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Supplementary Materials

Supplementary Table S1. Combined analysis of variance for agro-physiological traits of wheat genotypes grown in four environmental (normal, Heat, drought, and combined stress) conditions, replicated (Rep) twice per two conditions and in two growing seasons, and block (BL) eight blocks per two replicated in two conditions and two growing seasons.

Source of variation	df	x2	x3	x4	x6	x8	x10	x15	x16
ENV	7	3.88*	6512.32**	1481.5**	542.14**	31.821**	11.095**	7.154**	9.017**
REP(ENV)	8	4.60	2.54	5.9	15.42	8.48	3.81	8.87	13.48
GEN	63	3.955**	13.68**	6.98**	5.25**	17.759**	8.76**	1.893**	2.408**
GEN:ENV	441	0.775	1.98**	2.22**	2.52**	0.896	1.025	1.137	1.039
ENV/GEN	448	1.042	260.68**	138.7**	133.1**	5.1**	1.67**	2.111**	2.922**
Residuals	504	1.772	2.17	3.96	3.98	33.4	1.846	0.001225	1.98

REP: replicate, ENV: envirement effect, Gen (genotype), df: degree of freedom x2) Growth vigor, x3) Days to heading, x4) Days to maturity, x6) Days to flag leaf scenecence, x8) Plant height, x10) Spike length, x15) Fluorimeter-befor flowering (Fv/F), and x16) Fluorimeter-befor flowering (Pibef). * Significant at p < 5%, ** Significant at p < 1%.

Table S1 continued

Source of variation	Df	x17	x18	x20	x23	x25	x26	x27	x32	x87	x91
ENV	7	15.027**	33.9**	7.299**	26.968**	36.95**	49.74**	37.93**	2.476	311.95**	31.19**
REP(ENV)	8	5.123	3.25	2.41	4.74	12.39	4.34	6.1	9.92	4.09	20.8
GEN	63	1.306	3.89**	6.914**	5.349**	12.06**	9.91**	2.94**	1.957**	13.9**	8.25**
GEN:ENV	441	0.981	2.89**	2.369**	1.474**	1.51**	1.29**	1.14	1.325**	1.27**	1.48**
ENV/GEN	448	2.168**	4.57**	2.607**	3.449**	8.64**	4.64**	4.74**	1.688**	21.17**	11.6**
Residuals	504	0.0012	0.933	0.354	13.3	6.03	3.9	0.326	29.5	1.96	6.17

X17) Fluorimeter-befor flowering (Fv/F), and x18) Fluorimeter-befor flowering (Pibef), X20) Flag leaf Cylindrical, x23) Flag leaf Space, x25) Weight of thousand kernel, x26) Test weight, x27) Grain yield(t/ha), x32) Harvest Index%, x87) Total SPAD before flowering, x91) Total SPAD after flowering. * Significant at p < 5%, ** Significant at p < 1%.