

The Effect Of Drip Irrigation Round Method On Corn's Height And Yield Of Sweet Corn In Kahnooj Region

Asghar Sadeghi Chah Nasir¹, Hamid Sadghi², Abdol Rasool Zakerin² and Faraz Amiri^{1*}

1- Graduated from MS of gardening, Islamic Azad university of Jahrom unit, Iran

2- gardening group, Islamic Azad university of Jahrom unit, Iran

Corresponding author: Faraz Amiri

ABSTRACT: sweet corn use as a fresh food of human against the usual corn that is grains part and use for feeding and flour production and sweet corn is a kind of vegetables that recently is one of the high-consumptions food in different area of world and due to its delicious tastes and being rich because vitamins, so the consumption is increased.(Zea Mays Var. Saccharata). One of the important agricultural issues in Iran and especially in south areas of Iran, is lack of irrigation water, according to determine the best irrigation round in Kahnooj area, an experiment performed as factorial in format of absolutely coincidental blocks and repeated in 4 times in that area. The studied cares are included: irrigation round (in 3 level of a day every 2 and 3 days). The obtained results of this experiment indicated that the effect of irrigation round on corn's height, the number of Indian corn and the weight of Indian corn is significant and always the most amount of foregoing property, get from irrigation round every 2 days. Generally can say the best irrigation round for sweet corn in summer condition of kahnooj area is 2 days.

Keywords: Sweet corn, Irrigation round, Yield.

INTRODUCTION

The corn is the yearling plants from millet family that speared in all world with variety continental conditions, due to suitable property, especially to adaption ability and appropriate the third place After wheat and rice(Zea Mays S L). Consider to the area under cultivation (Noor Mohammadi, 1998). Sweet corn is one of the hot seasons plants (Frivier, 1999) and against other grain (wheat and bare) need to greatheat and warmth of sun and the lands where have hot summer and enough sunshine and dry autumn corn have the best operation in produce the corn (karimi, 1996). According to extension of population, the requirement to use water is increased and since the agricultural part is the largest consumer of water, whatever economy in this part is effective help to economize in water resources (Moosavi, 2009). Also, one of the challenges front agricultural in Iran is the water source reduction. Then, there is some ways to opposite with challenges. One of the ways is the agriculture method changing to method which minimized the water consumption, in addition to keep the product operation this issue especially on strategic products but high-consumption of the water have is so important such as sweet corn. According to this, the amount of water can have much effect on physiological and morphological operation of each product. In this study try to choose and promote the most suitable time to access the best operation of corn in kahnooj area by study the different period of irrigation.

Water is the main saved limiting production in agricultural part. Optimized using of water sources to search the purpose of agricultural part is so important(Akhavan, 2007). In an experiment that performed on potato by drip irrigation is reported the efficiency of irrigation water consumption is increased by strategy of low irrigation means inexistence irrigation or using lower water in non-sensitive to low water (Yuan and Nishiyama, 2003; Karimi, 2006). After experiment on corn plant, they expressed the corn operation and the water consumption yield is reacted manure and irrigation round. In study of the effect of irrigation round on Glycine max operation. They concluded the irrigation round had considerable effect on morphology features and corn operation, but it decreased the weight of thousand

corns with increasing the irrigation round(MomeniFard Alengeh *et.al*,2004). By study the effect of irrigation round on Sorghum Sudanense operation, is reported the highest operation in irrigation round was every 4 days. (Moaveni *et.al*, 2004).they studied the effect of dryness tension and irrigation methods on operation and operation components of two hybrids of corn, Se704 & Se647 and results indicated the dryness tension on corn operation and other operation components have the significant effect.(Pak Nejad, 2010).

MATERIALS AND METHODS

The experiment performed since Mid-summer to Mid-autumn in 2011 in Kahnooj City and on the farm conditions. Kahnooj area is located on 217.48 miles (350 Kilometers) of Kerman State and in eastern-south of Iran country and It's hot and dry. Soil test site was sandy loam with EC about 2.04 DS/m and Ph is equal to 8. This research is applied as factorial experiment in format of absolutely coincidental blocks with 4 repetition that considered as experimental cares in irrigation periods(I) in 3 days insist of every other and 2 and 3 days. In this experiment every plant include 4 line of implant 6 meter long and 15 centimeter space of the corn and row space was 75 centimeter, in July 2011(in Mordad). The land tested by subsoil, the amount of chemical manure used base on results of soil test and implant also performed in August 4th (shahrivar). After the first irrigation, is performed by drip type-strip. Agricultural operations were performed at all Stages of, harvesting and crop. Notes of slightly purposes performed like the corn height since one week after germinate as a weekly. Other property is noted at the end of the requirement like number and the weight of Indian corn. The statistical analysis performed by using the SPSS software and medians comparison performed with using the Dancan multi-range test at 5% level.

RESULTS AND DISCUSSION

Results

Corn height

Medians comparison of dada by using the Dancan test showed that the effect of irrigation round on corn height in 5% level is significant. The most corn height from cares of irrigation round is obtained by every other and 2 days and also the least corn height of irrigation round is obtained by every 3 days (table 1). Thus, due to low consumption of water in every 2days irrigation round is recommended to do one (irrigation round)every 2 days.

Table 1. Mean effect of irrigation on plant height

Irrigation	Every other day	Two days	Three days
Average of plant height(cm)	50 ^a	49 ^a	45 ^b

*The means of each row, have not significant difference ($P \leq 0.05$) Duncan's test.

The number of Indian corn

The obtained results of variance analysis table showed that the effect of irrigation round on Indian corn's weight in 5% level is significant. the most number of Indian corn from care of irrigation round is obtained every 2days and also the least number of Indian corn from irrigation is obtained every other day.

Table 2. Mean effect of irrigation on the number of sweet corns

Irrigation	Every other day	Two days	Three days
Number of Corn	7.1 ^b	8.3 ^a	7.8 ^{ab}

*The means of each row, have not significant difference ($P \leq 0.05$) Duncan's test.

The weight of Indian corn

Medians comparison of data by using the Duncan test showed that the effect of irrigation round on the weight of Indian corn in 5% level is significant. The most weight of Indian corn from care of irrigation round is obtained by every 2days (table 3). It considered in during the every 3 days irrigation due to the more tension enter to the plant, as a result the plant involved to reduction of growth and operation. Also, every other day irrigation round due to create the flooding tension conditions caused the corn growth be weaker and also the plant product the smaller and Indian corn.

Table 3. Mean effect of irrigation on sweet corns weight

Irrigation	Every other day	Two days	Three days
Weight of Corn (gr)	1500 ^b	1800 ^a	1590 ^b

*The means of each row, have not significant difference ($P \leq 0.05$) Duncan's test.

Conclusion

Generally, since the water sources to products irrigation is narrow in all the world, so it must be discover the new methods to save the water. Saving the water could perform with accurate study of irrigation method and sweet corn identified that irrigation round by every 2 days cause to produce the maximum product.

Suggestions

1. The experiment repetition in area or in the same condition.
 2. Future researches performance in this case by researchers with different periods of irrigation
- Studying the effect of irrigation round or dryness tension in other sensitive plants to dryness.

REFERENCES

- Akhavan S, Moosavi SF, MostafaZadeFard B and FiroozAbadi AGH. 2007 study the type and striate irrigation as operation and water consumption usage in potato farming, science magazine and agricultural tactics and natural sources 11th year, N.41 P15-26.
- Friver R. 2009. Production and procreation of sweet corn. Science-skilled monthly magazine of olive agriculture. N.14
- Karimi H. 2006. farming plants, Tehran university publications.
- Karimi A, Homayi B, MaazArdalan M, Liaghat AV and Raeesi P. 2009. manure effect- irrigation on operation and water consumption usage in corn by drip-line irrigation method. Agriculture science magazine. Cover12. Period3 .P561-575.
- Moveni P and Heydari Y. 2004. the effect of plantation compression and irrigation round on operation and some physiological property in Sorghum Sudanense. science magazine of iran farming. Cover 6 period4, P374-382.
- Moosavi A. 2009. studying the irrigation methods, irrigation time, and plant pattern on operation and operation component tumor of two types of potato in Jiroft and Kahnooj area. MS thesis of Islamic Azad university of Jiroft unit.
- Noor mohammadi GH, Siadat S and Aandkashani A. 2006. Grain farming. Publication of ShahidChamran university of Ahvaz unit.
- Pak Nejad F, Vazan S, Ajali J and Nasri M. 2010. The effect of dryness tension and irrigation methods on operation and operation component of two hybrids corn. Magazine of agriculture new knowledge. 6th year. N.18. P17-26.
- Yuan BZ and Nishiyama SA. 2003. effects of different irrigation regimes on the growth and yield of drip irrigation potato. Agricultural water management. 63:P 153-167.