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Effect of Drought Stress on Yield and Yield Components of Maize Cultivars in Golestan Province

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Abstract : Water scarcity is now one of the leading challenges for human societies. In this regard, recognizing the relationship between soil, water, plant growth, and plant response to stress is very significant. In this paper, considering the importance of drought stress and the role of choosing suitable cultivars in resistance against drought, a split-plot experiment using early, intermediate, and late-maturing cultivars was carried out in Katul filed, Golestan province during two cultivation years of 2015 and 2016. The main factor was irrigation intervals at four levels, including 7 days, 14 days, 21 days, and 28 days. The subfactor was the subplot of six maize cultivars (two early maturing cultivars, two medium maturing cultivars, and two late-maturing cultivars). The results of variance analysis have revealed that irrigation interval and cultivars treatment have significant effects on the number of grain in each corn, number of rows in each corn, number of grain per row, the weight of 1000 grains, grain yield, and biomass yield. Although, the interaction of these two factors on the mentioned attributes was meaningful. The best grain yield was achieved at 7 days irrigation interval and late maturing maize cultivars treatment, which was equal to 12301 kg/ha.

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