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Supplementary Material

Flood tolerance of wheat – the importance of leaf gas films during complete submergence

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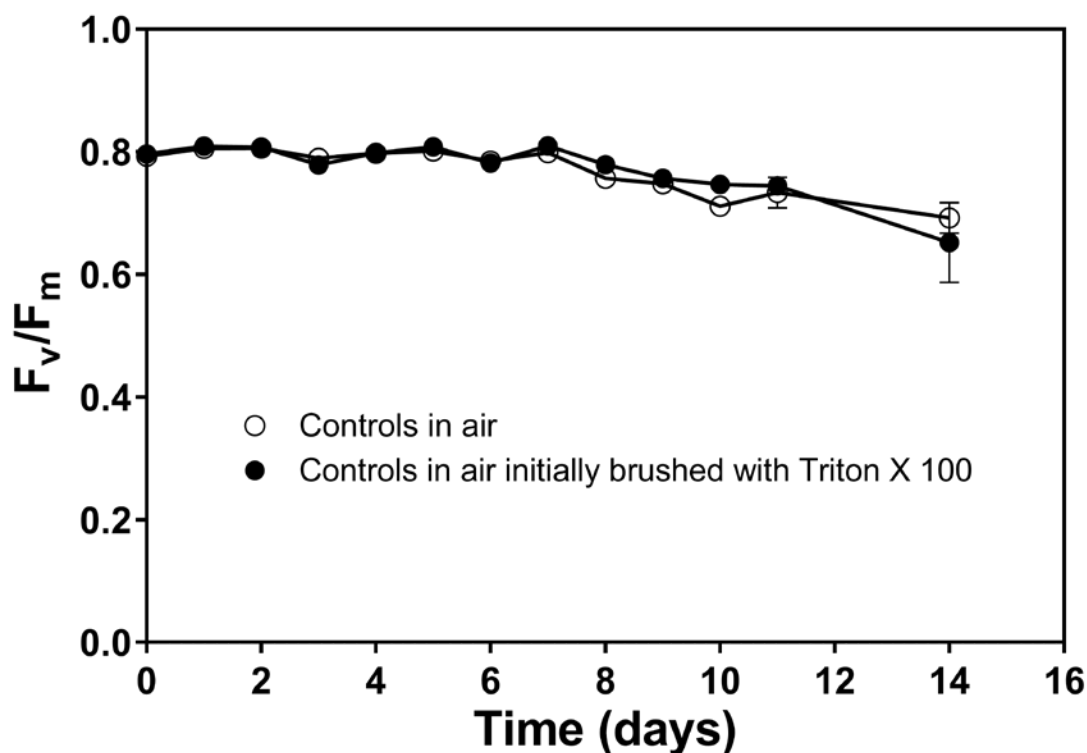


Fig. S1. PAM of wheat plants in air in drained conditions (*Triticum aestivum*, cultivar ‘JB Asano’). Plants were grown in a greenhouse and PAM was measured on what was the first fully developed leaf at the start of the experiment during a period of 14 days. At day 0, plants were 17 days old, and half of the plants had the leaf hydrophobicity removed (no gas film formation when under water) with a dilute detergent. Data points are mean \pm s.e.m. ($n = 5$). Treatment with Triton X 100 had no significant effect on PAM ($P = 0.6753$, 2-way ANOVA) which is important as it demonstrates that brushing the leaves of wheat with a diluted solution of Triton X 100 does not negatively affect photosynthesis. Time did have a negative effect on PAM which is expected as we measured on the same leaf throughout the experiment ($P < 0.0001$, 2-way ANOVA).

Table S1. Details of 2-way ANOVA analyses for Figures 2a–c

Row effect = submergence duration and column effect = presence or absence of leaf gas films, SS = sum of squares and d.f. = degrees of freedom

Figure 2a			
	SS	d.f.	P
row effect	1043	7	<0.0001
column effect	819	7	<0.0001
row x column	1060	1	<0.0001
Figure 2b			
	SS	d.f.	P
row effect	70	7	<0.0001
column effect	2	7	0.0178
row x column	10	1	0.0001
Figure 2c			
	SS	d.f.	P
row effect	976	7	<0.0001
column effect	66	7	<0.0001
row x column	11	1	0.0008

Table S2. Details of 2-way ANOVA analyses for Figures 3a–b

Row effect = submergence duration and column effect = presence or absence of leaf gas films, SS = sum of squares and d.f. = degrees of freedom

Figure 3a			
	SS	d.f.	P
row effect	78	8	<0.0001
column effect	5	8	<0.0001
row x column	7	1	<0.0001
Figure 3b			
	SS	d.f.	P
row effect	186	2	0.3344
column effect	12	2	<0.0001
row x column	6	1	0.0414