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| Kaur S, Kumar A. A comprehensive study of wheat genotypes for combining ability and heritability in drought tolerance . Plant Science Today (Early Access). <https://doi.org/10.14719/pst.3487> |

**Supplementary Table 1.** Estimation of specific combining ability (SCA) effects for 11 characteristics in F1 generation in Punjab.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Crosses**  **\**p*** = 0.05; **\*\**p*** = 0.01; **\*\*\**p*** = 0.001 | **Days to 75 % flowering (n)** | **Days to maturity (n)** | **Plant Height (cm)** | **No. of spikelets/spike (n)** | **No. of grains/ Spike (n)** | **1000 seeds weight(g)** | **Grain yield /plant(g)** | **Spike length (cm)** | **No. of tillers/plant (n)** | **Harvesting index (%)** | **Biological yield**  **(g m-2)** |
| P1\*P2 | 1.87 \*\*\* | -1.60 \*\* | 14.33 \*\*\* | -0.76 ns | 3.92 \*\*\* | -0.19 ns | -2.08 \*\*\* | -0.009 ns | -5.20\*\*\* | -1.79 \*\*\* | 0.280 ns |
| P1\*P3 | -1.31 \*\* | -0.24 ns | -31.94 \*\*\* | -0.59 ns | 2.42 \*\*\* | 6.79\*\* | 3.80 \*\*\* | -0.26 \*\*\* | -6.65\*\*\* | 10.76 \*\*\* | -25.13 \*\*\* |
| P1\*P4 | -4.06 \*\*\* | -0.37 ns | 15.24 \*\*\* | -1.20 \*\* | 6.37 \*\*\* | 1.66\*\* | 9.88 \*\*\* | -0.24 \*\*\* | -6.73 \*\*\* | 10.56 \*\*\* | 4.66\*\*\* |
| P1\*P5 | 9.26 \*\*\* | -0.51 ns | 15.28 \*\*\* | 0.57 ns | -1.76 \*\*\* | -0.85 ns | -1.58 \*\*\* | -0.307\*\*\* | -6.95 \*\*\* | -9.66 \*\*\* | 25.11 \*\*\* |
| P1\*P6 | -3.59 \*\*\* | -0.21 ns | -16.23 \*\*\* | 0.87 \* | 5.45 \*\*\* | -0.76 ns | 2.91 \*\*\* | 1.10 \*\*\* | 6.46 \*\*\* | -0.40 ns | 5.97 \*\*\* |
| P1\*P7 | 3.04 \*\*\* | 2.42 \*\*\* | 11.77 \*\*\* | 0.10 ns | -15.40 \*\*\* | 4.58\*\* | 0.63 ns | 0.00 ns | 0.18 ns | 4.27\*\*\* | -11.35 \*\*\* |
| P1\*P8 | 3.07 \*\*\* | 0.23 ns | -2.48 \*\*\* | 1.01 \* | -0.84 \* | -0.34 ns | 3.27 \*\*\* | 0.08 ns | 4.93 \*\*\* | 3.42\*\*\* | -1.08 \*\*\* |
| P1\*P9 | -0.76 ns | 1.12 \* | -3.66 \*\*\* | 0.51 ns | 2.87 \*\*\* | -2.25\*\* | 0.97 \*\* | 0.27 \*\*\* | 10.18 \*\*\* | 0.041 ns | 1.75 \*\*\* |
| P1\*P10 | 1.23 \*\* | -0.96 ns | 10.89\*\*\* | 0.93 \* | -4.68 \*\*\* | -5.55\*\* | 2.27 \*\*\* | -0.06 ns | 6.21 \*\*\* | -1.55 \*\*\* | 9.72 \*\*\* |
| P2\*P3 | -1.73 \*\*\* | -0.24 ns | 2.04\*\*\* | -1.28 \*\* | -4.79 \*\*\* | -2.95\*\* | -2.88 \*\*\* | -1.62 \*\*\* | -6.65 \*\*\* | 0.94 \* | -15.55 ns |
| P2\*P4 | -5.15 \*\*\* | -0.37 ns | 29.90 \*\*\* | -1.23 \*\* | 15.81 \*\*\* | 4.51\*\* | 7.86 \*\*\* | -0.55 \*\*\* | 7.93\*\*\* | -1.00\*\* | 25.25 ns |
| P2\*P5 | 4.18 \*\*\* | 1.81 \*\*\* | -21.89 \*\*\* | 2.21\*\*\* | 16.01 \*\*\* | -2.00\*\* | -0.27 ns | 0.37 \*\*\* | 5.04 \*\*\* | -3.42 \*\*\* | 9.36 ns |
| P2\*P6 | -1.67 \*\*\* | 1.12 \* | -5.27 \*\*\* | 1.18 \*\* | -1.09 \*\* | 5.48\*\* | 2.55 \*\*\* | 1.22 \*\*\* | 0.46 ns | 11.19 \*\*\* | -23.10 ns |
| P2\*P7 | 5.96\*\*\* | -0.90 ns | -0.628 ns | -0.92 \* | -5.96 \*\*\* | -5.57\*\* | -0.05 ns | -0.74 \*\*\* | 0.84 \* | 3.65 \*\*\* | -12.10 ns |
| P2\*P8 | 1.32 \*\* | -0.10 ns | -12.42 \*\*\* | 0.65 ns | -6.07 \*\*\* | -1.65\*\* | -3.41 \*\*\* | -0.83 \*\*\* | 0.26 ns | -4.62 \*\*\* | 3.50 ns |
| P2\*P9 | -1.17 \*\* | 1.12 \* | -14.30 \*\*\* | -2.17\*\*\* | -4.01 \*\*\* | -9.07\*\* | 0.94 \*\* | -0.34 \*\*\* | 4.51 \*\*\* | 0.79 \* | 0.00 ns |
| P2\*P10 | 2.82 \*\*\* | -0.96 ns | -37.94\*\*\* | -0.09 ns | -5.23 \*\*\* | 2.46\*\* | -2.41 \*\*\* | 1.04 \*\*\* | -2.79 \*\*\* | 5.30 \*\*\* | -19.35 ns |
| P3\*P4 | -4.34 \*\*\* | -2.01 \*\*\* | -4.64 \*\*\* | -1.39\*\* | 7.65 \*\*\* | 6.49\*\* | 8.75 \*\*\* | 0.74 \*\*\* | 10.48 \*\*\* | -2.39 \*\*\* | 34.83 ns |
| P3\*P5 | 3.65 \*\*\* | -0.49 ns | 20.66\*\*\* | 0.71 ns | 8.51 \*\*\* | -5.02\*\* | 0.944\*\* | -1.28 \*\*\* | 7.93 \*\*\* | -1.68\*\*\* | 6.61 ns |
| P3\*P6 | -3.20 \*\*\* | 1.81 \*\*\* | 3.64 \*\*\* | 0.68 ns | -6.93 \*\*\* | 2.46\*\* | -11.55 \*\*\* | -0.10 \* | 7.01 \*\*\* | -7.35\*\*\* | -3.19 ns |
| P3\*P7 | 5.76 \*\*\* | 0.45 ns | 2.52 \*\*\* | -0.42 ns | -8.46 \*\*\* | 2.41\*\* | 2.50 \*\*\* | 0.69 \*\*\* | 1.07 \*\* | 0.69 ns | 4.47 ns |
| P3\*P8 | 4.12 \*\*\* | -0.40 ns | 3.22 \*\*\* | 1.15\*\* | 8.76 \*\*\* | -1.84\*\* | 3.13 \*\*\* | 0.34 \*\*\* | -3.84 \*\*\* | -1.56\*\*\* | 15.08 ns |
| P3\*P9 | -0.04 ns | 0.06 ns | 5.08 \*\*\* | 0.65 ns | 1.48 \*\*\* | -1.75\*\* | 6.16 \*\*\* | 2.49 \*\*\* | 0.40 ns | 1.33\*\*\* | 12.58 ns |
| P3\*P10 | 0.96\* | 0.06 ns | -1.12 \*\* | 0.74 ns | -5.40 \*\*\* | -7.55\*\* | -6.19 \*\*\* | 1.02 \*\*\* | -0.23 ns | -4.28\*\*\* | -2.44 ns |
| P4\*P5 | 5.23 \*\*\* | 1.37 \*\* | -0.54 ns | -2.89\*\*\* | -7.21 \*\*\* | -7.15\*\* | -10.30 \*\*\* | -0.92 \*\*\* | 0.18 ns | -2.01\*\*\* | -21.91 ns |
| P4\*P6 | -2.95 \*\*\* | -0.65 ns | 16.66 \*\*\* | 0.07 ns | -8.65 \*\*\* | -3.99\*\* | -13.13 \*\*\* | -0.009 | 2.93 \*\*\* | -3.75\*\*\* | -33.05 ns |
| P4\*P7 | 6.01 \*\*\* | 0.64 ns | -11.48 \*\*\* | 2.29 \*\*\* | -13.51 \*\*\* | -11.38\*\* | -5.75 \*\*\* | 0.35\*\*\* | 1.65\*\*\* | 3.32\*\* | -25.72 ns |
| P4\*P8 | 3.04 \*\*\* | -0.54 ns | -6.24\*\*\* | 2.54 \*\*\* | -10.96 \*\*\* | -10.14\*\* | -9.44 \*\*\* | 0.20 \*\*\* | -2.92 \*\*\* | -0.19 ns | -25.10 ns |
| P4\*P9 | 3.54 \*\*\* | -1.32 \* | -22.39 \*\*\* | -0.95\* | -13.90 \*\*\* | -3.88\*\* | -11.41 \*\*\* | 0.15 \*\* | -1.01 \*\* | -2.28\*\*\* | -27.94 ns |
| P4\*P10 | 3.54 \*\*\* | 0.92 ns | 14.50\*\*\* | 1.462\*\*\* | -13.46\*\*\* | -6.81\*\* | -8.77 \*\*\* | 1.44 \*\*\* | -1.31\*\*\* | -4.78\*\*\* | -14.97 ns |
| P5\*P6 | -7.29 \*\*\* | -2.12 \*\*\* | 2.038\*\*\* | -0.81 \* | -1.79 \*\*\* | 2.15\*\* | 0.38 ns | 0.49 \*\*\* | 7.37 \*\*\* | 2.64\*\* | -8.60 ns |
| P5\*P7 | 0.34 ns | -2.82 \*\*\* | 9.22 \*\*\* | -0.92 \* | -4.32 \*\*\* | 5.09\*\* | 1.77 \*\*\* | 0.25 \*\*\* | 4.09 \*\*\* | 2.52\*\*\* | -4.27 ns |
| P5\*P8 | -0.62 ns | -0.35 ns | 19.37\*\*\* | -1.34\*\* | -14.43 \*\*\* | 7.18\*\* | 2.41 \*\*\* | -0.66 \*\*\* | -3.81 \*\*\* | 1.42\*\*\* | 2.00 ns |
| P5\*P9 | -3.12 \*\*\* | 1.53 \*\* | -5.69 \*\* | 0.82 \* | 14.95 \*\*\* | 0.93 ns | 1.44 \*\*\* | -0.27 \*\*\* | -5.90 \*\*\* | 1.82 \*\*\* | -1.49 ns |
| P5\*P10 | -5.45 \*\*\* | -0.51 ns | -2.69 \*\*\* | 3.24 \*\*\* | 12.06 \*\*\* | 1.66\*\* | 0.08 ns | 0.84 \*\*\* | 0.12 ns | 0.46 ns | -1.19 ns |
| P6\*P7 | 7.82\*\*\* | -0.51 ns | -13.86 \*\*\* | 2.37\*\*\* | 7.56 \*\*\* | -0.74\* | 4.94 \*\*\* | 0.23 \*\*\* | -1.81 \*\*\* | 0.22 ns | 13.25 ns |
| P6\*P8 | 5.18 \*\*\* | 0.62 ns | -11.10 \*\*\* | -3.70 \*\*\* | 6.45 \*\*\* | -6.96\*\*\* | 1.91 \*\*\* | -0.14 \*\* | -5.73 \*\*\* | -3.28 \*\*\* | 17.53 ns |
| P6\*P9 | 2.34 \*\*\* | -1.15 \* | 2.78\*\*\* | 3.12 \*\*\* | -8.48 \*\*\* | -2.24\*\*\* | 4.61 \*\*\* | 0.20 \*\*\* | -8.15 \*\*\* | -0.47 ns | 15.03 ns |
| P6\*P10 | 2.34 \*\*\* | 0.76 ns | 11.64 \*\*\* | -1.45\*\*\* | -3.37 \*\*\* | -2.70\*\*\* | 5.58 \*\*\* | -1.40 \*\*\* | -2.79 \*\*\* | 0.86 \* | 13.00 ns |
| P7\*P8 | -4.17\*\*\* | -0.07 ns | 1.11 \*\* | -0.48 ns | 2.59 \*\*\* | 5.61\*\*\* | -4.02 \*\*\* | 0.08 ns | -2.01 \*\*\* | -4.45 \*\*\* | 1.53 ns |
| P7\*P9 | -7.34 \*\*\* | 0.81 ns | 7.40 \*\*\* | -0.98\* | 9.65 \*\*\* | 6.36\*\*\* | -2.33 \*\*\* | 0.16 \*\*\* | -2.09 \*\*\* | -6.74 \*\*\* | 19.03 ns |
| P7\*P10 | -9.67 \*\*\* | -1.60 \*\* | -5.83 \*\*\* | -0.89\* | 11.76\*\*\* | 9.23\*\*\* | 0.30 ns | 0.62 \*\*\* | -2.40 \*\*\* | -3.76 \*\*\* | 14.66 ns |
| P8\*P9 | 2.01 \*\*\* | 1.28 \* | 14.20\*\*\* | 1.93\*\*\* | 10.20\*\*\* | 6.78 \*\*\* | 0.30 ns | 0.28 \*\*\* | 4.32 \*\*\* | 0.83 \* | -2.35 ns |
| P8\*P10 | -0.98 \* | 0.53 ns | 4.39\*\*\* | 0.018 ns | -2.68 \*\*\* | 5.98\*\*\* | 2.61 \*\*\* | -0.42 \*\*\* | 4.01 \*\*\* | 2.42 \*\*\* | -0.72 ns |
| P9\*P10 | 2.84\*\*\* | -1.24 \* | 15.25\*\*\* | -1.81\*\*\* | -7.29 \*\*\* | 2.73\*\*\* | -2.69 \*\*\* | -1.20 \*\*\* | 1.26 \*\*\* | -2.41 \*\*\* | -0.22 ns |