



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Heterosis and Combining Ability for Yield Components and Fiber Quality Parameters in a Half Diallel Cotton (*G. hirsutum* L.) Population¹

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Abstract: Combining ability and heterosis were determined in a population obtained from the half diallel crossing of 6 different cotton genotypes for yield components and fiber quality parameters. For breeding purposes, to improve the investigated characters some suitable parents were selected for different characters: DPL 5690 for number of bolls per plant, Acala SJ-5 for boll weight and fiber length; Nazilli-84 and Carmen for seed cotton yield and lint percentage; Tamcot CAMD-E for earliness and fiber fineness; and PD 6168 for fiber strength. When the crosses were evaluated for the investigated characters Tamcot CAMD-E x Carmen, Nazilli-84 x PD 6168, DPL 5690 x Tamcot CAMD-E and Tamcot CAMD-E x PD 6168 are considered promising combinations for further research. It was concluded that applying 3-way crosses, or modified backcross or recurrent selection to genotypes having good combining ability would improve yield and fiber quality.

Key Words: Cotton, diallel analyses, heterosis, general and specific combining ability

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