

Supplementary Material

More fertile florets and grains per spike can be achieved at higher temperature in wheat lines with high spike biomass and sugar content at booting

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Table S1. Primers of wheat genes for real time PCR

Name	Gene	TaGI #	Sequence	
			F	R
TaRP15	RNA polymerase	TC378510	5'-GCACACGTGCTTTGCAGATAAG	5'-GCCCTCAAGCTCAACCATAACT
TaRbcS	Rubisco - small subunit	TC371826	5'-AATCCATCATGTATATCGCGTCAT	5'-GCCTAGGGACTGATCGGTGA
TaSuT	Sugar transporter 2	TC377919	5'-AGGAGGGCTCTGGAATTTTTCTT	5'-ATAGGGCCCATGGAGGAAAGTA
TaSAInv	Soluble acid invertase	TC441939	5'-ACCAGGCTCGTCGTCCAC	5'-GGCCATGTAGGCTTGGTTGT
Ta1-SST	Sucrose:sucrose 1-fructosyltransferase	TC406409	5'-GGTCTTCGGACGCACTTCTG	5'-CGCCACATCGGTAGCATGT
Ta6-SFT	Sucrose:fructan 6-fructosyltransferase	TC427838	5'-GAGATGGACTCAGCGCACAA	5'-GCCTTCCTTGGTGAGCTTCTTT
TaSuSy	Sucrose synthase 2	TC397315	5'-CGAAAGAAGGGTGACTTGGATTT	5'-GCAGCGCCTAGGACGTAAAC
TaCWinv	Cell wall invertase	TC382442	5'-GACGCGCATCTTTACGTGTTTA	5'-GCACCATTCATCATGGGTTTTT

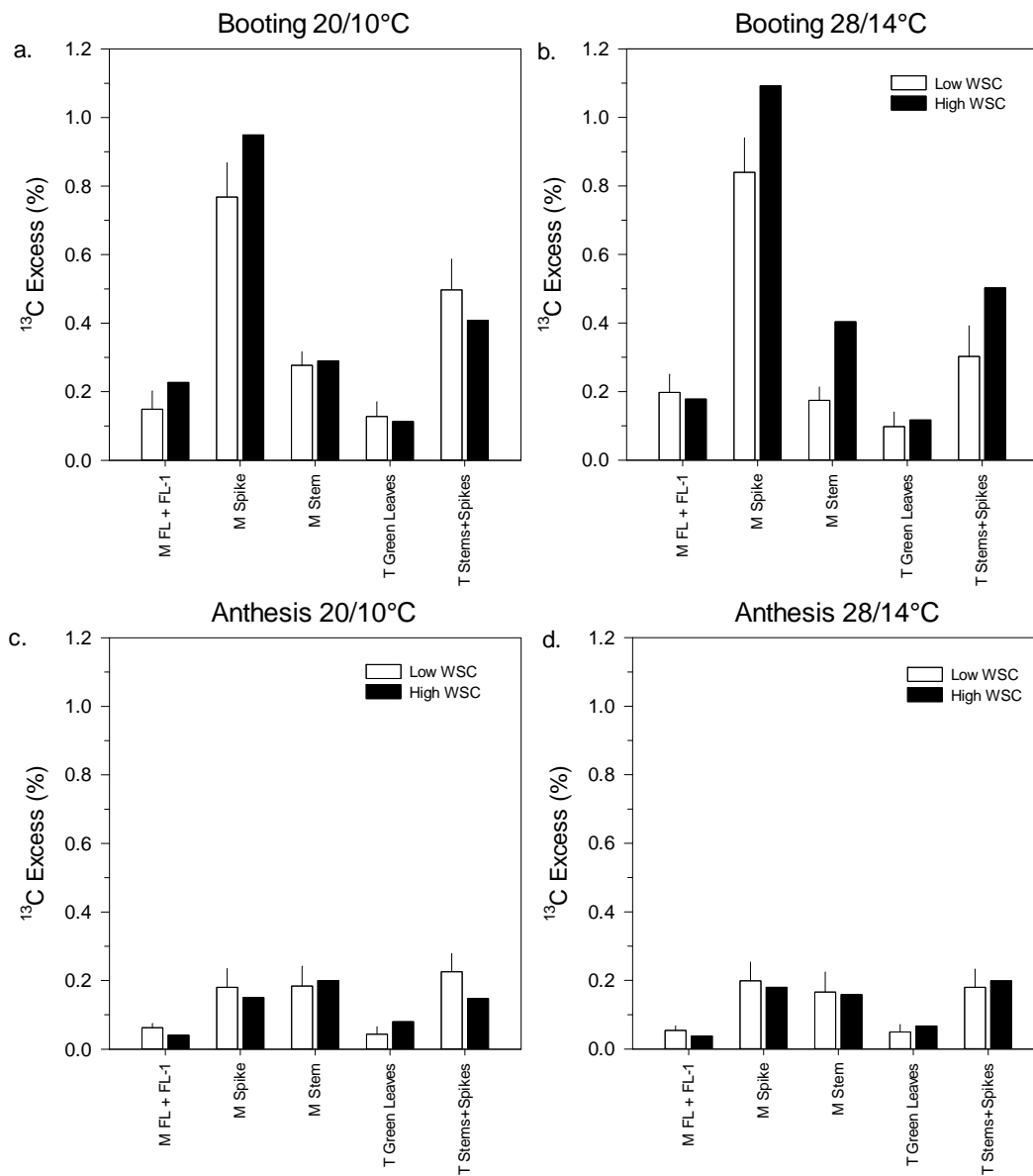


Fig. S1. Excess of ^{13}C under 11 h photoperiod at booting 20/10°C (a) or 28/14°C (b) and anthesis 20/10°C (c) or 28/14°C (d). The organs measured were main shoot flag leaf plus penultimate leaf (M FL+FL-1), main shoot (M) spike, main stem plus sheaths (M Stem), tillers (T) green leaves, tillers (T) stems plus spikes. The vertical bars are LSD ($P = 0.05$) to compare Temperature \times WSC level.

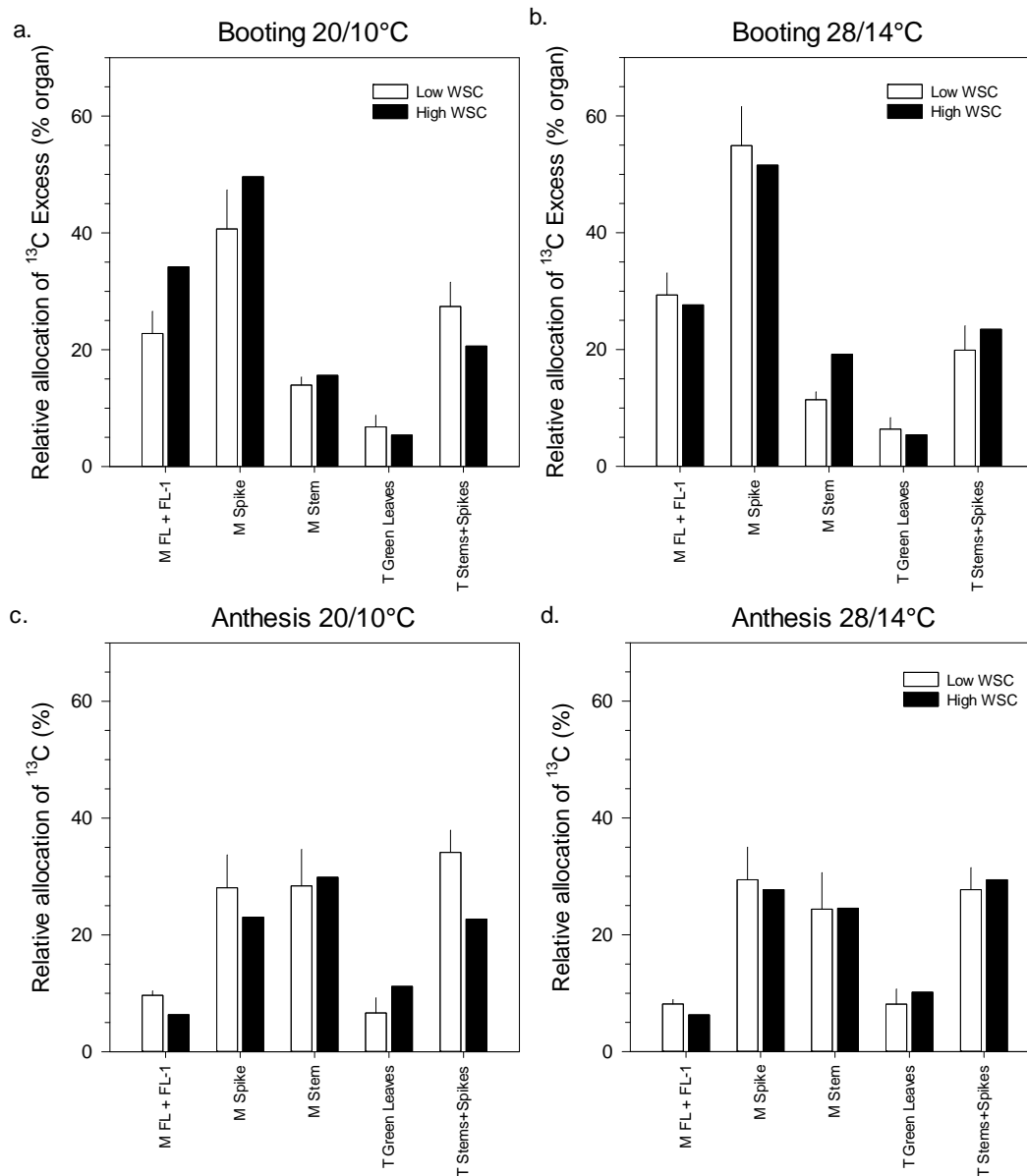


Fig. S2. Allocation of ^{13}C under 11 h photoperiod at booting 20/10°C (a) or 28/14°C (b) and anthesis 20/10°C (c) or 28/14°C (d). The organs measured were main shoot flag leaf plus penultimate leaf (M FL+FL-1), main shoot (M) spike, main stem plus sheaths (M Stem), tillers (T) green leaves, tillers (T) stems plus spikes. The vertical bars are LSD ($P = 0.05$) to compare Temperature \times WSC level.

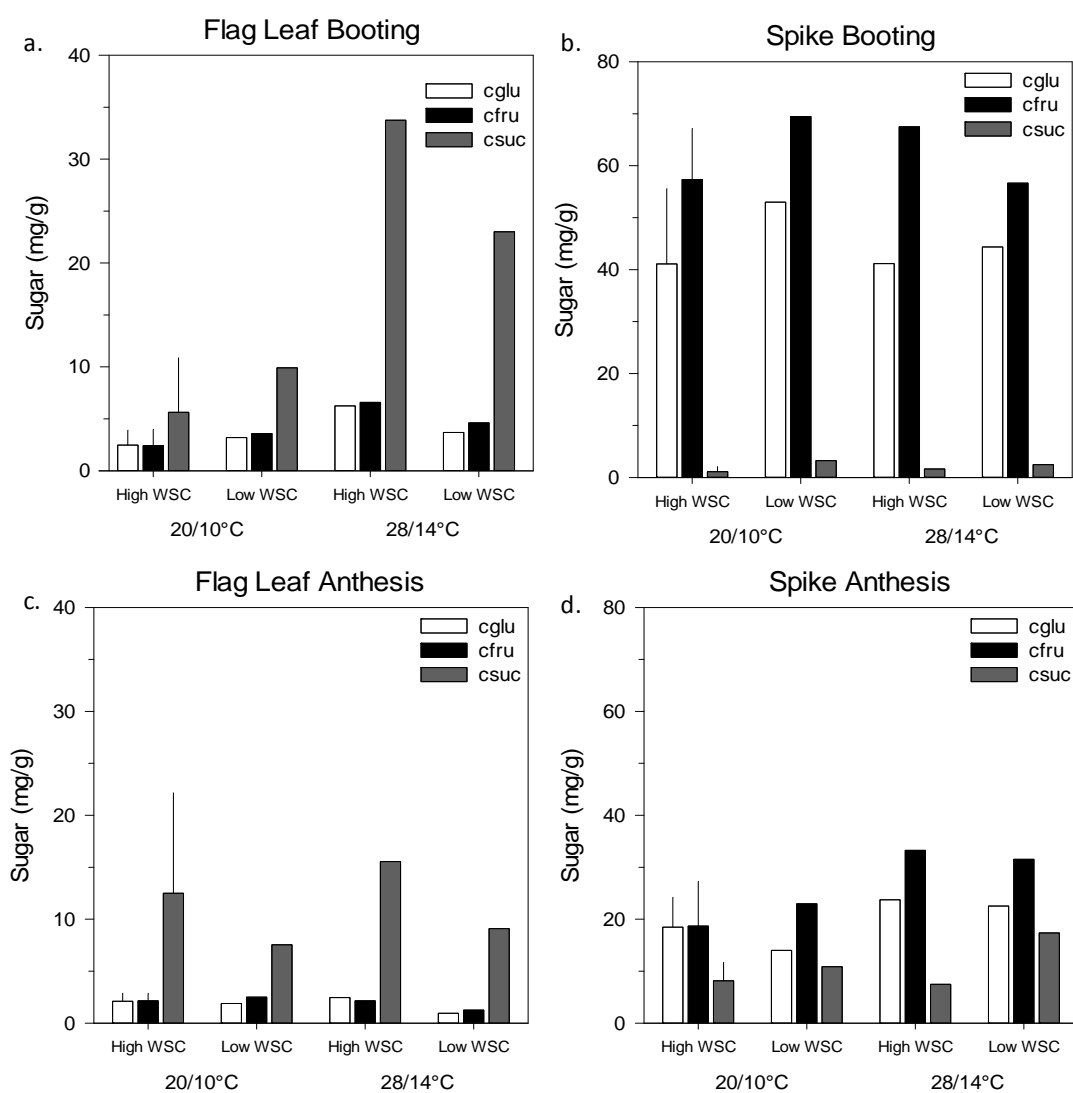


Fig. S3. Concentration of glucose, fructose and sucrose at booting in the flag leaf (a) or spike (b), and at anthesis in the flag leaf (c) or spike (d) for High and Low WSC lines at 20/10 and 28/14°C under 11 h photoperiod. Vertical bars are LSD ($P = 0.05$) to compare Temperature \times WSC level.

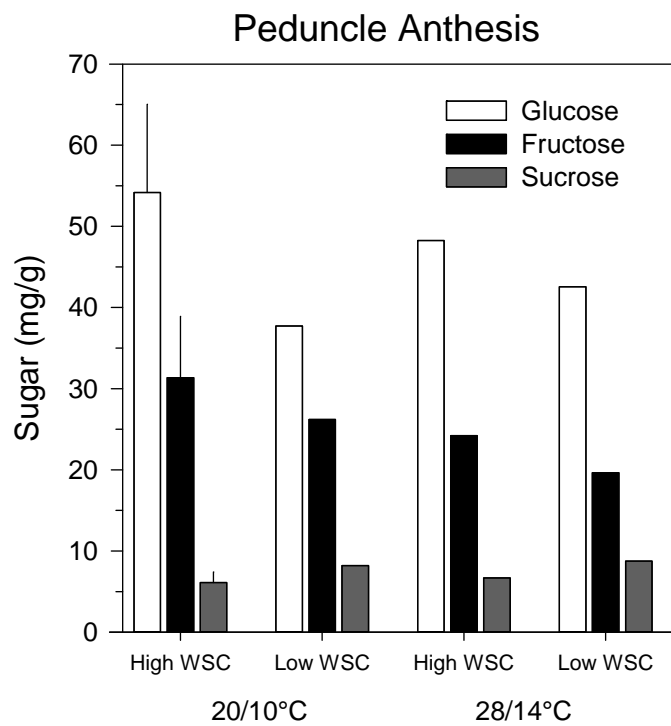


Fig. S4. Concentration of glucose, fructose and sucrose at booting in the main stem peduncle at anthesis for High and Low WSC lines at 20/10 and 28/14°C under 11 h photoperiod.