

Supplementary Table S4 | Combined adjusted mean values for 18 morpho-physiological and yield contributing traits recorded in 96 accessions of bread wheat over two years 2018-19 and 2019-20 under heat-stressed environment.

Sl. No	Accession	CC	CTD (°C)	NDVI	MSI (%)	PW	LR	DA (days)	GFP (days)	PH (cm)	PL (cm)	FLA (cm ²)	SL (cm)	NSS	GL (mm)	GW (mm)	TGW (g)	HI (%)	GY (g/m ²)
1	Raj3765	21.2	7.1	0.470	63.5	6.6	5.4	74.4	28.6	91.9	33.4	30.4	10.9	18.8	7.15	3.34	38.7	36.7	472.0
2	HD2932	24.0	7.0	0.491	62.5	8.5	7.9	74.1	28.9	90.0	31.9	19.9	10.6	19.7	6.39	3.43	36.6	38.5	458.8
3	WR544	25.3	6.7	0.404	60.0	6.0	5.2	66.6	30.7	101.3	41.0	33.4	10.7	18.9	6.61	3.44	37.7	41.8	472.1
4	HD2967	34.0	8.0	0.558	66.3	8.0	6.4	76.8	28.8	90.8	31.3	25.1	10.0	19.8	6.30	3.43	36.2	35.7	518.7
5	EC574731	24.2	6.5	0.549	47.2	7.0	7.0	79.0	24.5	97.5	33.0	31.8	9.9	17.5	6.94	3.32	37.6	33.1	500.7
6	EC576707	20.3	8.0	0.452	48.0	7.0	5.0	73.5	29.0	118.2	44.9	21.6	10.8	18.9	6.38	3.18	32.4	28.9	534.7
7	IC252725	21.3	7.2	0.517	55.4	7.0	7.0	72.0	32.0	92.2	34.9	20.5	11.7	16.7	6.58	3.42	39.1	36.1	459.4
8	IC252816	15.5	7.8	0.492	61.4	6.0	4.0	76.0	29.0	124.9	41.3	21.2	10.1	17.7	7.13	3.24	36.4	29.8	431.4
9	IC277741	17.6	8.4	0.565	58.3	6.0	4.0	77.5	29.5	113.4	39.2	21.3	12.4	20.7	6.92	3.30	35.8	38.5	416.1
10	IC536081	22.1	8.6	0.458	53.0	8.0	6.0	75.5	26.5	103.7	39.6	24.3	11.4	18.9	6.62	3.30	35.1	34.5	316.1
11	IC279617	24.7	8.7	0.474	48.7	8.0	7.0	74.0	29.5	89.4	33.6	21.8	10.7	19.5	6.56	3.31	33.7	40.8	420.1
12	IC535176	23.3	9.0	0.509	50.4	6.0	6.0	73.5	30.0	112.2	53.8	29.7	11.5	19.5	6.95	3.55	45.0	39.0	532.1
13	IC401976	28.6	8.3	0.519	52.0	8.0	6.0	75.5	30.5	91.0	37.5	45.7	12.9	22.7	7.34	3.64	45.2	37.9	478.1
14	IC539221	26.1	10.2	0.538	45.7	2.0	5.0	74.0	29.0	121.4	43.9	32.5	13.5	20.5	6.89	3.43	46.6	35.3	468.7
15	IC539287	19.9	10.0	0.472	53.1	4.0	6.0	73.0	24.5	108.2	40.8	19.5	8.5	19.7	8.62	2.64	36.2	27.0	176.7
16	IC539531	26.0	9.4	0.473	59.3	8.0	6.0	70.5	31.5	85.4	35.4	27.0	11.0	20.9	6.76	3.48	42.6	39.7	452.1
17	IC443661	24.5	10.7	0.532	49.3	6.0	7.0	80.5	29.0	89.7	33.4	28.0	13.4	20.9	6.55	3.51	39.2	33.8	413.4
18	EC534487	23.2	10.9	0.494	58.7	8.0	7.0	76.5	29.0	94.0	31.1	20.1	11.1	20.7	6.65	3.32	37.6	37.6	496.1
19	IC416018	20.7	8.6	0.473	55.0	7.0	9.0	73.0	29.0	87.4	28.1	14.4	11.5	17.0	7.28	3.25	37.6	37.2	508.1
20	IC416075	21.9	6.2	0.382	50.3	7.0	6.0	69.5	31.0	80.0	31.9	25.6	8.6	17.9	7.11	3.43	41.9	33.8	458.1
21	IC416078	26.2	5.7	0.405	49.6	7.0	8.0	76.0	27.0	79.7	27.0	19.7	11.0	21.9	6.47	3.16	29.9	35.1	462.1
22	IC416019	17.2	7.2	0.440	59.6	7.0	10.0	74.5	27.5	84.7	28.3	17.1	9.4	16.9	7.08	3.30	36.8	39.9	490.1
23	IC446713	23.5	9.2	0.505	49.8	5.0	5.0	74.0	29.0	124.5	45.1	25.8	9.4	16.5	6.47	3.09	41.7	37.4	505.4
24	IC075240	23.9	9.0	0.569	50.3	6.0	5.0	75.5	28.0	125.4	46.5	25.9	9.3	17.4	6.82	3.19	39.9	33.8	460.1

25	EC178071	26.7	7.9	0.520	61.5	7.0	6.0	77.0	26.5	96.0	37.0	28.8	11.7	19.2	6.93	3.01	45.5	38.4	454.1
26	IC542509	26.0	12.0	0.642	67.5	8.0	5.0	94.0	24.0	103.7	31.8	51.7	12.0	18.5	6.73	2.88	26.2	23.4	287.4
27	IC252348	26.8	9.8	0.507	61.0	8.0	5.0	75.5	27.0	110.0	38.4	29.8	12.6	18.7	7.03	3.27	41.9	36.6	476.7
28	IC543293	22.2	9.3	0.524	56.8	8.0	5.0	81.0	26.0	88.4	29.0	21.7	10.4	20.5	6.12	3.28	31.8	25.2	341.4
29	IC128454	30.0	8.9	0.479	54.8	8.0	6.0	78.5	24.0	92.5	31.9	30.5	10.8	20.0	6.41	3.02	29.1	33.1	538.1
30	IC416055	18.8	8.3	0.483	60.6	9.0	10.0	74.5	28.0	92.7	32.5	14.3	10.0	18.0	6.16	3.13	29.0	38.4	418.7
31	IC111800	26.1	7.2	0.412	62.9	8.0	7.0	74.0	28.0	90.2	30.0	17.2	10.6	19.0	6.52	3.10	31.1	29.0	452.1
32	IC111931	17.2	7.1	0.390	59.2	7.0	6.0	75.5	27.5	89.7	35.8	28.9	10.9	18.5	6.60	3.27	31.6	28.8	347.4
33	EC576317	14.2	7.7	0.470	60.4	6.0	5.0	70.0	27.5	115.7	48.1	19.4	9.2	15.5	6.25	3.38	38.2	28.5	303.4
34	EC577013	18.9	7.7	0.545	62.8	6.0	5.0	82.0	23.5	125.0	46.1	24.5	9.8	17.7	5.85	3.22	28.9	25.0	242.1
35	EC414149	30.1	6.1	0.460	46.1	8.0	6.0	75.0	25.0	80.7	30.7	30.6	8.1	18.9	6.54	3.68	42.5	30.0	298.1
36	IC252653	24.0	6.3	0.482	55.9	8.0	7.0	74.0	26.5	99.2	38.1	18.0	11.0	17.7	6.23	3.18	28.5	38.3	481.4
37	IC252739	27.2	4.9	0.447	54.9	7.0	6.0	74.5	26.0	93.0	34.4	21.0	10.6	20.0	6.60	3.35	31.5	34.9	386.7
38	IC335792	19.8	6.3	0.479	59.7	8.0	8.0	73.5	28.0	80.7	29.9	14.2	9.3	18.0	6.17	3.03	29.9	38.9	539.4
39	IC543425	24.0	6.9	0.505	59.7	9.0	9.0	73.5	29.0	92.2	32.6	18.0	10.4	19.9	5.99	3.23	31.9	33.7	498.0
40	IC402055	21.5	6.4	0.542	55.0	3.0	4.0	73.0	29.5	116.5	35.5	23.2	10.5	18.5	7.06	3.37	40.9	35.5	328.7
41	IC265318	22.0	6.5	0.512	49.6	8.0	8.0	72.5	30.5	90.5	32.5	24.6	10.3	18.0	6.65	3.35	36.4	38.0	504.1
42	IC445449	20.6	6.9	0.600	55.0	6.0	9.0	83.0	25.0	91.7	32.5	24.3	11.8	20.2	6.37	3.10	29.0	28.2	343.4
43	IC528965	26.0	5.7	0.562	64.2	10.0	8.0	77.5	27.5	111.9	38.5	25.7	11.1	20.0	6.80	3.12	34.8	32.0	408.7
44	IC549437	20.2	6.6	0.632	48.5	2.0	7.0	79.5	27.0	85.0	27.5	15.7	11.5	17.0	7.07	3.27	36.3	29.0	333.4
45	IC144911	20.8	5.9	0.467	53.2	9.0	7.0	73.5	29.5	97.9	37.9	18.2	10.6	19.4	6.34	3.28	31.1	36.1	425.4
46	IC542578	17.0	6.1	0.480	61.2	7.0	7.0	75.0	26.5	95.7	32.8	18.6	10.2	17.9	6.72	3.27	35.5	37.0	474.1
47	IC535704	20.5	5.5	0.468	60.7	7.0	7.0	70.0	30.0	89.0	36.5	19.9	9.9	17.5	6.45	3.38	36.6	38.4	434.7
48	EC542533	20.9	5.5	0.488	64.3	5.0	6.0	76.0	27.0	95.3	32.9	25.0	11.1	18.2	6.26	3.14	28.3	33.6	419.4
49	IC542652	20.3	5.8	0.485	62.1	7.0	6.0	76.0	28.5	88.2	30.9	23.9	9.8	17.9	6.45	3.21	33.1	30.1	418.1
50	IC536468	23.8	5.3	0.474	62.1	6.0	7.0	73.5	29.0	100.8	36.4	21.4	9.9	19.5	6.46	3.48	38.0	42.0	435.4
51	IC536483	25.0	6.4	0.525	72.0	8.0	7.0	76.5	27.5	90.7	31.3	28.0	10.3	19.9	6.04	3.30	32.7	38.0	394.7
52	EC574735	19.2	6.4	0.555	69.9	4.0	8.0	77.0	28.5	93.5	36.6	21.4	9.7	16.5	6.29	3.23	31.0	33.5	458.7

53	IC531191	19.9	5.4	0.514	67.6	7.0	8.0	75.0	29.5	85.5	29.3	23.5	11.0	19.0	6.55	3.05	28.9	31.9	390.7
54	IC333095	24.9	6.1	0.529	66.8	8.0	7.0	74.0	27.5	90.9	35.5	20.1	11.1	20.0	6.40	3.58	33.4	45.0	430.1
55	IC572925	20.4	5.2	0.404	57.6	6.0	5.0	69.5	30.0	93.4	33.5	24.6	9.6	16.7	6.92	3.40	35.8	39.2	446.1
56	IC252867	24.2	4.7	0.407	43.7	8.0	7.0	69.0	29.0	104.7	37.1	22.9	10.8	17.7	6.83	3.28	38.6	39.8	438.7
57	IC524299	25.7	5.1	0.474	70.6	7.0	7.0	72.5	29.0	95.7	28.5	19.8	10.8	19.5	6.83	3.10	34.1	35.8	422.7
58	IC573461	27.8	4.8	0.480	59.2	6.0	6.0	75.0	29.5	94.2	31.3	21.9	10.3	16.7	6.97	3.23	31.1	30.2	462.7
59	IC252444	37.2	4.4	0.570	59.5	2.0	7.0	76.0	25.5	93.4	28.0	23.9	11.1	18.0	7.04	2.78	34.4	25.6	294.1
60	IC529207	32.1	6.2	0.549	63.2	10.0	8.0	80.5	26.5	99.2	30.2	31.7	12.1	21.0	6.40	3.32	35.7	33.6	527.4
61	IC290191	25.5	5.9	0.438	60.2	5.0	6.0	73.0	25.5	106.2	43.7	26.6	12.1	19.0	6.65	3.28	34.5	35.6	482.7
62	IC112258	20.9	7.2	0.464	61.0	7.0	7.0	78.5	24.5	102.4	32.2	24.5	11.9	20.4	6.91	2.75	30.0	30.2	424.7
63	IC627711	19.7	6.9	0.475	59.4	5.0	4.0	73.0	28.5	125.5	46.8	29.2	10.7	17.5	7.29	3.37	41.3	33.4	440.7
64	IC443653	20.7	6.5	0.410	60.2	7.0	5.0	69.5	31.0	73.2	30.7	23.8	9.4	16.5	6.72	3.47	33.3	48.0	417.4
65	IC252431	30.6	8.2	0.510	59.1	2.0	7.0	77.5	26.5	87.2	30.6	24.2	9.9	18.5	6.50	3.24	33.0	30.8	478.4
66	IC252619	22.8	6.8	0.445	66.2	7.0	7.0	75.0	26.5	85.0	34.3	24.5	12.5	21.5	6.41	3.36	32.2	34.9	441.7
67	IC529242	29.1	7.5	0.505	64.9	4.0	7.0	76.5	25.0	91.4	34.2	19.1	9.6	20.2	6.83	2.96	30.7	24.6	369.1
68	IC536162	21.5	6.0	0.409	64.5	8.0	6.0	68.5	26.5	85.5	29.7	23.4	8.9	16.5	6.72	3.34	37.2	32.8	376.4
69	IC536050	21.1	4.8	0.325	64.8	7.0	6.0	69.0	26.0	86.7	27.2	20.7	8.7	16.5	6.73	3.20	36.2	32.5	292.4
70	IC252999	18.4	4.7	0.315	54.2	8.0	7.0	68.5	26.0	93.4	38.5	26.8	11.1	18.7	6.74	3.33	34.4	33.4	443.7
71	IC443640	19.5	6.8	0.437	61.4	6.0	6.0	72.0	29.0	96.2	33.0	31.7	10.0	16.7	7.04	3.46	37.4	34.2	456.4
72	IC445365	24.9	6.5	0.488	65.5	6.0	7.0	75.5	28.0	88.5	36.1	22.3	10.9	19.7	6.77	3.36	34.4	36.0	400.4
73	IC303071	24.4	6.5	0.407	59.0	9.0	6.0	75.5	27.5	88.0	29.5	19.9	11.4	19.2	7.01	3.17	33.4	30.6	313.7
74	IC252414	27.1	5.8	0.499	61.1	7.0	5.0	73.0	28.0	100.2	33.5	23.8	12.6	21.4	6.57	3.23	37.4	33.5	403.1
75	IC372643	22.3	6.2	0.449	45.6	8.0	7.0	70.0	30.5	81.0	34.1	17.9	9.9	18.4	6.86	3.25	33.2	34.4	333.1
76	IC252620	22.8	7.3	0.510	63.2	7.0	8.0	74.5	28.0	78.2	27.8	17.9	11.0	19.5	6.50	3.19	28.9	31.8	347.7
77	IC240818	20.6	6.1	0.444	56.0	8.0	7.0	73.5	30.5	97.9	37.1	29.9	11.1	21.7	6.49	3.31	35.5	35.8	419.1
78	IC401940	19.3	6.5	0.489	56.1	3.0	6.0	70.5	31.5	91.5	33.4	28.1	12.1	17.2	7.14	3.28	43.0	39.2	391.7
79	IC443694	19.9	6.5	0.445	57.9	8.0	8.0	74.5	30.0	100.7	36.2	17.6	11.3	18.0	6.37	3.37	31.9	32.0	387.7
80	IC542547	13.5	6.7	0.572	65.1	6.0	6.0	77.5	27.5	93.5	32.6	15.2	10.4	19.7	6.05	3.00	26.1	35.3	391.1

81	EC190962	18.0	6.7	0.417	68.1	6.0	7.0	71.0	29.5	93.9	35.6	18.1	11.8	19.5	6.67	3.31	34.5	37.4	444.4
82	EC576066	26.1	6.5	0.483	64.5	9.0	6.0	79.0	25.5	101.7	36.0	27.8	9.9	18.5	6.71	3.21	34.8	27.7	376.4
83	EC573527	24.0	6.0	0.537	69.6	7.0	7.0	75.5	28.5	83.5	34.6	21.9	9.5	17.4	6.46	3.38	33.0	32.3	328.4
84	EC576585	19.8	6.6	0.365	54.3	7.0	5.0	68.0	28.5	127.0	48.1	31.3	10.9	17.9	6.76	3.52	44.7	37.6	353.7
85	EC190899	16.5	5.8	0.354	57.0	7.0	7.0	68.5	30.0	94.7	37.5	22.3	9.7	17.4	6.55	3.26	33.1	36.9	448.7
86	EC574849	15.2	6.5	0.490	69.0	7.0	5.0	71.5	30.0	95.0	36.3	27.1	10.6	20.2	6.81	3.45	41.4	34.8	353.4
87	EC576175	21.1	6.7	0.517	63.1	6.0	7.0	75.0	28.5	124.0	41.6	16.1	8.1	17.0	6.89	3.41	38.1	30.0	456.7
88	IC582706	19.3	6.2	0.455	66.5	8.0	7.0	75.5	28.0	92.9	34.1	26.5	11.3	19.4	6.63	3.42	34.2	34.5	459.4
89	IC393878	20.6	6.1	0.477	67.3	8.0	7.0	73.0	31.5	103.9	34.1	22.3	10.7	17.4	7.27	3.53	43.9	34.0	516.7
90	IC542544	21.7	5.2	0.489	72.6	7.0	6.0	75.5	29.0	77.5	31.1	18.1	9.1	19.9	6.11	2.90	24.9	35.8	331.4
91	IC566223	23.4	7.2	0.639	70.2	8.0	7.0	83.5	25.0	109.2	36.6	30.3	12.0	21.5	6.80	3.22	34.7	34.3	598.1
92	IC342668	21.1	5.8	0.469	69.1	8.0	7.0	72.5	30.0	98.9	30.4	19.4	10.2	18.9	6.43	3.24	40.7	33.2	450.7
93	IC535717	26.0	6.9	0.430	53.3	8.0	6.0	70.5	31.0	102.5	36.1	27.4	10.0	18.9	6.71	3.38	38.0	34.5	464.1
94	IC553599	19.7	6.4	0.465	63.3	6.0	4.0	72.0	29.5	92.2	33.2	24.6	9.9	16.4	6.68	3.30	39.3	38.7	424.7
95	EC277134	23.8	6.8	0.530	62.1	9.0	8.0	75.0	29.5	95.2	35.9	16.7	10.5	17.4	6.78	3.22	35.3	32.0	464.7
96	CUO/79/ Pru 11A	22.4	7.3	0.552	66.9	9.0	8.0	76.5	28.5	106.5	37.8	24.4	12.4	17.5	7.15	3.36	40.7	32.8	423.4

CC-Chlorophyll content, **CTD**-Canopy temperature depression, **NDVI**-Normalized difference vegetative index, **MSI**-Membrane stability index, **PW**-Plant waxiness, **LR**-Leaf rolling, **DA**-Days to 50 % anthesis, **GFP**-Grain filling Period, **PH**-Plant height, **PL**-Peduncle length, **FLA**-Flag leaf area, **SL**-Spike length, **NSS**-Number of spikelets per spike, **GL**-Grain length, **GW**-Grain width, **TGW**-Thousand grain weight, **HI**-Harvest index, **GY**- Grain yield.