Table S1. Historical weather conditions at the study site.

Variable	Value
Mean yearly minimum temperature (°C)	12.5
Mean yearly maximum temperature (°C)	26.3
Mean yearly minimum relative humidity (%)	50.9
Mean yearly maximum relative humidity (%)	71.9
Mean yearly cumulative rainfall (mm)	794
Mean monthly rainfall (mm)	66.2

Source: Peshawar Metrological Department.

Table S2. F statistics of linear mixed models for the effects of wheat cultivars, sowing dates and irrigation regimes on growth and yield of wheat.

Variables	F values		
	Cultivars (C)	Sowing dates (SD)	Irrigation (I)
Days to tillering	22.2***	123***	0.12ns
Days to jointing	173***	179***	1.58ns
Days to heading	32.1***	205***	142***
Days to anthesis	29.7***	264***	226***
Days to maturity	62.5***	237***	200***
Days to grain filling	5.39*	1.24ns	1.22ns
SPAD value	7.40**	6.99**	14.2***
Chlorophyll a	2.30ns	77.9***	23.21***
Chlorophyll b	1.00 ns	76.0***	54.9***
Carotenoids	1.05ns	1.04 ns	0.86ns
RWC	0.82ns	10.2**	65.5***
WSD	0.37ns	7.90**	51.9***
WUC	6.37*	9.14**	4.94*
WRC	1.48ns	2.13 ns	1.15ns
Biological yield	523***	503***	3.18*
Grain yield	164***	129***	18.6***

RWC=Relative water content, WSD=Water saturation deficit, WUC=Water uptake capacity, WRC=Water retention capacity; *P<0.05, **P<0.01, ***P<0.001, ns=non-significant.