

EFFECT OF IRRIGATION METHODS ON PRE-IRRIGATION SOIL MOISTURE IN THE IRRIGATION OF MUNG BEAN VARIETIES

Safarova Khilola Kholmatovna

Independent Researcher Tashkent Institute of Irrigation and Agricultural Mechanization Engineers National Research University Bukhara Institute of Natural Resources Management

Abstract:

This article describes the pre-irrigation moisture content of "Marjan" and "Durdona" varieties of mung bean as a cover crop in the conditions of meadow-alluvial soils of Bukhara region.

Keywords: irrigation orde, irrigation method, irrigation technology, water waste, seepage water regime, irrigation soil moisture.

The main part. According to the watering norms, moisture of the soil is important before the next watering. Correct management of soil moisture is considered a necessary factor for the life and activity of plants, in other words, moisture leads to the improvement of nutrients, air, salt, light and heat factors in the soil.

Research object. "Marjon" and "Durdona" varieties of mung bean were obtained from the ancient irrigated, meadow alluvial, salinity-prone soils of the Bukhara region, irrigation methods, repeated crop mush.

The subject of research is meadow alluvial, non-saline and weakly saline, physical properties of the soil, water demand, irrigation methods, number of irrigations, seasonal irrigation rate, water demand, mung bean growth, development, productivity is determined.

Research methods. Field, laboratory research and phenological observations are carried out based on the accepted methods of "Field experiment methods" (UzPITI 2007) of the Scientific-Research Institute of Agrotechnologies of Cotton Selection and Seed Cultivation. The accuracy and reliability of the obtained data are

mathematically and statistically analyzed using the multifactor method of B.A. Dospheov.

Research results. It was carried out in the field of the farm "Muhammad-Choruqiy" in the district of Bukhara district, Bukhara region.

Due to the small change of field moisture capacity depending on the type of crop in the experimental field, the amount of moisture corresponding to the weight of the soil was as follows in the experimental field.

In the 1-variant (control) of research, all observations were determined using actual measurements. During the field experiment, in the cultivation of the quick-ripening variety "Marjon" of mung bean in the option 2 irrigation during the germination and flowering phase is 64.1% compared to boundary field moisture content (BFMC), and during the flowering and fruiting phase, irrigation is 13.7% compared to soil weight and BFMC compared to 66.7 percent. Also, during the ripening period of the quick-cooking "Marjon" variety of mosh, irrigation works were carried out at 65.9 percent of soil moisture compared to BFMC. Not to take into account the actual water demand of the mung bean at different stages of growth and development and the water-physical properties of the soil leads to a decrease in productivity. Cultivation of the quick-ripening variety "Durdona" of mung bean in 4-variant: in the germination, flowering phase irrigation is 64.2% compared to BFMC, and in the flowering-harvest phase, irrigation is 14.5% compared to soil weight and 67,4 % compared to BFMC. During the ripening period of the "Durdona" variety of mung bean irrigation works were carried out at 64.1 percent of soil moisture compared to BFMC. It was observed in the control options of our experiment that soil moisture decreased compared to other options and a large amount of water resources were used in irrigation (see Table 1).



Table 1 Effect of irrigation regimes on pre-irrigation soil moisture in the irrigation of mung bean varieties, 2021

№	Variants	Indicators	Pre-irrigation soil moisture		
			1	2	3
“Marjon” variety of mung bean					
1	Furrow irrigation(control)	Time before humidity.	19.07	9.08	27.08
		By weight	13,7	13,7	13,6
		Compared to BMFC	63,2	63,8	63,1
2	Intermittent watering (soil moisture before watering is 65-65-65% compared to BFMC)	Time before humidity.	19.07	8.08	26.08
		By weight	13,8	14,4	14,2
		Compared to BMFC	64,1	66,7	65,9
3	Furrow irrigation(control)	Time before humidity.	18.07	8.08	26.08
		By weight	14,7	15,0	14,4
		Compared to BMFC	68,2	69,3	66,7
4	Intermittent watering (soil moisture before watering is 70-70-65% compared to BFMC)	Time before humidity.	18.07	8.08	26.08
		By weight	15,3	15,4	14,3
		Compared to BMFC	70,9	71,8	66,2
5	Furrow irrigation(control)	Time before humidity.	18.07	7.08	25.08
		By weight	15,8	16,0	13,8
		Compared to BMFC	73,1	74,2	63,8
6	Intermittent watering (soil moisture before watering is 75-75-65% compared to BFMC)	Time before humidity.	17.07	6.08	24.08
		By weight	16,4	16,5	14,5
		Compared to BMFC	76,1	76,9	66,9
“Durdona” variety of mung bean					
7	Furrow irrigation(control)	Time before humidity.	19.07	9.08	27.08
		By weight	13,7	13,8	13,7
		Compared to BMFC	63,4	64,3	63,3
8	Intermittent watering (soil moisture before watering is 65-65-65% compared to BFMC)	Time before humidity.	19.07	29.06	18.07
		By weight	13,8	14,3	13,8
		Compared to BMFC	63,7	66,5	63,9
9	Furrow irrigation(control)	Time before humidity.	18.07	29.06	18.07
		By weight	15,4	15,2	14,5
		Compared to BMFC	71,4	70,7	66,9
10	Intermittent watering (soil moisture before watering is 70-70-65% compared to BFMC)	Time before humidity.	18.07	29.06	18.07
		By weight	15,5	15,4	14,3
		Compared to BMFC	71,8	71,6	66,3
11	Furrow irrigation(control)	Time before humidity.	18.07	7.08	25.08
		By weight	15,8	16,4	13,8
		Compared to BMFC	73,2	76,1	64,1
12	Intermittent watering (soil moisture before watering is 75-75-65% compared to BFMC)	Time before humidity.	17.07	6.08	24.08
		By weight	16,5	16,5	14,4
		Compared to BMFC	76,4	76,9	66,5



Conclusion:

So, in the conditions of meadow-alluvial soils of Bukhara region, after autumn wheat, growing "Durdona" and "Marjon" varieties of mung bean for grain, the irrigation method is considered acceptable when it is 70-70-65% compared to BFMC and a lot of yield was obtained.

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