

SUPPLEMENTARY DATA

TABLE S1. Means (\pm s.e.) of root potential decomposition (K_{pot}) and traits measured on 18 herbaceous species.

Species	K_{pot} (g kg ⁻¹ d ⁻¹)	Mass remaining (%)	N (mg g ⁻¹)	P (mg g ⁻¹)	C/N	Soluble (mg g ⁻¹)	Hemicellulose (mg g ⁻¹)	Cellulose (mg g ⁻¹)	Lignin (mg g ⁻¹)	Tissue density (g cm ⁻³)	SRL (m g ⁻¹)	Diameter (mm)
As	16.27	16.95 \pm 0.67	13.3 \pm 0.4	–	32.0	285 \pm 12	388 \pm 12	247 \pm 26	80 \pm 25	0.067 \pm 0.006	653 \pm 59	0.209 \pm 0.002
Be	6.44	57.93 \pm 1.22	5.3 \pm 0.1	1.0 \pm 0.05	84.5	167 \pm 12	393 \pm 6	332 \pm 8	109 \pm 2	0.139 \pm 0.009	113 \pm 2	0.266 \pm 0.016
Bm	8.23	44.85 \pm 2.78	5.0 \pm 0.1	1.1 \pm 0.02	86.3	178 \pm 6	418 \pm 5	340 \pm 2	64.3 \pm 1	0.091 \pm 0.001	427 \pm 42	0.212 \pm 0.003
Bp	7.96	53.71 \pm 1.13	6.7 \pm 1.1	1.2 \pm 0.07	70.2	179 \pm 14	403 \pm 4	323 \pm 6	95.8 \pm 6	0.095 \pm 0.005	159 \pm 17	0.250 \pm 0.005
Cf	13.43	36.83 \pm 1.12	14.2 \pm 0.3	2.5 \pm 0.16	32.4	381 \pm 16	215 \pm 11	208 \pm 3	197 \pm 3	0.072 \pm 0.008	301 \pm 23	0.256 \pm 0.004
Cn	6.99	60.54 \pm 0.15	9.6 \pm 0.7	1.6 \pm 0.06	48.0	225 \pm 9	233 \pm 6	297 \pm 10	246 \pm 2	0.139 \pm 0.006	130 \pm 17	0.268 \pm 0.014
Dc	22.06	6.58 \pm 1.88	8.0 \pm 0.2	1.5 \pm 0.1	51.3	448 \pm 15	205 \pm 11	191 \pm 5	155 \pm 9	0.078 \pm 0.001	385 \pm 15	0.254 \pm 0.016
Dg	7.34	47.65 \pm 3.40	7.1 \pm 0.2	1.1 \pm 0.04	61.9	201 \pm 19	422 \pm 17	283 \pm 3	95.6 \pm 4	0.132 \pm 0.006	287 \pm 27	0.213 \pm 0.002
Gr	6.28	65.02 \pm 0.31	10.3 \pm 0.3	2.0 \pm 0.09	43.4	309 \pm 5	193 \pm 2	237 \pm 6	261 \pm 5	0.124 \pm 0.006	235 \pm 13	0.231 \pm 0.006
Ic	22.28	36 \pm 2.24	10.7 \pm 0.3	2.0 \pm 0.12	39.8	365 \pm 13	278 \pm 8	217 \pm 10	140 \pm 16	0.074 \pm 0.001	198 \pm 27	0.334 \pm 0.015
Mm	15.86	36.77 \pm 1.77	31.2 \pm 0.5	1.9 \pm 0.05	14.5	272 \pm 10	295 \pm 10	284 \pm 5	149 \pm 3	0.123 \pm 0.009	209 \pm 21	0.257 \pm 0.005
Pb	12.81	37.05 \pm 2.02	17.7 \pm 0.6	1.6 \pm 0.06	23.9	342 \pm 6	274 \pm 20	240 \pm 12	145 \pm 6	0.091 \pm 0.006	134 \pm 11	0.343 \pm 0.006
Ph	21.23	16.36 \pm 0.52	7.0 \pm 0.0	1.3 \pm 0.04	63.6	436 \pm 9	239 \pm 4	189 \pm 3	135 \pm 7	0.118 \pm 0.002	200 \pm 7	0.266 \pm 0.008
Rp	15.21	26.8 \pm 1.96	13.4 \pm 0.3	2.1 \pm 0.08	29.1	402 \pm 37	283 \pm 28	162 \pm 5	154 \pm 5	0.143 \pm 0.007	106 \pm 8	0.334 \pm 0.01
Ta	13.58	28.62 \pm 4.19	23.4 \pm 0.7	2.0 \pm 0.09	16.7	406 \pm 13	207 \pm 7	200 \pm 2	187 \pm 4	0.099 \pm 0.004	154 \pm 4	0.301 \pm 0.01
Tc	6.38	66.56 \pm 0.62	19.7 \pm 1.6	1.9 \pm 0.57	22.2	313 \pm 30	254 \pm 5	234 \pm 19	200 \pm 6	0.114 \pm 0.005	134 \pm 7	0.289 \pm 0.006
Tm	28.36	6.64 \pm 2.48	15.6 \pm 0.2	2.8 \pm 0.15	27.4	378 \pm 36	249 \pm 28	219 \pm 6	155 \pm 12	0.093 \pm 0.012	274 \pm 25	0.252 \pm 0.01
Vp	14.2	30.3 \pm 3.53	13.1 \pm 0.3	2.3 \pm 0.11	32.9	294 \pm 7	238 \pm 7	282 \pm 7	186 \pm 5	0.080 \pm 0.009	503 \pm 26	0.230 \pm 0.003

See Table 1 in the main text for species' abbreviations. Abbreviations for root traits: K_{pot} , root potential decomposition; N, nitrogen concentration; P, phosphorus concentration; Soluble, water-soluble compound concentration; Hemicellulose, hemicellulose concentration; Cellulose, cellulose concentration; SRL: specific root length. $n = 3$ or 4 depending on the species and trait.