

COMBINING ABILITY STUDIES OF QUANTITATIVE TRAITS IN SPONGE GOURD [*LUFFA CYLINDRICA* (ROEM) L.]

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ABSTRACT : The present study was undertaken to estimate the general and specific combining ability in diallel mating design (reciprocal) involving 10 parents for 12 characters in sponge gourd [*Luffa cylindrica* (Roem) L.] at IIVR, Varanasi, during 2004-05. The combining ability analysis revealed highly significant differences among the treatments for all the parameters studied. The variances due to sca were higher than the gca for all the characters indicating the predominance of non-additive gene effects. Out of ten parents 'VR-44' and 'VR-156' were best general combiners for days to 1st flowering of male bud emergence, fruit length, fruit weight and marketable fruit yield/vine as they expressed maximum and significant gca effect. The crosses 'NSG-28 x VR-116', 'Pusa Supriya x VR-44' and 'VR-44 x VR-116' were identified as best specific combiners for days to 50% female bud anthesis and days to 1st harvesting. The best specific combinations for marketable yield/plant were 'VR-104 x VR-103', 'EC-381651 x VR-103' and 'VR-11 x VR-156'.

Key Words: Combining ability, gene action, sponge gourd, *Luffa cylindrica*