**Effect of date and sowing methods on ear yield, water use efficiency and some phonological characteristics** **of sweet corn in Marvdasht**

**Abstract**

In order to study the effect of date and sowing method on ear yield, water use efficiency and some phonological characteristics of sweet corn, an experiment was carried out as split plot based on randomize complete blocks design with three replications in Marvdasht area of Shiraz Province in 2016. The main factor of the experiment included sowing date at five levels (4 May, 19 May, 4 June, 19 June, 5 July) and the sub factor included Planting method on three levels: (seed cultivation, seedling cultivation 15-day (3-leaf stage) and seedling cultivation 20-day (4-leaf stage). The results showed that the interaction of the sowing date and planting method was significant on ear yield and water use efficiency. Seedling cultivation 15-day on May 4th date had the maximum ear yield (16 t ha-1) and 20-day on 5th July date with the minimum ear yield (8.24 t ha-1). The maximum rate of water use efficiency was 2.93 kg m-3 on May 4th date and 15-day, which was 66% higher than the 20-day on 5th July date. The main effect of sowing date and planting method were significant on vegetative period and days from planting to harvest. Delayed planting in the vegetative period decreased, so that the highest period of vegetative growth was obtained in the first planting date and the lowest in the 5th July date, and the vegetative period of the seedling treatments was less than the period of vegetative growth of the normal seed treatment. The most frequent period was seed treatment with 87.4 days, and the lowest was obtained with 77.1 days in 20-day seedling treatment. The use of seedlings cultivation led to increased total sugar content. It can be said that the application of transplant can accelerate the maturity of the plant and in the event that the plant can deal with adverse weather conditions, the application of the transplant reduces growth period.

**key words:** Canned Grain Yield, Days from Planting to Harvest, Vegetative Period, Water Consumption