

Combining ability analysis in rapeseed (*Brassica rapa* L.)

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SUMMARY

The present investigation on rapeseed comprised half-diallel set of 8 parents, their 28 crosses. The experiment was laid out in RBD with 3 replications at Plant Breeding Farm, Anand Agricultural University, Anand during *Rabi*, 2011-12. Combining ability were studied for fourteen characters *viz.*, days to 50 flowering, days to maturity, plant height (cm), primary branches per plant, secondary branches per plant, length of main branch (cm), siliquae on main branch, total siliquae per plant, length of siliquae (cm), seeds per siliquae, seed yield per plant (g), 1000 seed weight (g), oil content (%) and protein content (%). The general and specific combining ability variances were significant for all the traits. The estimates of general combining ability effects suggested that parents NRCYS-05-02 and IC-346013 were good general combiners for seed yield per plant and its related attributes. The estimates of specific combining ability effects indicated that cross combinations IC-363713 x IC-363714 followed by JT-1 x IC-386684 and IC-346013 x IC-398101 were significant for seed yield per plant. The results revealed that breeding approaches like biparental mating followed by recurrent selection, diallel selective mating etc., in addition to conventional methods will be used to identify desirable transgressive segregants for further improvement of these traits.

Key Words : Rapeseed, gca, sca, Combining ability

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