Table(2): Mean performance for grain yield and other agronomic traits of 54 yellow topcrosses and two checks in 2007 growing season, data are combined over two locations.

Lines	Silking date			Plant height (cm)			Ear height (cm)			Ears 100 plants^{-1}			Grain yield plot^{-1} (g)		
	GZ-649	Gm-1004	Mean	GZ-649	Gm-1004	Mean	GZ-649	Gm-1004	Mean	GZ-649	Gm-1004	Mean	GZ-649	Gm-1004	Mean
L- 1	66.1	66.8	66.5	289.0	279.3	284.2	175.9	167.9	171.9	101.7	98.7	100.2	5.431	4.669	5.050
L- 2	62.8	62.9	62.9	252.8	251.3	252.1	141.3	139.6	140.5	100.5	98.4	99.5	4.880	4.191	4.535
L- 3	60.8	62.4	61.6	243.8	241.3	242.6	135.5	132.8	134.2	104.2	97.1	100.7	4.972	5.566	5.269
L- 4	60.3	60.8	60.6	237.9	239.8	238.9	126.5	129.8	128.2	103.7	95.3	99.5	5.010	5.331	5.170
L- 5	61.8	60.4	61.1	259.0	242.8	250.9	145.5	130.5	138.0	117.1	102.3	109.7	5.601	5.581	5.591
L- 6	60.9	60.9	60.9	259.3	234.9	247.1	142.6	126.8	134.7	112.1	103.2	107.7	5.479	5.054	5.266
L- 7	61.6	60.4	61.0	263.9	252.3	258.1	143.9	133.0	138.5	103.8	101.2	102.5	4.984	5.321	5.152
L- 8	61.1	60.6	60.9	239.1	244.9	242.0	127.3	133.5	130.4	112.1	106.6	109.4	4.676	5.122	4.899
L- 9	58.9	59.1	59.0	240.8	236.6	238.7	124.9	124.4	124.7	103.0	101.1	102.1	4.739	4.930	4.835
L-10	61.3	60.6	61.0	254.0	236.6	245.3	139.9	124.3	132.1	101.6	100.1	100.9	5.485	5.319	5.402
L-11	61.0	61.0	61.0	241.0	245.1	243.1	128.5	133.1	130.8	105.7	98.9	102.3	5.287	4.324	4.806
L-12	61.8	59.6	60.7	245.8	238.1	242.0	133.0	128.6	130.8	101.0	98.4	99.7	4.613	4.774	4.694
L-13	60.8	61.3	61.1	229.6	235.1	232.4	119.6	125.0	122.3	105.2	105.5	105.4	4.477	4.692	4.584
L-14	61.0	60.5	60.8	237.5	241.5	239.5	128.3	128.5	128.4	113.2	109.0	111.1	4.883	5.082	4.982
L-15	60.3	60.4	60.4	243.4	244.9	244.2	134.5	131.6	133.1	109.4	102.5	106.0	4.938	4.988	4.963
L-16	61.3	60.8	61.1	263.8	248.1	256.0	150.5	139.3	144.9	129.0	107.0	118.0	5.454	5.396	5.425
L-17	61.5	61.4	61.5	258.3	254.1	256.2	144.0	138.4	141.2	103.3	102.8	103.1	4.971	5.172	5.071
L-18	61.9	61.5	61.7	264.6	248.5	256.6	150.5	133.5	142.0	112.4	100.0	106.2	5.066	4.907	4.986
L-19	63.9	65.0	64.5	242.4	237.9	240.2	133.5	132.1	132.8	108.5	102.5	105.5	4.538	3.934	4.236
L-20	62.3	63.3	62.8	243.0	232.8	237.9	142.3	127.4	134.9	101.5	100.4	101.0	4.484	4.084	4.284
L-21	62.5	61.6	62.1	248.0	252.4	250.2	134.5	144.9	139.7	101.6	96.0	98.8	4.631	4.444	4.537
L-22	62.4	63.5	63.0	236.3	236.6	236.5	131.9	133.9	132.9	110.4	105.7	108.1	4.937	4.350	4.643
L-23	62.3	64.6	63.5	240.6	243.5	242.1	134.9	134.5	134.7	99.3	99.6	99.5	4.869	5.040	4.954
L-24	61.3	64.1	62.7	261.4	257.4	259.4	148.5	148.9	148.7	102.1	98.5	100.3	5.070	4.508	4.789
L-25	61.1	62.9	62.0	245.4	247.5	246.5	139.3	138.4	138.9	100.7	102.3	101.5	4.907	5.069	4.988
L-26	63.3	63.3	63.3	254.3	262.5	258.4	145.8	155.8	150.8	114.1	102.1	108.1	4.521	4.582	4.551
L-27	62.3	63.0	62.7	258.4	255.6	257.0	145.8	149.1	147.5	112.6	108.1	110.4	4.079	4.968	4.523
Mean	61.7	62.0		250.1	246.0		138.8	135.8		107.0	101.6		4.925	4.866	
Checks															
SC-155	61.9			261.5			145.9			101.7			3.778		
SC-3084	66.0			291.4			179.0			98.8			3.171		
LSD 0.05	1.1			8.9			8.4			8.1			0.355		

Table(4): Specific combining ability ($\hat{s}_{ij}$) effects of 54 topcrosses (27 inbred line and 2 testers) for grain yield and other agronomic traits combined over two locations, 2007 growing seasons.

Lines	Days to 50%Silking		Plant height		Ear height		Ears/100plants		Grain yield plot^{-1}	
	Gz-649	Gm-1004	Gz-649	Gm-1004	Gz-649	Gm-1004	Gz-649	Gm-1004	Gz-649	Gm-1004
L- 1	- 0.192	0.192	2.806	- 2.806	2.463	- 2.463	- 1.236	1.236	0.333**	-0.333**
L- 2	0.058	- 0.058	- 1.319	1.319	- 0.725	0.725	- 1.674	1.674	0.296*	-0.296*
L- 3	- 0.692	0.692	- 0.819	0.819	- 0.162	0.162	0.845	- 0.845	-0.344**	0.344**
L- 4	- 0.129	0.129	- 3.007	3.007	- 3.162	3.162	1.501	- 1.501	-0.208	0.208
L- 5	0.808*	- 0.808	6.056	- 6.056	5.963*	- 5.963*	4.658	- 4.658	-0.037	0.037
L- 6	0.120	- 0.12	10.118**	-10.118**	6.400*	- 6.400*	1.739	- 1.739	0.164	-0.164
L- 7	0.745	- 0.745	3.743	3.743	3.900	- 3.900	- 1.404	1.404	-0.216	0.216
L- 8	0.370	- 0.37	- 4.944	4.944	- 4.662	4.6620	0.039	- 0.039	-0.270*	0.270*
L- 9	- 0.005	0.005	- 0.007	0.007	- 1.287	1.2870	- 1.729	1.729	-0.143	0.143
L-10	0.433	- 0.433	6.618*	- 6.618*	6.275*	- 6.275*	- 1.949	1.949	0.035	-0.035
L-11	0.120	- 0.12	- 4.131	4.131	- 3.849	3.849	0.701	- 0.701	0.433**	-0.433**
L-12	1.183**	- 1.183**	1.743	- 1.743	0.650	- 0.650	- 1.424	1.424	-0.129	0.129
L-13	- 0.129	0.129	- 4.819	4.819	- 4.225	4.225	- 2.874	2.874	-0.155	-0.155
L-14	0.370	- 0.37	- 4.069	4.069	- 1.662	1.662	- 0.617	0.617	-0.147	0.147
L-15	0.580	- 0.58	- 2.819	2.819	- 0.099	0.099	0.714	- 0.714	-0.072	0.072
L-16	0.370	- 0.37	5.743	- 5.743	4.088	- 4.088	8.264**	- 8.264**	-0.018	0.018
L-17	0.183	- 0.183	- 0.007	0.007	1.275	- 1.275	- 2.429	2.429	-0.148	0.148
L-18	0.308	- 0.308	5.993	- 5.993	6.963*	- 6.963*	3.476	- 3.476	0.031	-0.031
L-19	- 0.442	0.442	0.18	- 0.18	- 0.849	0.849	0.276	- 0.276	0.254*	-0.254*
L-20	- 0.379	0.379	3.056	- 3.056	5.900	- 5.900	- 2.154	2.154	0.152	-0.152
L-21	0.558	- 0.558	- 4.257	4.257	- 6.725*	6.725*	0.064	- 0.064	0.045	-0.045
L-22	- 0.442	0.442	- 2.257	2.257	- 2.537	2.537	- 0.348	0.348	0.245	-0.245
L-23	- 1.067**	1.067**	- 3.507	3.507	- 1.349	1.349	- 2.848	2.848	-0.133	0.133
L-24	- 1.317**	1.317**	- 0.069	0.069	- 1.725	1.725	- 0.929	0.929	0.233	-0.233
L-25	- 0.755	0.755	- 3.132	3.132	- 1.099	1.099	- 3.492	3.492	-0.129	0.129
L-26	0.120	- 0.12	- 6.194	6.194	- 6.537*	6.537*	3.270	- 3.270	-0.078	0.078
L-27	- 0.255	0.255	- 0.694	0.694	- 3.224	3.224	-0.436	0.436	0.007	-0.007
SE Sij	0.408		3.191		3.038		2.971		0.128	

*,**, significant at 0.05 and 0.01 level of probability, respectively.