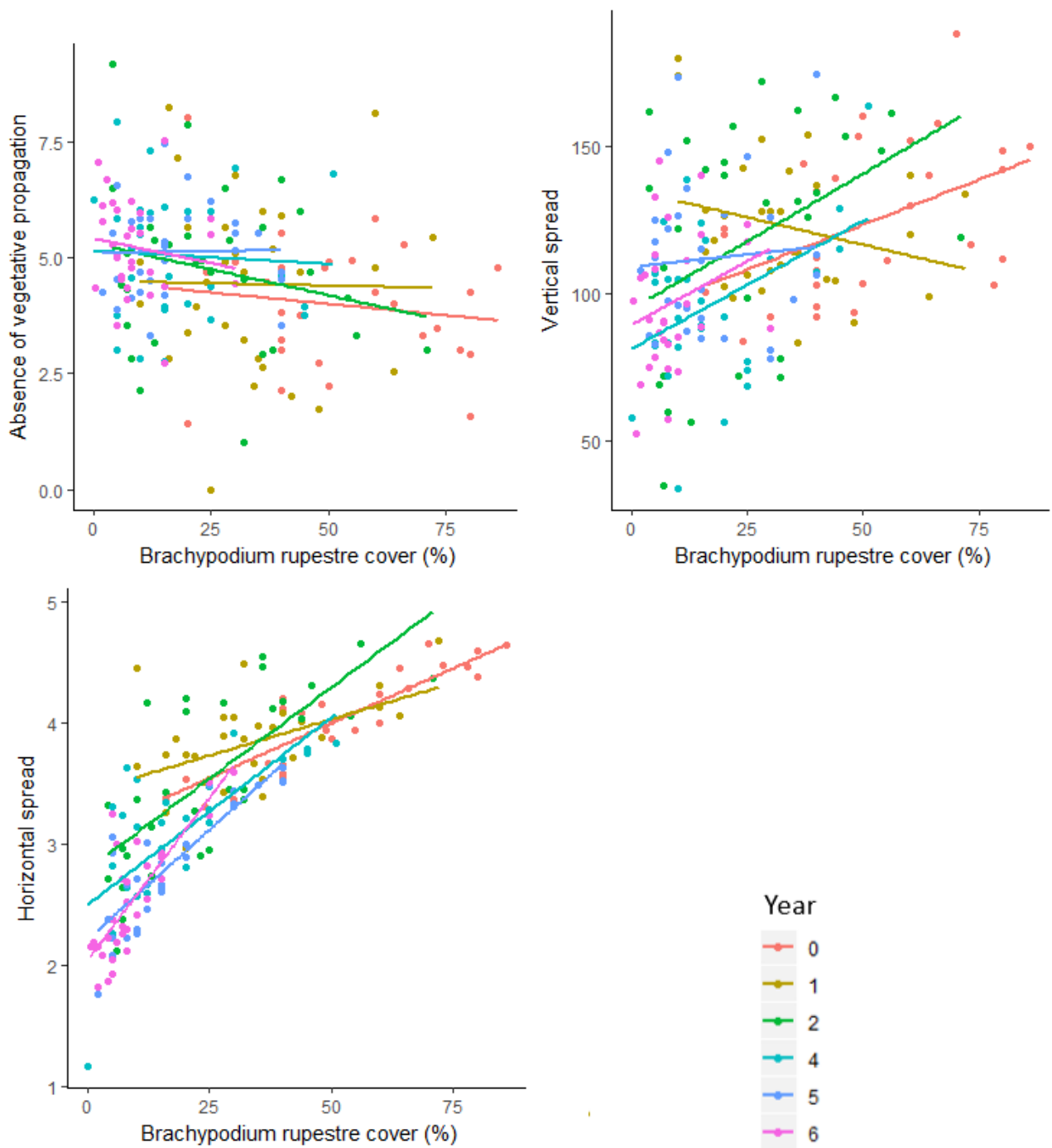
¹ community-weighted mean; ² community absolute value

^a Rational quadratics spatial correlation; ^b Compound symmetry structure corresponding to a constant correlation; ^c Exponential spatial correlation

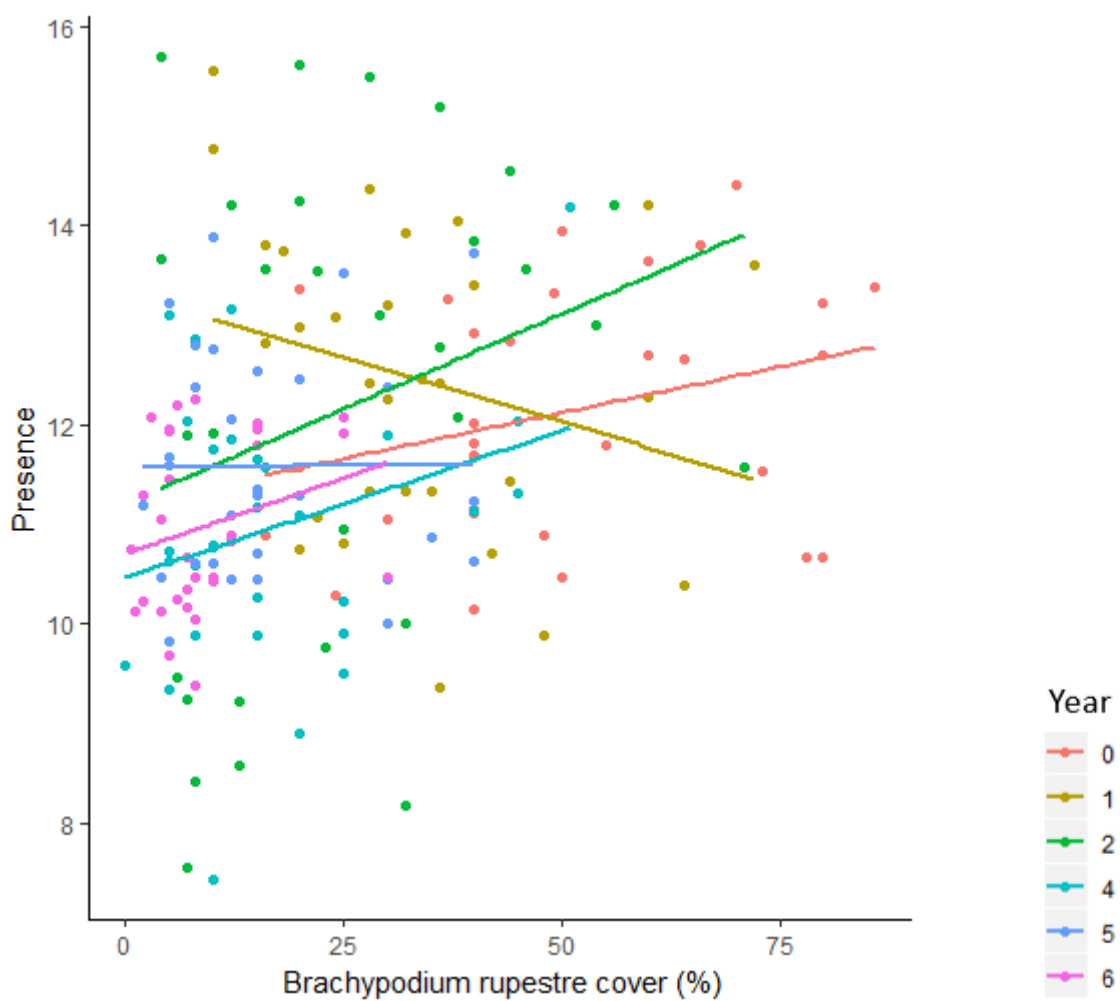
Figure H. Effect of *Brachypodium rupestre* cover percentage and number of years since the beginning of the treatment on the relative cover of pabular and non-pabular species and on the absolute cover of species with trait states linked to vegetative propagation, storage organs, horizontal and vertical space occupation, and flowering timing. Only trait states significantly influenced by *B. rupestre* cover percentage and/or by the number of years since the start of the treatment are shown.



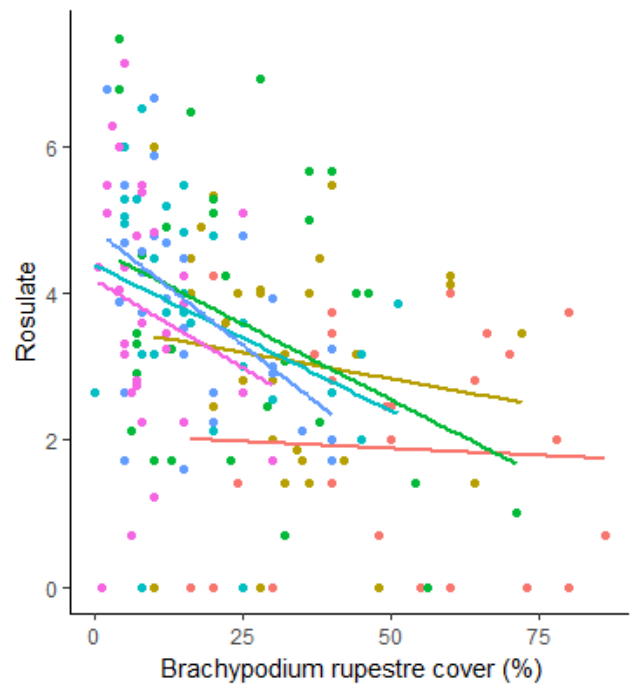
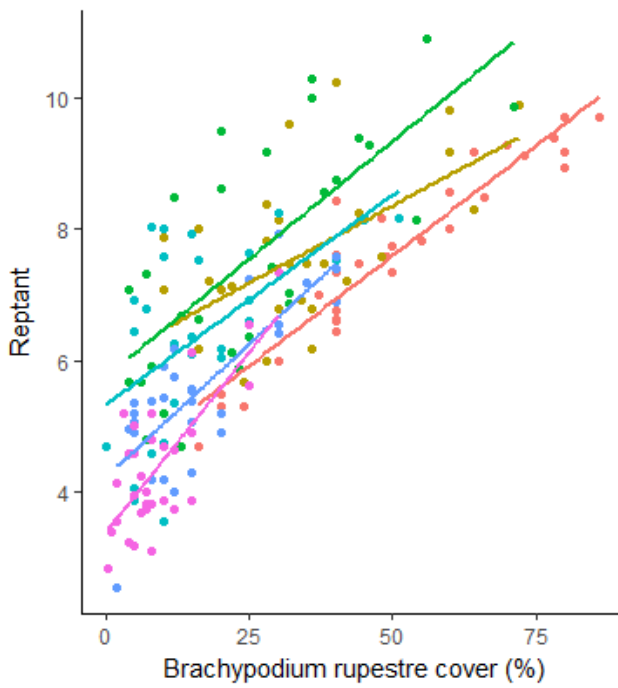
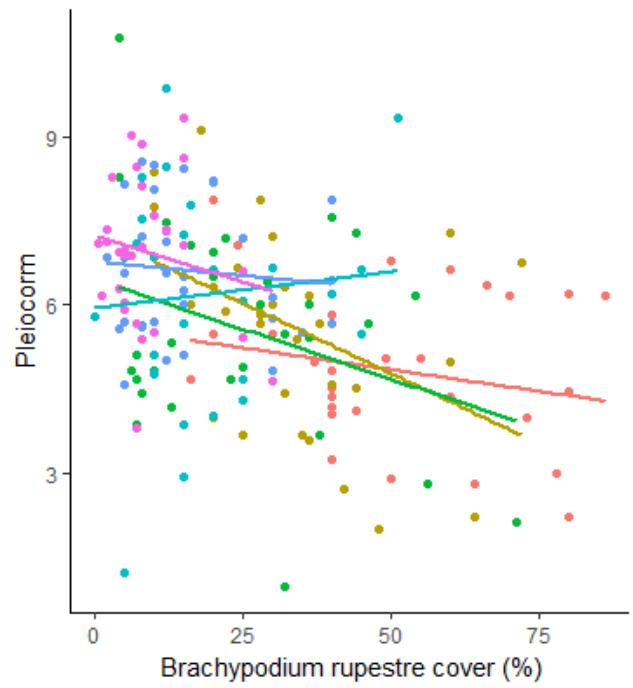
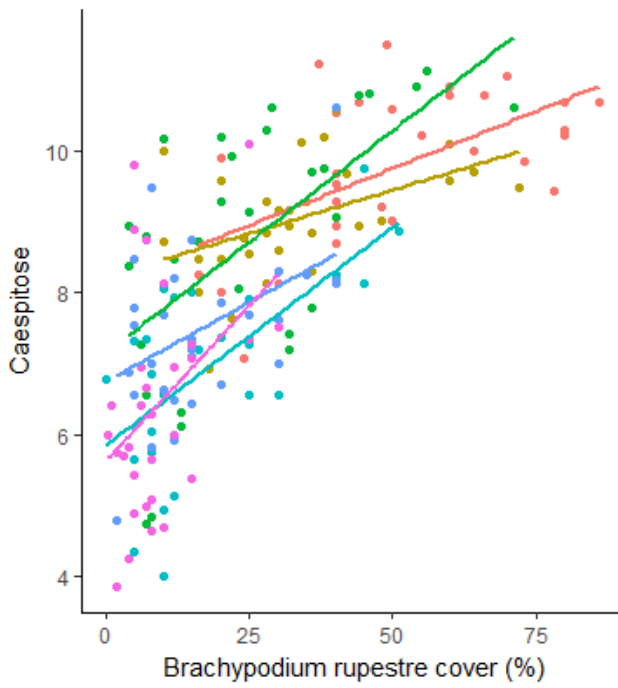
Vegetative propagation



Storage organs



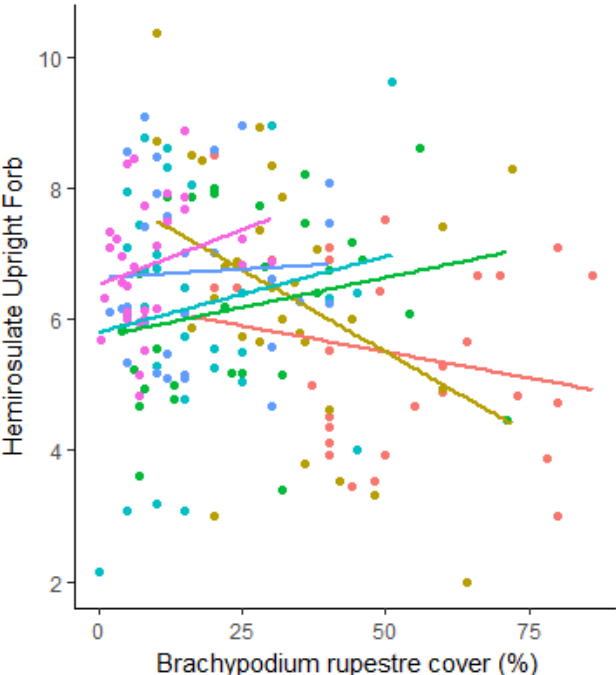
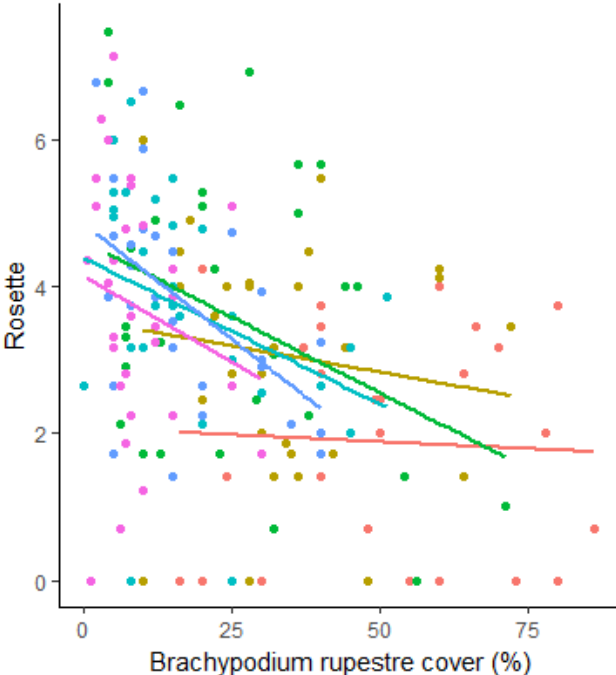
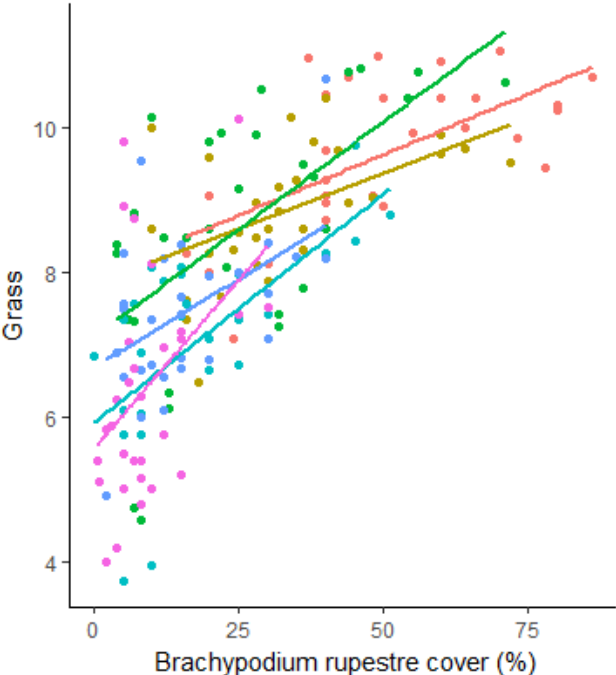
Horizontal space occupation



Year



Vertical space occupation



Flowering timing

