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Abstract

Study of combining ability for yield attributing traits in late kharif sesame (*Sesamum indicum* L.)

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Abstract

The present experiment was conducted on genetic architecture of seed yield and its components in sesame (*Sesamum indicum* L.) to estimate general and specific combining ability effects of 14 characters in 36 hybrids of sesame obtained by crossing nine lines and four testers in line × tester mating design was performed at Instructional Farm, Dept. of Agronomy, College of Agriculture, Junagadh Agricultural University, Junagadh during late kharif -2023. The magnitude of GCA and SCA variances revealed that the SCA variances were higher than their respective GCA variances for all the characters. The ratio of $\sigma^2_{GCA}/\sigma^2_{SCA}$ was less than unity for all the characters, suggesting a preponderance of non-additive gene action to control these traits. Among the parents, Zira 1 and IC 43236 were found good general combiners for seed yield per plant. The cross combinations *viz*., JR 22 × AT 467 and Zira 1 × G. Til-4 were found to be good specific cross combinations for seed yield per plant which were in a combination of average × good and good × poor combiners, respectively. These crosses also depicted high sca effects for important seed attributes. Therefore, if it is commercially feasible, these two crosses could be exploited for a heterosis breeding programme to boost the seed yield in late kharif of sesame.

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