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WATER CONSUMPTION PER YIELD UNIT OF CORN VARIETIES UNDER DIFFERENT IRRIGATION REGIMES

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Abstract: This article presents data on seasonal water consumption and the amount of water consumed per crop unit during drip and drip irrigation of corn varieties in the conditions of weakly saline meadow alluvial soils of Bukhara region.
Key words: Corn, drip irrigation, soil moisture, irrigation rate, productivity.

Enter. In the world, as a result of the drip irrigation method and scientific justification of irrigation methods in the cultivation of new varieties of corn suitable for climate change in the main and repeated periods, it is possible to save water, obtain a high grain and green mass yield, provide the population with food products, industry it is possible to provide raw materials and livestock with nutritious feed. Also, the effect of using nitrogen, phosphorous and potassium mineral fertilizers with water during drip irrigation of corn varieties on the growth, development and productivity of corn, and the development of optimal technology for their application. It is urgent to carry out scientific research on [3-5]

Relevance of the topic . For the 2018 harvest, 138.5 thousand hectares of land has been allocated for the planting of valuable grain and fodder corn, and it is planned to grow 1210.9 thousand tons of corn for the first time. . Today's in the day in the republic of corn average grain yield 35-45 centners per hectare organize is doing but, there is of possibilities wide used without progress innovative technologies apply as a result this indicator more increasing. Corn kernels in cultivation there is agricultural technologies improvement , productivity in formation important to the seat have irrigation method and drip irrigation methods of corn growth , development and to productivity effect research to do optimization important theoretical and practical important have being is considered Chapter 2, Clause 3 of the Decree of the President of the Republic of Uzbekistan dated October 23, 2019 No. PF-5853 " On Approval of the Strategy for Agricultural Development of the Republic of Uzbekistan for 2020-2030" ...protection of the environment, improvement of soil fertility and introduction of water-saving technologies" is defined as an important task.

The purpose of the study. The aim is to develop methods of drip irrigation in the cultivation of Uzbekistan-601, NS-6010 varieties of corn as the main crop in the alluvial soils of the Bukhara region, and to determine the effect on the growth, development, and grain yield of corn. .

Research results. Different pre-irrigation soil moistures of corn varieties, agro-practices on drip and drip irrigation compared to average 3-year productivity, compared to seasonal irrigation, the amount of water used for 1 s of crop production, 1m 3 of water indicators such as

crop coverage have been determined. The average 3-year productivity in the first version of the experiment was 62.8 s, and the amount of water used for irrigation during the average season was equal to 3275 m ^{3} 52.1 m 3 of water was spent for 1 s of crop production , or 1.92 kg of water was replaced by 1 m ^{3} of the crop. The variety of corn "Uzbekistan-601" planted in the 1st option was also planted in the second option, and the average yield obtained in 3 years when the soil moisture before irrigation was 70-80-75% was 65.4s and the rate of seasonal irrigation was equal to 3347 m ^{3,} which in turn was 51.2 m 3 of water consumption in first crop cultivation or 1 m ^{3} of water It was proved that the coverage of irrigation water with cultivated crops was 1.95 kg in 3-year experiments. In the 3rd and 4th variants of the experiment, when the NS-6010 variety was planted, irrigation was carried out in accordance with the irrigation in the 1st and 2nd variants. If we analyze the 3rd variant of the experiment, the average yield was 80.6 s /ha, the average amount of water used or used in seasonal irrigation was 3268 m ^{3} /ha. 40.5 m 3 of water was used for 1 s of crop production and 1 m ^{3} of water was covered by crop was 2.47 kg, the 4th variant of the experiment was that the average three-year productivity of irrigation was carried out in the order of 70-80-75% and the plant's need for water is relatively high, i.e. 90.3 liters per hectare, and seasonal water is 3434 m ^{3} ha, 38 m ^{3} on average in three years for 1-s crop production. water was consumed, and the coverage of 1 m ^{3} of water by the crop was 2.62 kg.
Uzbeksiton-601 and NS-6010 varieties of 3-year-old corn obtained as a result of using the water-saving irrigation method of the experiment were drip-irrigated in the experimental fields of the "Zarif Ota" farm of Bukhara district. Compared to the experimental options, a higher yield was achieved, and the number of irrigations increased, but 25-30% of water was saved compared to the standard and seasonal standards of irrigation water. 12-20 m ^{3} of water was saved for 1 s of crop production. For example, 67.5 in the 5.6 variants of the experiment where the Uzbeksitnn-601 variety of corn was planted; 71.9 s hectare yielded on average in the 3rd year, the amount of water used per unit of crop of the plant variety, according to the 5th option, the amount of seasonal water is equal to 2713 m ^{3} during 1 centner of crop cultivation The consumption of 40.2 m ^{3} of irrigation water was determined, and 2.48 kg was used to cover 1 m ^{3} of water with yield, and in the 6th variant of the experiment, 2551 m ^{3} ha of irrigation water was used during the season, the coverage of 1 s of water with crop was 35, The results of the experiment proved that 5 m ^{3} or 1 m ^{3} of water was covered by a crop of 2.82 kilograms. Important results obtained in options with drip irrigation on the NS-6010 hybrid variety of corn. In options 7 and 8, the average amount of water used during seasonal irrigation for 3 years was 2732 and 2487 m ^{3} ha. , 29 m 3 and 1 m ^{3} of water covered by the crop was 3.45 kg according to the 7th option for the cultivation of 1 centner of the crop , 0-50 sm of irrigation was carried out according to the 70-80-75% order of the experiment In the case of drip irrigation, 22.9 m ^{3} of water was consumed for 1 s of crop production in 3 years, and the coverage of 1 m ^{3} of water by crop was 4.37 kg.

Table 1

Egatlab and drip irrigation standards and water consumption for first crop m ^{3} /ha

(Bukhara region, Zarif ata f/x 2020-2022 years).

# Experience options	Water standards during the season, m ^{3}/ha			Productivity 3-year average	Seasonal irrigations, Average in 3rd year	Water consumption for 1s crop	1m ^{3} of water with crops
	2020	2021	2022	s/to	m ^{3}/ha	m ^{3}	kg
"Uzbekistan-601" variety							
1. Regular watering 70-75-70%	3217	3270	3338	62.8	3275	52.1	1.92
2. Regular watering 70-80-75%	3257	3398	3387	65.4	3347	51.2	1.95
" NS-6010 ".							
3. Regular watering 70-75-70%	3186	3355	3263	80.6	3268	40.54	2.47
4. Regular watering 70-80-75%	3354	3522	3427	90.3	3434	38.0	2.62
"Uzbekistan-601" variety							
5. Drip irrigation 70-75-70%	2711	2634	2795	67.5	2713	40.2	2.48
6. Drip irrigation 70-80-75%	2524	2575	2556	71.9	2551	35.5	2.82
" NS-6010 ".							
7. Drip irrigation 70-75-70%	2717	2749	2731	94.2	2732	29.0	3.45
8. Drip irrigation 70-80-75%	2484	2500	2482	108.7	2487	22.9	4.37

Izox*: options 1 and 4 are irrigated with a layer of 0-70 sm

Variants 5 and 8 are drip-irrigated with a layer of 0-50 sm .

Conclusion. " The amount of water used for 1 s of crop production in "Uzbekistan-601" variety was 35.5 m ^{3} , and in "NS-6010" variety this figure was 22.9 m ^{3} . The coverage of 1 m ^{3} of water by the crop was 2.82-4.37 in accordance with the above indicators.

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