

## EVALUATION OF DROUGHT TOLERANCE INDICES IN DIFFERENT GENOTYPES OF SAFFLOWER CROP (*CARTHAMUS TINCTORIUS* L.)

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### A b s t r a c t :

Safflower (*Carthamus tinctorius* L.) is a native of Iran oil seed. This crop is compatible with the environmental conditions in the country as well; this is especially true in areas exposed to non-biological stresses such as drought and salinity. Since the recognition of stress-resistant varieties and grouping them is important for correct planning in plant breeding programs, this study was conducted in order to grouping safflower varieties in two irrigation regimes of stress and free stress conditions. This research was in split-plot form with completely random block designs on 20 varieties of safflower. The results of this study recognized the most sensitive varieties in both water stress levels and the most tolerated varieties to this condition regarding the stress tolerance index (STI), that were Ac-sunset and Syria varieties, respectively. Also Syria had the most values of indices like MP, GMP. According to the results, MP and GMP could recognize tolerant and sensitive varieties better than another indices under both environmental conditions, therefore we can use these results for the selection of tolerant varieties to drought regarding the breeding purposes of spring safflower. The results of simple correlations show that two indices, Yp and Ys have the most positive and significant correlation with STI, MP and GMP under both stress and normal conditions. While the correlation between Ys with TOL and SSI was negative and significant under both conditions.

**K e y w o r d s :** Tolerant and susceptible indices, drought, spring safflower, Biplot.



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