

RESEARCH ARTICLE

Heterosis studies in sunflower (*Helianthus annus* L.)

■ R.B. SAPKALE, S.R. SHINDE AND R.M. PAWAR

SUMMARY

Five cytoplasmic male sterile lines and 10 testers were crossed in an L x T mating design to develop 50 sunflower hybrids. The hybrids and parents were evaluated during *Kharif*-2013. Highly significant differences existed among genotypes for all the traits studied. The highest magnitude of positive relative heterosis and heterobeltiosis for seed yield per plant was exhibited by the cross CMS-148 x SVR-467 followed by the crosses CMS-351 x SVR-467, CMS-107 x SVR-472 and CMS-107 x SVR-467. The hybrid CMS-148 x SVR-467 (21.19%) exhibited positive and significant heterosis for seed yield per plant over check Phule Raviraj. The heterosis for seed yield in hybrids was found to be mainly influenced by plant height, head diameter, number of seeds per head and 100 seed weight. The highest positive relative heterosis and heterobeltiosis for plant height was exhibited by the cross CMS-378 x SVR-490, whereas, for head diameter it was exhibited by the cross CMS-607 x CMS-467. The heterotic effect for number of seeds per head was more pronounced in cross CMS-607 x SVR-467 over both mid and better parents. The hybrid CMS-607 x SVR-496 recorded higher magnitude of heterosis for number of seeds per head over check Phule Raviraj. Highest significant and positive heterosis for 100 seed weight and protein content was exhibited by the hybrid CMS-607 x SVR-490 over mid parent, better parent and standard check Phule Raviraj.

Key Words : Sunflower, Heterosis, Seed yield

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MEMBERS OF THE RESEARCH FORUM

Author to be contacted :

R.B. SAPKALE, Division of Agricultural Botany, College of Agriculture,
KOLHAPUR (M.S.) INDIA
Email: rbkoli10408@gmail.com

Address of the Co-authors:

S.R. SHINDE, Department of Agricultural Botany, College of Agriculture,
KOLHAPUR (M.S.) INDIA
Email: sshivaji87@yahoo.in

R.M. PAWAR, Department of Agricultural Botany, Bharati Vidyapeeth's
Loknete Mohanrao Kadam College of Agriculture, Kadegaon, SANGLI (M.S.)
INDIA.
Email: ranveer_1972@rediffmail.com