

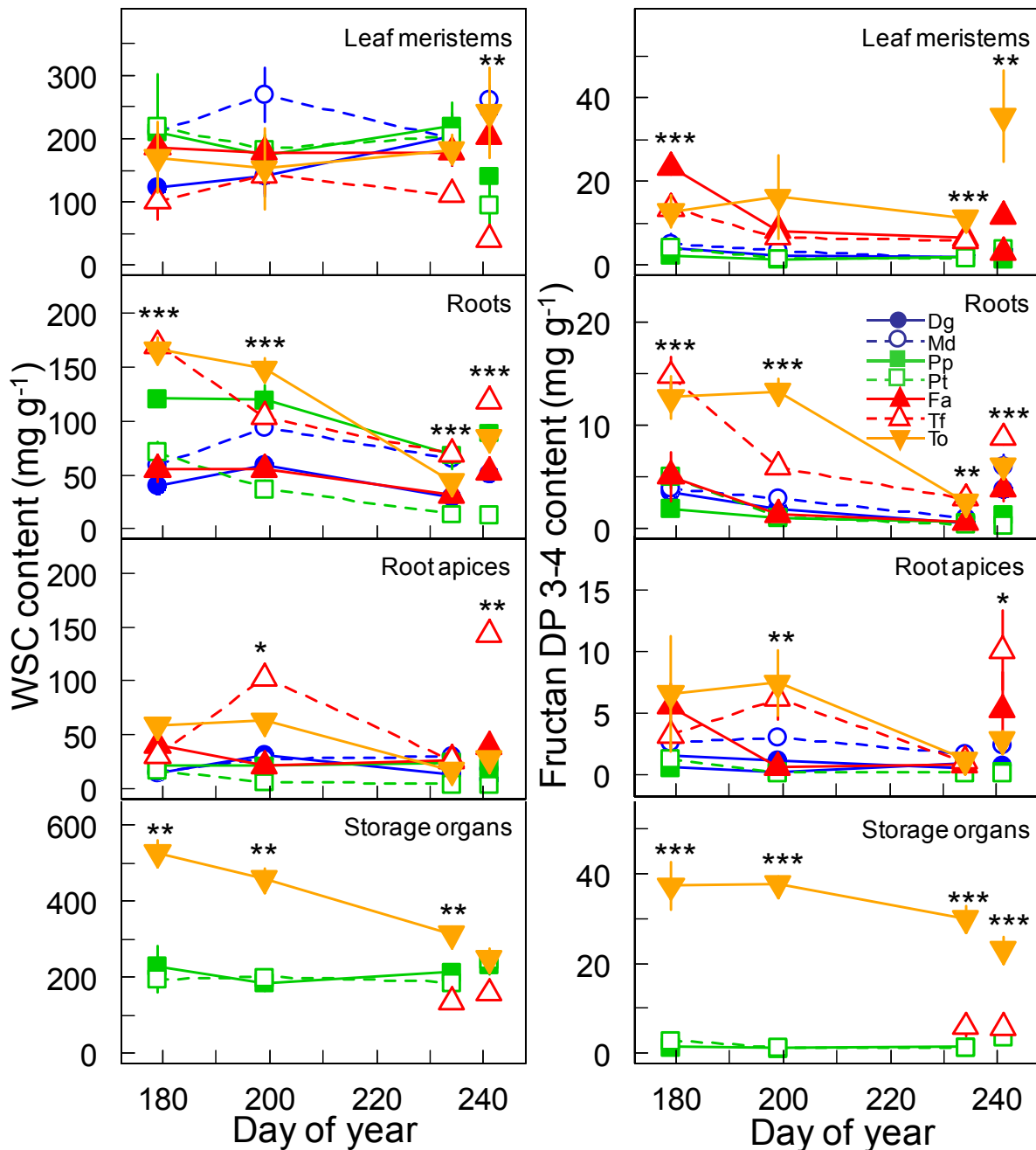
## SUPPLEMENTARY DATA

**Table S1.** Climatic conditions during the experiment: before drought in spring (DOY 78–181), moderate drought (DOY 182–201) and severe drought (DOY 202–231), during the first two weeks of rehydration (DOY 232–246) and the recovery period in 2011 (DOY 247–365) and 2012 (DOY 1–158).

Year	Period	Mean	Minimum	Maximum	Global		
		T <sub>air</sub> (°C)	T <sub>air</sub> (°C)	T <sub>air</sub> (°C)	Radiation (J cm <sup>-2</sup> )	PET (mm d <sup>-1</sup> )	PET (mm period <sup>-1</sup> )
2011	Before drought	15.2	9.2	21.6	1967	3.8	393
	Moderate drought	18.3	11.8	23.9	1980	4.1	83
	Severe drought	19.4	13.9	25.3	1853	4	121
	Rehydration	20.9	15	27.8	1753	3.9	58
	Recovery	12	7.4	17.3	860	1.4	161
2012	Recovery	8.1	3.3	13.1	1203	2.0	323

PET: Potential evapotranspiration.

**Figure S1.** Total water-soluble carbohydrate (WSC) and fructans with degrees of polymerization 3 and 4 (DP 3-4) contents in leaf meristems, roots, root apices of *Taraxacum officinalis* (To, filled orange triangles), *Dactylis glomerata* cv. Medly (Md, open blue circles), *Dactylis glomerata* (Dg, filled blue circles), *Trisetum flavescens* (Tf, open red triangles), *Poa pratensis* (Pp, filled green squares), *Festuca arundinacea* (Fa, filled red triangles), *Poa trivialis* (Pt, open green squares) and in storage organs of *Taraxacum officinalis* (taproot), *Trisetum flavescens* (stolon), *Poa pratensis* (rhizome) and *Poa trivialis* (stolon) during the experimental drought (DOY 182 – 231) and in the control plants (DOY 242). Mean values are shown  $\pm$  se (n = 3). Symbols indicate significant differences between species after one-way ANOVA:  $^+ P \leq 0.1$ ;  $* P \leq 0.05$ ;  $** P \leq 0.01$ ;  $*** P \leq 0.001$ .



**Figure S2.** Glucose and fructose contents in leaf meristems, roots, root apices of *Taraxacum officinalis* (To, filled orange triangles), *Dactylis glomerata* cv. Medly (Md, open blue circles), *Dactylis glomerata* (Dg, filled blue circles), *Trisetum flavescens* (Tf, open red triangles), *Poa pratensis* (Pp, filled green squares), *Festuca arundinacea* (Fa, filled red triangles), *Poa trivialis* (Pt, open green squares) and in storage organs of *Taraxacum officinalis* (taproot), *Trisetum flavescens* (stolon), *Poa pratensis* (rhizome) and *Poa trivialis* (stolon) during the experimental drought (DOY 182-231) and in the control plants (DOY 242). Mean values are shown  $\pm$  se (n = 3). Symbols indicate significant effect of drought treatment on plant organs for each species:  $^+$ :  $P \leq 0.1$ ,  $*$ :  $P \leq 0.05$ ,  $**$ :  $P \leq 0.01$ ,  $***$ :  $P \leq 0.001$ .

