ABSTRACT

DETERMINATION OF RESPONSES OF COTTON (*Gossypium hirsutum* L.) HYBRID POPULATIONS TO WATER STRES

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This study was conducted to improve drought torelant cotton genotypes. The aim of the study was to determine the yield, yield components and fiber quality parameters in a single plant progeny rows for the full and deficit irrigation conditions. The experiment was conducted at the fields of Adnan Menderes University school of Agriculture Faculty in full and deficit conditions. In the full irrigation experiment 56 single plants, and in the experiment of deficit irrigation 100 single plants were planted. In addition, planting system was designed based on experimental design of Augumented by performing 4 replications by 70 cm of row spacing and 12 m of row length. While cotton unseed yield in full irrigation conditions (kg/da) in terms of fiber strength (g/tex) features, the deficit irrigation conditions a single plant yield (g), boll number per plant (unit/plant), elongation factor offspring in terms of features the important difference between the rows has been found that other properties are unsignificant. In the performed study, along with the result of the evaluation of the yield for the single plant progeny rows, component of the yield, and fiber quality characteristics was determined that Carmen x Eva (L: 58), GSN-12 x NIAB-111 (L: 320), GSN-12 x NIAB-111 (L: 326), GSN-12 x DPL90 (L: 358), GSN-12 x DPL90 (L: 364), BA-119 x Eva (L: 411) (L: 427) which is the single progeny rows, is promising in the deficit irrigation conditions. Also, as known single progeny rows, Ş-2000 x NIAB-111 (L: 531), GSN-12 x SJ-U86 (L: 554), GSN-12 x NIAB-111 (L: 569), GSN-12 x Eva (L: 575), BA-119 x SJ-U86 (L: 581) has been detected as promising hybrids in the full irrigation conditions.

Key Words: Cotton, hybrid combination, water stress, yield and fiber quality