

## Studies on combining ability for development of new hybrids in pearl millet [*Pennisetum gaucum* (L.) R. BR.]

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### SUMMARY

Combining ability analysis for yield and its component traits was undertaken with 5 lines and 10 testers using line x tester mating design. The estimated components of variance for specific combining ability (sca) effects were larger in magnitude than the general combining ability (gca) effects for all the characters, indicating the predominance of non-additive gene action for control of these characters. Analysis of variance indicated highly significant differences among mean squares due to general and specific combining ability for all characters studied, Out of 70 crosses combinations only 25 combinations such as ICMA 96444 x J 2464, ICMA 94555 x J 2466, JMSA 101 x J 2452, ICMA 91777 x J 2466 and ICMA 99555 x J 2477-1 showed significant and positive specific combining ability (sca) effects for grain yield and other yield attributing characters. The estimates of general combining ability (gca) effects indicated that the parents J 2473, J 2474-1, ICMA 91777, J 2452, J 2444 and J 2405 reported as good general combiners for grain yield and its components traits.

**Key Words :** Combining ability, gca, sca *Pennisetum glaucum*, Grain yield components

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