

Table S2. Means ± SE for traits measured in the two experiments with the Drysdale × Waagan doubled haploid population and its parents.

Trait	Drysdale		Waagan		Doubled-haploid mean	
	Control	Heat	Control	Heat	Control	Heat
Expt. 1						
DTA	56.98 ± 0.55	57.29 ± 0.54	68.74 ± 1.03	69.27 ± 1.03	58.70 ± 0.25	58.74 ± 0.25
DTM	119.02 ± 0.67	115.64 ± 0.69**	124.80 ± 1.00	122.39 ± 0.91*	118.71 ± 0.31	113.53 ± 0.30***
GFD	62.07 ± 0.48	58.36 ± 0.49***	56.41 ± 0.29	53.11 ± 0.33***	60.03 ± 0.17	54.83 ± 0.19***
FLSe	68.90 ± 1.08	63.33 ± 0.94***	63.61 ± 0.70	62.09 ± 0.77	65.74 ± 0.54	57.51 ± 0.51***
GWS	1.72 ± 0.05	1.73 ± 0.05	1.55 ± 0.04	1.58 ± 0.04	1.53 ± 0.02	1.46 ± 0.02**
GNS	40.21 ± 1.11	41.29 ± 1.13	44.66 ± 1.00	44.40 ± 1.05	41.55 ± 0.47	41.36 ± 0.47
SGW	43.02 ± 0.65	42.13 ± 0.72	34.92 ± 0.51	35.79 ± 0.43	36.83 ± 0.34	35.33 ± 0.35***
ShW	1.48 ± 0.04	1.51 ± 0.03	1.45 ± 0.03	1.51 ± 0.03	1.39 ± 0.02	1.35 ± 0.02*
PH	85.47 ± 1.09	86.98 ± 0.65	77.39 ± 0.56	77.38 ± 0.65	78.86 ± 1.00	78.81 ± 1.00
ChlC10DAA	49.34 ± 0.24	49.54 ± 0.23	47.45 ± 0.22	47.27 ± 0.23	47.65 ± 0.16	47.71 ± 0.15
ChlC13DAA	49.67 ± 0.25	46.75 ± 0.35***	47.74 ± 0.24	47.16 ± 0.26	47.99 ± 0.15	45.95 ± 0.22***
ChlC27DAA	49.42 ± 0.25	47.01 ± 0.39***	47.77 ± 0.23	48.29 ± 0.23	48.73 ± 0.19	46.24 ± 0.28***
AUSC	842.16 ± 4.10	800.81 ± 5.74***	811.33 ± 3.86	809.80 ± 4.07	814.17 ± 2.62	785.85 ± 3.87***
ChlR13	0.11 ± 0.03	-0.93 ± 0.09***	0.10 ± 0.02	-0.04 ± 0.03	0.11 ± 0.01	-0.59 ± 0.04***
ChlR27	0.00 ± 0.01	-0.10 ± 0.02***	0.01 ± 0.01	0.07 ± 0.01	0.00 ± 0.01	-0.05 ± 0.01***
FL	24.18 ± 0.48	24.73 ± 0.35	24.04 ± 0.48	23.97 ± 0.48	23.37 ± 0.18	23.37 ± 0.17
FW	1.56 ± 0.03	1.58 ± 0.02	1.55 ± 0.02	1.54 ± 0.01	1.54 ± 0.01	1.53 ± 0.01
HI	47.04 ± 0.56	46.77 ± 0.47	45.16 ± 0.46	44.82 ± 0.46	45.8 ± 0.16	45.39 ± 0.18
Expt. 2						
DTA	68.24 ± 0.24	68.34 ± 0.25	83.90 ± 0.98	82.11 ± 0.90	70.82 ± 0.25	70.85 ± 0.25
DTM	125.43 ± 0.39	120.78 ± 0.37***	131.17 ± 0.84	126.54 ± 0.72***	123.95 ± 0.27	120.13 ± 0.25***
GFD	57.19 ± 0.35	52.44 ± 0.34***	47.35 ± 0.48	44.43 ± 0.35***	53.14 ± 0.19	49.26 ± 0.19***
FLSe	58.00 ± 0.53	54.29 ± 1.05**	43.04 ± 0.98	44.28 ± 0.75	54.92 ± 0.38	52.79 ± 0.50***
GWS	3.61 ± 0.08	3.21 ± 0.08***	3.85 ± 0.07	3.44 ± 0.07***	3.02 ± 0.05	2.69 ± 0.04***
GNS	64.74 ± 1.54	62.93 ± 1.74	77.54 ± 1.45	75.97 ± 1.71	60.35 ± 0.82	60.72 ± 0.81
SGW	55.90 ± 0.43	51.31 ± 0.42***	49.81 ± 0.33	45.43 ± 0.31***	49.75 ± 0.26	44.22 ± 0.27***
ShW	2.14 ± 0.03	2.09 ± 0.03	2.37 ± 0.05	2.20 ± 0.04*	1.94 ± 0.03	1.91 ± 0.03
PH	89.53 ± 0.60	89.6 ± 0.73	81.11 ± 0.37	81.17 ± 0.45	81.72 ± 1.02	82.11 ± 1.02
ChlC10DAA	48.43 ± 0.28	48.20 ± 0.28	48.36 ± 0.22	48.65 ± 0.24	47.79 ± 0.16	47.64 ± 0.17
ChlC13DAA	48.76 ± 0.27	46.63 ± 0.35***	48.01 ± 0.24	48.60 ± 0.30	47.55 ± 0.17	45.66 ± 0.29***
ChlC27DAA	44.77 ± 0.56	43.28 ± 0.57*	44.00 ± 0.98	45.71 ± 0.57	44.07 ± 0.26	40.69 ± 0.44***
AUSC	800.46 ± 5.77	771.64 ± 6.77**	775.66 ± 8.27	804.43 ± 6.15	782.84 ± 3.23	743.61 ± 5.49***
ChlR13	0.11 ± 0.03	-0.52 ± 0.10***	-0.12 ± 0.03	-0.01 ± 0.05	-0.08 ± 0.01	-0.66 ± 0.06***
ChlR27	-0.24 ± 0.03	-0.27 ± 0.03	-0.38 ± 0.06	-0.20 ± 0.03	-0.24 ± 0.01	-0.39 ± 0.02***
FL	31.53 ± 0.36	31.79 ± 0.45	25.02 ± 0.43	25.95 ± 0.50	29.00 ± 0.17	29.12 ± 0.18
FW	1.83 ± 0.02	1.86 ± 0.02	1.89 ± 0.02	1.86 ± 0.02	1.82 ± 0.01	1.82 ± 0.01
HI	54.59 ± 0.45	52.49 ± 0.56***	53.60 ± 0.27	52.58 ± 0.30**	53.05 ± 0.25	50.93 ± 0.23***

*, **, and *** indicate significant difference between control and heat-treated plants at $p < 0.05$, $p < 0.01$, and $p < 0.001$, respectively.

Traits are partitioned in the table based on their relationships to duration of development phases, yield components and biomass, chlorophyll content and stability, flag leaf dimensions and harvest index, respectively.

DTA, days from sowing to anthesis; DTM, days from sowing to maturity defined as 95% spike senescence; GFD, grain-filling duration defined as days from anthesis to 95% spike senescence; FLSe, days from anthesis to 95% flag leaf senescence; GWS, grain weight spike⁻¹ (g); GNS, grain number spike⁻¹; SGW, single grain weight (mg); ShW, shoot dry weight (g); PH, plant height (cm); ChlC10DAA, chlorophyll content 10 days after anthesis, i.e., just before heat treatment period (SPAD units); ChlC13DAA, chlorophyll content 13 days after anthesis, i.e., just after heat treatment period (SPAD units); AUSC, area under the SPAD curve made from measurements at 10, 13 and 27 days after anthesis, i.e., incorporates the period during-heat treatment and 2-weeks after; ChlR13, rate of chlorophyll change between 10 and 13 days after anthesis, i.e., during the heat treatment period (SPAD units day⁻¹); ChlR27, rate of chlorophyll change based on the linear regression of the measurements, at 10, 13 and 27 days after anthesis (SPAD units day⁻¹); FL, flag leaf length (cm); FW, flag leaf width (cm); HI, harvest index (%).