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Effect of drought stress on morpho physiological characteristics and genetic diversity determination of safflower by SSR marker

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Abstract

Safflower (Carthamus tinctorius L.) is one of QdymyTryn human products, the oil due to the large amounts of unsaturated acids, a healthy oil and edible oils treated like any other value. To study the effect of drought stress on characteristics diversity morphophysiological and safflower with markers SSR, experiment KrtHay plot randomized complete block with 3 replications at research farm of the University of Zabol in Sistan studied Sdwere compared. The main cause of stress include: irrigation 50% of field capacity (severe stress), irrigation 70% of field capacity (mild stress), 90% of field capacity irrigation control and subplots include safflower (cultivars Goldasht, Nain, Varzaneh, Isfahan, Faraman, Sina, MEC11, MCE184, MCE33) was. Properties are assessed: plant height, stem parts, sub-branches, stem diameter per plant, the weight of one thousand seeds, seed yield, biological yield, harvest index, oil, carbohydrate, proline, chlorophyll , Carotenoids, were Antioxidant enzymes. The SSR markers were used to assess genetic diversity in the samples. The analysis of variance was significant effect of variety-are all traits measured. Among cultivars Faraman the highest number of side shoots, yield, seed weight and chlorophyll index that this compatibility Sistan region showed the figure to dry conditions. In this case, it can be concluded that the other RqmHa Faraman than enough superiority is shown. The highest polymorphism, PIC and Shannon index was observed in the indicators used in SSR33 indicator which shows the superiority of this study was to primers than other primers. TjzyhHay first statistical analysis of variance, mean and calculating Hmbstgy between characteristics was performed using SAS software to analyze genetic data from software NTSYS, Genalex and were POPGEN32.