COMBINING ABILITY STUDIES IN BOTTLE GOurd [LAGENARIA SICERARIA(MOL.) STANDL]

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ABSTRACT

Combining ability analysis was undertaken using ten diverse lines and their 45 F₁ hybrids of bottle gourd developed through diallel fashion excluding reciprocals. The experimental material were evaluated in a randomized complete block design with two replications at the Main Vegetable Research Station, Anand Agricultural University, Anand, during kharif, 2016. Analysis of variance for combining ability indicated significant importance of both additive and non-additive genetic variance for inheritance of all the characters, except for days to opening of first male flower and days to opening of first female flower. The potency ratio and predictability ratio suggested preponderance of non-additive gene action for all the characters except for days to opening of first male flower and days to opening of first female flower. Estimates of general combining ability (GCA) effects showed that Punjab Komal and DBG 6 were good general combiners for most of the characters imparting earliness. While, ABGS 11-23 was a good general combiner for the quality characters. The cross combination ABGS 11-23 x DBG 5 showed highest specific combining ability (SCA) effects for fruit yield per plant, whereas, ABGS 11-17 x Arka Bahar was found to be the best specific combination for days to opening of first male flower, days of opening of a first female flower and days to first picking.

KEYWORDS: Bottle Gourd, General Combining Ability, Hybrid, Lagenaria Siceraria & Specific Combining Ability

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