

ABSTRACT

MSc. Thesis

**DETERMINATION OF INHERITANCE OF SOME IMPORTANT
AGRONOMICAL AND TECHNOLOGICAL PROPERTIES IN THE
DIALLEL CROSSES OF SOME VARIETIES BELONG TO DIFFERENT
COTTON SPECIES**

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Materials of this study, which was carried on in Nazilli Cotton Research Institute, were Carmen, Nazilli 84 S, Gürelbey (*Gossypium hirsutum* L.) and Delcerro obtained from different species crosses [(*G. hirsutum* x *G. barbadense* F₁) x (*G. arboreum* x *G. thurberi* x *G. hirsutum*)] and their half diallel crosses. In this study, it is aimed to determine suitable parent and crosses in getting population and to estimate general and specific combining ability values, heritability values and other genetic parameters in examined nine characters. General combining ability was found significant in all characters but specific combining ability was found significant for seed cotton yield per plant, boll seed cotton yield and gin turnout. Heterosis and heterobeltiosis values were determined to be positive for seed cotton yield per plant and boll seed cotton yield but negative for boll number. In other properties positive heterosis but negative heterobeltiosis have been determined. According to obtained genetic parameters, it is estimated that seed cotton yield per plant and boll seed cotton yield were controlled by at least one pair of gene. It was obtained high heritability value in ginning turnout and 100 seed weight but that was obtained low heritability in the other characters. For seed cotton yield per plant and boll seed cotton yield dominance gene effects, for ginning turnout earliness, 100 seed weight, fiber length and fiber strength additive gene effects and for boll number and fiber fineness both dominance and additive gene were detected as significant.

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Cotton, Heterosis, Heterobeltiosis, General Combining Ability, Specific Combining Ability.