

Combining Ability Estimates for Yield and Fibre Quality Traits in Line X Tester Crosses of Intra-Hirsutum Hybrids of Cotton (*Gossypium hirsutum* L.)

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ABSTRACT

Combining ability analysis involving 84 hybrids derived from crossing 12 lines and 7 testers in line × tester fashion were evaluated along with two checks during *khariif* 2010-11 at students' farm, Agricultural college, Bapatla for 21 qualitative and quantitative traits. Estimates of variance due to *gca* and *sca* and their ratios revealed the predominance of non-additive gene action for all the traits studied. The lines RAC 99152, RAH 178-4, NAWAB and RAH 97-612 and in testers SC 68 followed by SC 7-IPS and SC 40 were identified as potential general combiners for important yield component traits. Based on *per se* performance, high *sca* and standard heterosis, the top specific cross combinations detected for seed cotton yield and other traits were RAH 370 X SC 31 and RAH 178 X SC 40. This suggested the possibility of direct utilization of their hybrids for commercial exploitation after through testing over larger number of diversified environments and seasons. The progeny of these crosses may be further advanced to isolate superior recombinants.

Key words : Cotton, General combining ability, Line × tester analysis, Specific combining ability.