

[10.1071/FP23170](https://doi.org/10.1071/FP23170)

*Functional Plant Biology*

### Supplementary Material

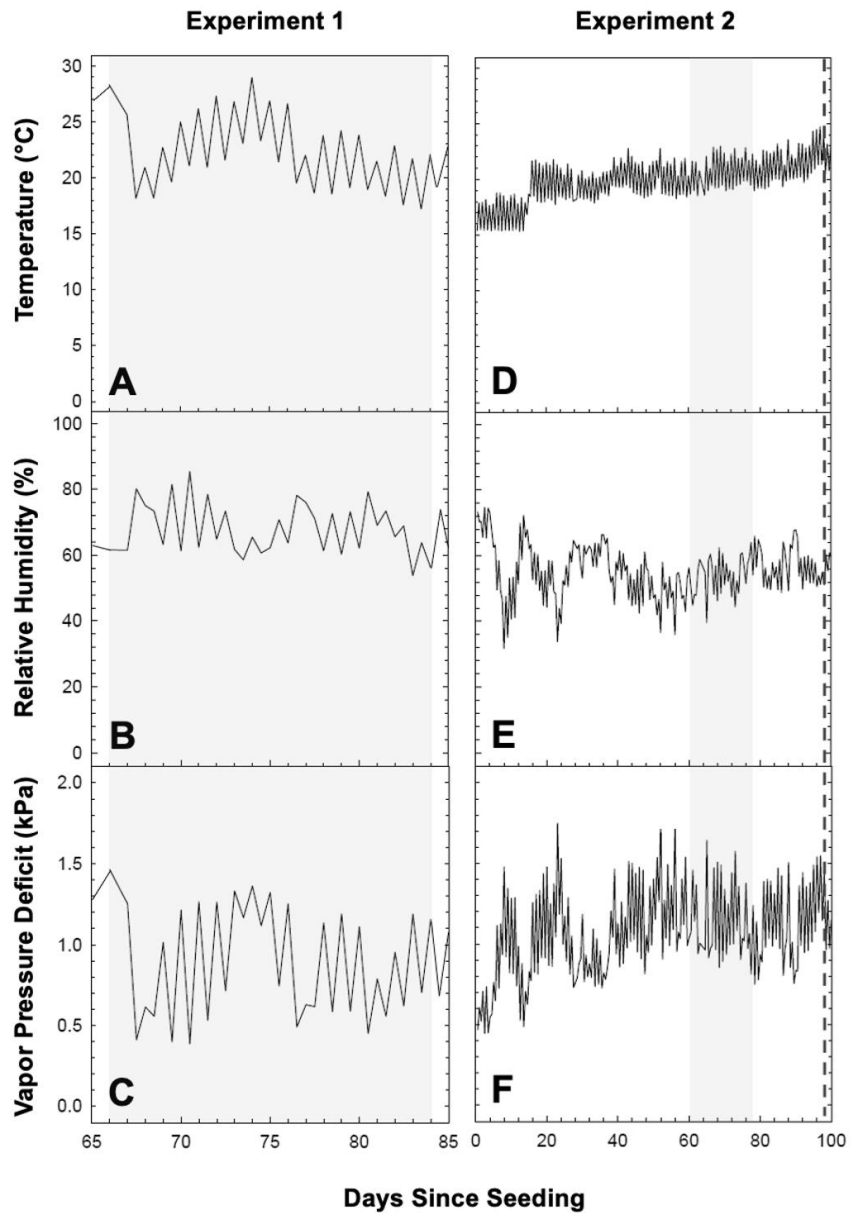
#### **Leaf water relations and osmotic adjustment of Canada Western Red Spring wheat cultivars subjected to drought**

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## SUPPLEMENTARY MATERIAL

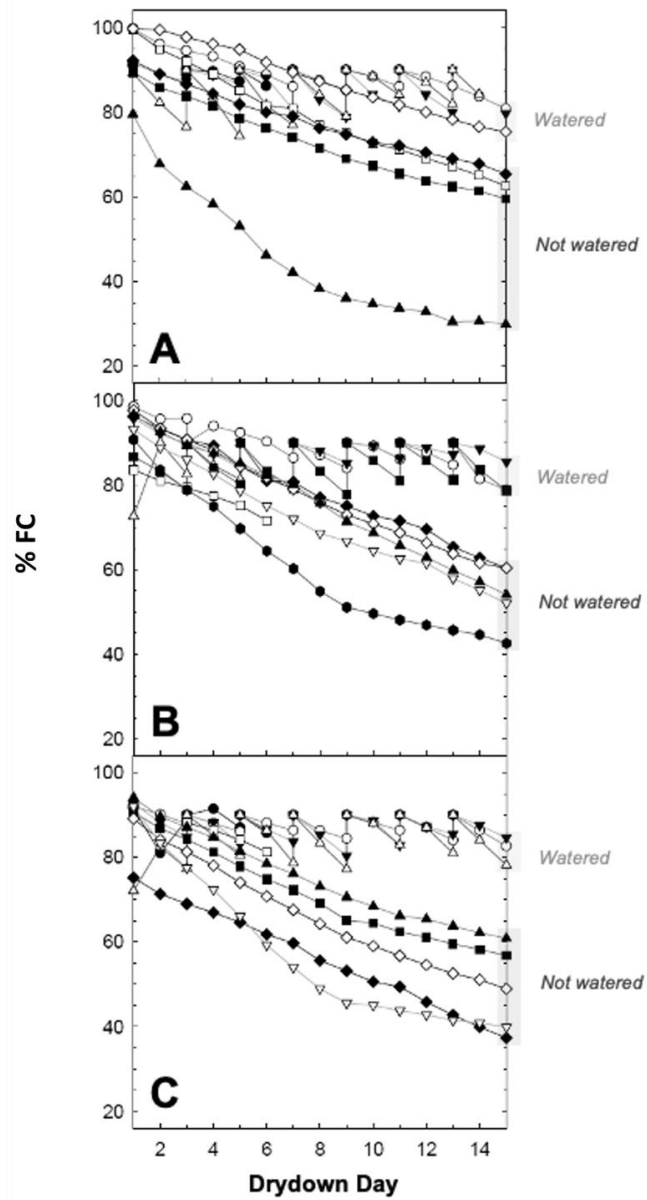


**Figure S1.** Daily temperature (in A and D), relative humidity (in B and E), and VPD (in C and F) during experiments 1 (June to September 2021) and experiment 2 (February to June 2022). The experimental time period is indicated by the shaded area (the dashed line represents when plants were discarded).

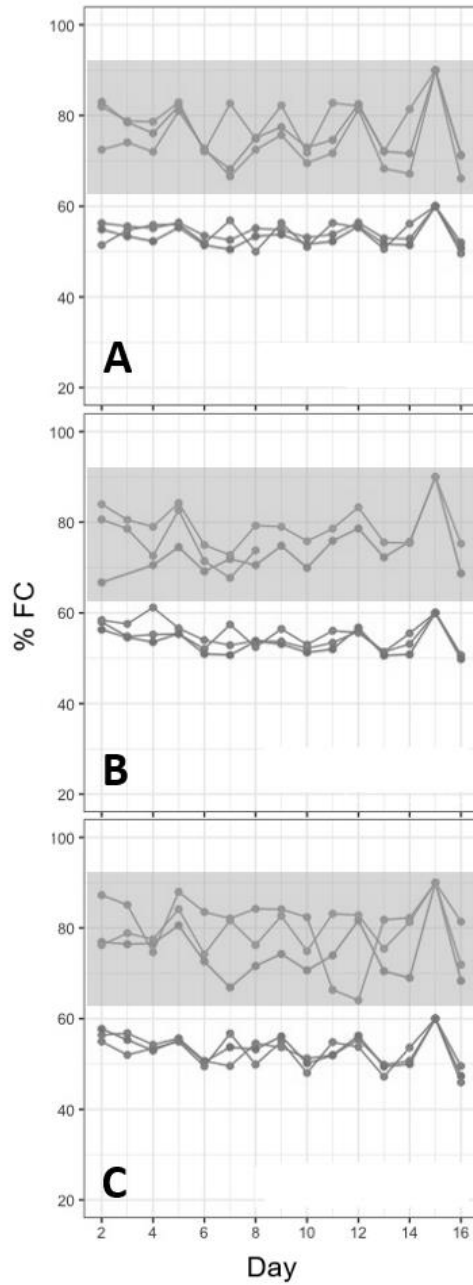
<b>A</b>	Su	St	AV
	AV	Su	St
	St	AV	Su
	Su	St	AV
	AV	Su	St
	St	AV	Su
	Su	St	AV
	AV	Su	St
	St	AV	Su
	Su	St	AV

<b>B</b>	Su	St	AV
	AV	Su	St
	St	AV	Su
	Su	St	AV
	Su	St	AV
	St	AV	Su
	Su	St	AV
	AV	Su	St
	St	AV	Su
	Su	St	AV
	St	AV	Su
	Su	St	AV

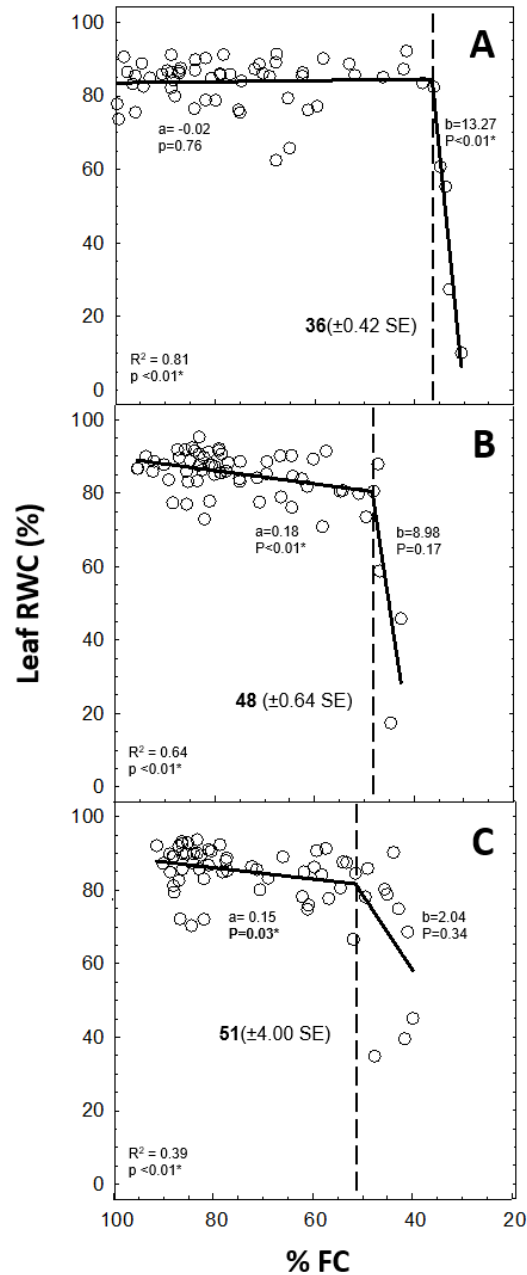
**Figure S2.** Experimental randomized block design for experiment 1 (in A) and experiment 2 (in B) indicating cultivars and treatments. AV= AAC Viewfield, St = Stettler, Su = Superb (dark green color = treatment 90% FC; light green color = treatment 60% FC; dark orange color = treatment 45% FC; light orange color == treatment no watering).



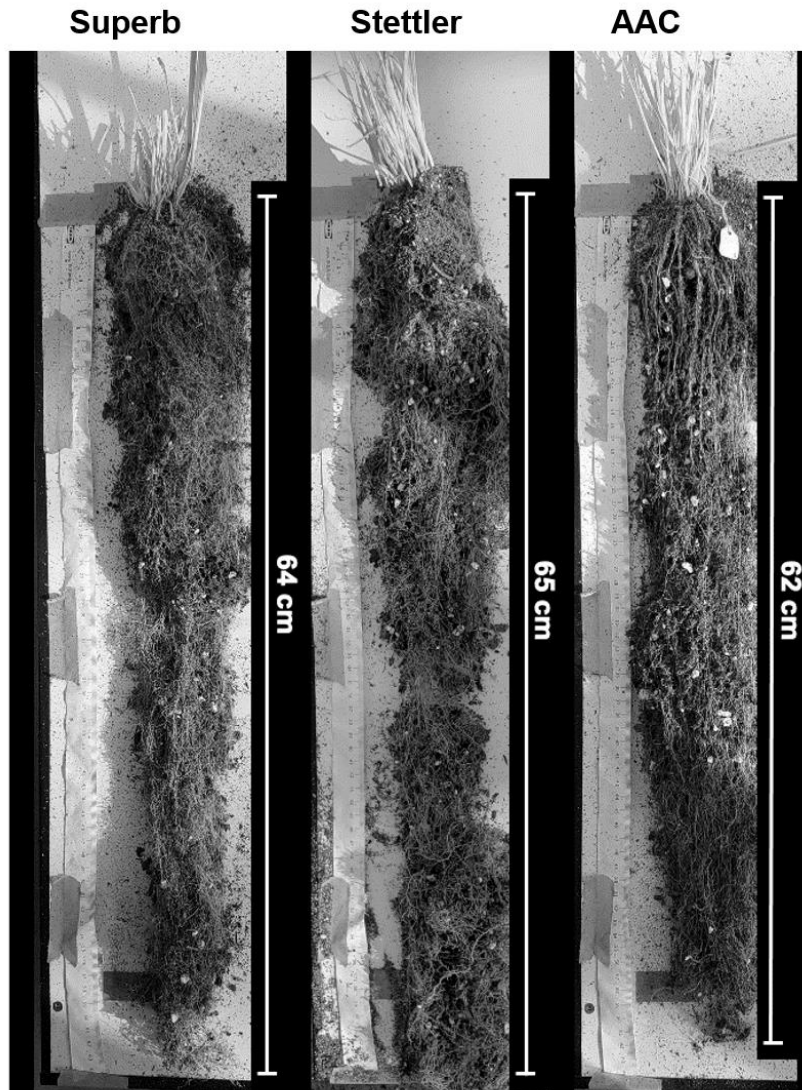
**Figure S3.** Temporal changes in soil % FC (field capacity) of plants measured for experiment 1. Symbols connected by lines represent an individual plant (panel A ‘Superb’, panel B ‘Stettler’, panel C ‘AAC Viewfield’).



**Figure S4.** Temporal changes of soil relative water content measured for experiment 2 (Figures 5 to 7). The well-watered treatment (shaded, i.e. 90% FC in Figure S2) and water deficit treatment (non-shaded, i.e. 60% in Figure S2) is indicated. Symbols connected by lines represent an individual plant (panel A ‘Superb’, panel B ‘Stettler’, panel C ‘AAC Viewfield’).



**Figure S5.** Effect of % FC on leaf relative water content of three wheat cultivars. Each symbol represents a single measurement of an individual plant. The solid line is a two-segment piecewise linear regression model fitted across data points (for  $R^2$  and p-values, see bottom left in each panel); the vertical dashed line indicates the predicted threshold of onset of severe leaf dehydration. Parameters a and b are slope values of phase I and II, respectively, with corresponding p-values and coefficient of determination ( $R^2$ ) (panel A ‘Superb’, panel B ‘Stettler’, panel C ‘AAC Viewfield’).



**Figure S6.** Representative images of root systems of the three wheat cultivars evaluated in this study and the end of the drydown experiment.