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HETEROSIS IN *SESAMUM INDICUM*

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The exploitation of heterosis has been a practical proposition in many allogamous crops and a few autogamous crops. *Sesamum*, an autogamous crop, has not so far been amenable for heterosis breeding due to lack of economic methods for large scale seed production. However, the cross pollination in this crop is also high. The recorded high heterosis for seed yield [1–2] suggests possibilities for successful heterosis breeding. This note reports the magnitude and direction of heterosis for various traits in sesame.

Out of 50 genotypes, eight promising genotypes (CO 1, TSS 5, TSS 4, Si 1484, Si 1502, Si 1003, Si 1248, and Si 1125) were selected to produce 56 diallel crosses including reciprocals. The parents and F_1s were grown in randomized block design in two-row plots of 4.5 m length with 45 x 10 cm spacing. Observations were recorded on 20 morphological and yield attributes on five random plants.

Heterosis over better parent (BP) was very high for leaf area index (92.9%), followed by harvest index (68.7%), percentage of fruiting nodes on secondaries (65.0%), capsules on secondaries (57.1%), capsules on primaries (47.0%), seed yield/plant (44.0%), capsules on main stem (43.0%), number of secondaries (42.0%), capsule volume (41.3%).

Similarly the frequency of heterotic crosses was also high for harvest index, capsule volume, percentage of fruiting nodes, seeds/capsule, and days to flowering. But for yield components like days to maturity, seed yield/plant and oil content, only few hybrids recorded significant heterosis in the desirable direction.

Several heterotic hybrids for seed yield were also simultaneously heterotic for characters like harvest index, capsules on primaries, percentage of fruiting nodes, capsule volume, days to maturity, and oil content, as also reported earlier [3, 4].

The crosses recording high magnitudes of heterosis involved high x high and high x low gca parents, in general, with high sca effects as also observed by [5].

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