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Thesis for a master's degree
(Agroecology)

**Investigation of some morphological characteristics, yield
and percentage of sesame seed oil under drought stress**

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Abstract

In order to investigate some morphological characteristics, yield and percentage of sesame seed oil under drought stress, an experiment was conducted to identify drought tolerant and high yield cultivars in both stress and normal environments. The experiment was conducted as a split plot design in the form of a randomized complete block design with three replications in the cropping year of 1397-98 in the research farm of Iranshahr University. Drought stress treatment includes: 1- Normal irrigation (based on 100 mm evaporation from Class A evaporation pan) and water stress (based on 200 mm evaporation from Class A evaporation pan) as the main factor and 2- Sesame genotypes Such as: Dashtestan 2, Dashtestan 5, Yelovit, Jiroft 13, local cultivars Dam Siah and Darab 1, were as secondary factors. The results showed that drought stress reduced plant height, number of branches per plant, number of capsules per plant, number of seeds per capsule and seed and biological yield. The results of mean comparison showed that Darab 1 genotype by maintaining higher relative water content, reduced leaf water content, which shows the importance of this genotype in maintaining the water potential in drought stress conditions and thus more tolerance of this genotype to low stress Blue is compared to other genotypes under study. Also, this genotype has the highest grain and oil yield and it can be said that this genotype has more tolerance to stress conditions than other studied genotypes, and since biological yield, grain and oil yield These are the most important characteristics that are considered in selecting high-yielding and economical varieties of sesame, so Darab 1 genotype with the highest amount of these characteristics is introduced as the superior genotype. Dashtestan 2 genotype was included in the group of drought sensitive cultivars.

key words: Dehydration stress, oil content, grain yield, harvest index