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STUDY OF NEW VARIETIES OF AUTUMN RAPESEED UNDER DIFFERENT STAGE OF IRRIGATION STOP IN THE COLD REGION OF ISFAHAN

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INTRODUCTION: Proportional to the increase in word population, food products should also be enhanced. Drought stress, as the most important factor limiting crop growth and production has been known, in all regions of Iran and world. Rapeseed (canola) due to its positive agronomic traits, excel the other oil seeds grown in the country. The purpose of this study is to identify superior varieties of rapeseed from the standpoint of drought stress tolerance in autumn planting conditions and to determine the best irrigation round for varieties of rapeseed.

MATERIAL AND METHODS: This experiment was performed in crop year 1389-1390 in region Daran located in Esfahan. It was done in the form of comminuted plots in completely randomized block design with four repeats. In this experiment, the main factor included irrigation stop in 3 levels: D1: Normal (conventional) irrigation as control treatment. D2: irrigation stops from flowering stage onwards. D3: irrigation stop from the beginning of grain filling stage onwards and variety was considered as secondary factor in 6 levels of: Zarfam, KS12, KR4, KR18, SLM046 and KS7.

RESULTS AND DISCUSSION: In this research the maximum yield components and grain oil content were observed in control treatment. Increasing drought stress leads to reduction in yield components and grain oil content. According to studied traits, variety Zarfam showed the most grain yield and oil content comparing with other varieties and also showed more drought tolerance. Additionally, no meaningful difference was seen between varieties Zarfam and KR4. According to correlation analysis between grain yield in stress and non-stress conditions and drought tolerance indexes, the GMP, STI and MP were selected as superior indexes. The results showed that the most appropriate varieties according to these indexes are Zarfam and KR4.Thus, there is a necessity for study of concentration of materials (hormones) and detection of physiological factors about drought impacts on phonological traits in rapeseed as complementary experiment for this research is suggested.

Key words: Rapeseed, Drought stress, Oil content