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Supplementary Material

Stomatal behaviour under terminal drought affects post-anthesis water use in wheat

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Fig. S1. Soil column tipped outside the pot at anthesis to ensure that the roots had grown to the bottom of the pot by anthesis. The example shown is for IGW-3262.

Table S1. Two-way ANOVA results (P values) for tiller number, shoot biomass, root biomass, grain yield, grain number, spikes, grains per spike, 1000 grain weight, harvest index, post-anthesis water use and water use efficiency, water use efficiency (grain) and whole plant water use efficiency

Values in parenthesis are the P values for VPD-corrected water use and water use efficiency. Main effects were that of genotypes (IGW-3262 and Drysdale) and three water stress treatments (WW, WB and WS). Water stress was induced from anthesis by withholding water completely (WS), withholding watering to 60% pot water capacity and then restricted to the bottom 30 cm of the soil profile in the pot (WB) and watering maintained pot water holding capacity at 90% from anthesis to physiological maturity (WW). Each treatment combination had four replicates

	Tillers plant ⁻¹	Shoot biomass	Root biomass	Grain yield	Grains plant ⁻¹	Spikes plant ⁻¹	Spikelets spike ⁻¹	Grains spike ⁻¹	1000 grain weight	Harvest Index	Post-anthesis water use	Post-anthesis WUE	WUE _{grain}	Whole plant WUE
Genotype	0.001	<0.001	0.444	<0.001	0.0002	0.689	0.057	0.010	0.134	<0.001	0.009 (0.28)	<0.001 (<0.001)	<0.001 (<0.001)	<0.001 (<0.001)
Treatment	0.067	<0.001	0.0001	<0.001	<0.001	<0.001	0.156	0.495	<0.001	<0.001	<0.001 (<0.001)	0.009 (0.009)	<0.001 (<0.001)	<0.001 (<0.001)
Genotype × Treatment	0.019	0.003	0.4543	0.004	0.168	0.039	0.507	0.851	0.014	0.173	0.007 (0.006)	0.706 (0.874)	0.023 (0.010)	0.216 (0.290)

Table S2. VPD adjusted post-anthesis water use and water use efficiency, and total water use efficiency (WUE) of IGW-3262 and Drysdale when water was withheld from anthesis by withholding water completely (WS), withholding watering to 60% of pot water capacity and then restricted watering to the bottom 30 cm of the soil profile in the pot (WB) and watering maintained pot water holding capacity at 90% from anthesis to physiological maturity (WW)

Post-anthesis WUE was calculated as grain yield per unit of VPD adjusted post-anthesis water used (transpired). WUE_{grain} was calculated as grain yield per unit of VPD-adjusted total water consumed and whole plant WUE as shoot biomass per unit of VPD-adjusted total water consumed. Each value is a mean of four replicates. LSD values are at 95% level of significance; NS not significant at this level

	Post-anthesis water use (L kPa ⁻¹ plant ⁻¹)	Post-anthesis WUE (g grain L ⁻¹ kPa ⁻¹)	WUE_{grain} (g grain L ⁻¹ kPa ⁻¹)	Whole plant WUE (g biomass L ⁻¹ kPa ⁻¹)
IGW-3262				
WW	13.37	0.96	0.45	1.02
WB	9.32	1.11	0.41	1.02
WS	3.35	1.12	0.19	0.72
Drysdale				
WW	13.00	1.22	0.56	1.19
WB	11.62	1.41	0.52	1.15
WS	3.06	1.44	0.24	0.82
LSD (genotype × treatment)	1.20	NS	0.03	NS
LSD (genotype)	NS	0.10	0.02	0.04
LSD (treatment)	0.84	0.13	0.02	0.05