

Supplementary Table 1. Critical difference (CD) and least significant difference values for general combining ability effects (Gi) and pairwise differences (Gi–Gj) at 5 % and 1 % probability levels for yield and nutritional traits

Parameter	DH50	PH	DM	SL	SPS	GPS	TKW	TPC	GFeC	GZnC	GYPP
CD (P=0.05)											
Gi ≠ 0 (95%)	0.745	0.798	1.082	0.217	0.361	1.524	0.664	0.311	0.834	0.776	1.715
Gi ≠ 0 (99%)	1.168	1.251	1.697	0.341	0.566	2.390	1.042	0.488	1.308	1.218	2.691
Gi–Gj (95%)	1.154	1.236	1.676	0.337	0.559	2.361	1.029	0.482	1.291	1.203	2.657
Gi–Gj (99%)	1.809	1.939	2.629	0.528	0.877	3.703	1.614	0.756	2.026	1.887	4.168

Supplementary Table 2. Estimates of specific combining ability (SCA) variances and critical differences for self (Sii), cross (Sij), and their comparative contrasts (Sii–Sjj, Sij–Sik, and Sij–Sk1) across yield, and nutritional traits

Parameter	DH50	PH	DM	SL	SPS	GPS	TKW	TPC	GFeC	GZnC	GYPP
	sca	sca	sca	sca	sca	sca	sca	sca	sca	sca	sca
Sii	0.65692	0.70377	0.95431	0.19168	0.31855	1.34445	0.58597	0.27447	0.73543	0.6849	1.5132
Sij	0.79557	0.8523	1.15573	0.23214	0.38578	1.62821	0.70964	0.3324	0.89064	0.82946	1.83257
Sii–Sjj	0.89753	0.96153	1.30384	0.26189	0.43522	1.83687	0.80058	0.375	1.00478	0.93576	2.06742
Sij–Sik	1.18732	1.27198	1.72482	0.34644	0.57574	2.42995	1.05907	0.49608	1.3292	1.23789	2.73494
Sij–Sk1	1.09924	1.17763	1.59687	0.32074	0.53303	2.2497	0.98051	0.45928	1.2306	1.14606	2.53206