

ABSTRACT

THE DETERMINATION of HETEROTIC EFFECTS of EARLINESS and SOME AGRONOMICAL CHARACTERISTICS in F₁ and F₂ GENERATIONS of INTERSPECIFIC (*G.hirsutum* L. x *G.barbadense* L.) COTTON CROSSES

Dilara KEŞŞAF

M.Sc. Thesis, Department of Field Crops

Supervisor: Prof. Dr. Aydın ÜNAY

2014, 71 pages

This study was conducted to evaluate heterotic effects and F₂ depressions of yield and yield components, earliness, lint quality characteristics and leaf parameters in interspecific (*G.hirsutum* L. x *G.barbadense* L.) hybrid cotton populations. The populations that are in F₁ and F₂ generations, which were generated by crossing of Avesto variety (*G. barbadense* L.) with Darmi, Helius, Lt 4 and Lt 64 varieties (*G.hirsutum* L.) and chech variety, formed the material of the study. Totaly 14 genotypes were planted according to Randomized Complete Block Design with three replications in experimental area of Adnan Menderes University, Agricultural Faculty in 2013. Heterosis values have been detected positive in general in terms of seed cotton yield, number of bolls/plant, palisade layer length, stomatal density, fiber fineness, fiber length and fiber strength. F₂ depression values have been seen as positive were positive for fiber fineness in spite of that they have been seen as negative in terms of ginning turnout, fiber length and fiber strength, palisade layer length, stomatal density and seed cotton yield. As a result, it may be concluded that it is impossible to improve the genotypes with high yields, early maturity, good fiber characteristics and high ginning turnout from the interspecific cotton crosses in our study.

Key words: Interspecific cotton hybrids, heterosis, F₂ depression, yield, lint quality