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Asatillaev Furkatjon Rakhmatillaevich - senior teacher,

PhD, doctor of philosophy of agriculture.

Mamadaliyeva Moxichekhra Tolibovna-students

Odiljonova Madina Farkhodjon qizi, -student

Qo'ldashev Shohhrukhbek Sanjarbek o'g'li –student

Andijan Institute of Agriculture and Agrotechnologies

EFFECT OF FERTILIZER AND PLANTING RATE AND METHODS ON CORN GERMINATION AND PLANT THICKNESS.

Annotation. It was established that in the conditions of meadow and loamy soils of the Fergana region, after winter wheat, bean plants were used as a repeat crop based on germination and seedling thickness when applying 250 kg/ha of seeds at a distance of 60 cm and mineral fertilizers were applied at the rate of $N_{100}R_{70}K_{50}$ kg/ha.

Key words: Repeated sowing, corn, triticale, sowing method, seed consumption, fertilizer rate, germination, seedling thickness.

Introduction. Using scientific-based intensive technologies to preserve and increase soil fertility in our republic, to strengthen the feed base of multi-sectoral farms specializing in animal husbandry, in the wide use of cereal and leguminous crops in the 2020-2030 strategy for the development of agriculture of the Republic of Uzbekistan "Radiable use of land and water resources" Researches on the development of measures to increase the amount of nutrients obtained from one hectare of land, reduce their cost and improve their quality, using the methods of planting nutritious crops (mixed, concentrated) with the help of methods of planting nutritious crops (mixed, intensive) is important.

Research materials and method. The experiment was carried out according to the "Methods of conducting field experiments", agrochemical analysis of soil and plant samples of UzPITI " Methods of agroximic, agrophysical and microbiological studies in irrigated areas" va "Methods of

agroximic analyzes of soils and plants of Central Asia" of UzPITI. As a repeated crop, corn and triticale were planted in one row of 60 cm and two rows of 15 cm.

According to agrotechnological data for the regions of the Fergana Valley, the last frost is observed on March 22, and the first autumn frost is observed on October 25.

If the repeated crops are planted on July 20, the useful temperature sum is 1095⁰C, under these conditions, the repeated crops (soybeans, mash) will mature in 80 days. Therefore, there is enough opportunity to create a high yield if the periods of planting repeated crops are chosen correctly. (Atabaeva, Mamedov [1; p. 251-253]).

The dynamics of the germination of seeds of repeated crops in the soil depends on the quality of the seeds (large and small), the rate of planting, the rates of fertilizers applied to the methods of planting (row spacing), and also the fertility of the soil.

In our research, the effects of sowing corn separately and corn together with triticale on the dynamics of seed germination and seedling thickness were studied, depending on the fertilizer rates. Repeated crops were sown on July 27, and after 5 days the germination of seeds was calculated according to the dynamics.

Analysis and results. In the conditions of the grassland of Fergana region, in the conditions of weak, saline, heavy mechanical soil, the bean plant was planted at the rate of 250 kg of seeds per hectare, with the application of mineral fertilizers at the rate of N₁₀₀R₇₀K₅₀ kg/ha, and the seed germination was 12.2 in proportion to the observation period; It was 40.4 and 88.6%.

It should be noted that 80-90% of the seeds germinated in 4-5 days because the soil moisture was acceptable and the air temperature was sufficient. However, during this period, the annual rates of fertilizers were not yet given in full.

When the corn plant is planted in each row with a row spacing of 60 cm in the above seed and fertilizer rates (option 3), the germination of seedlings is 12.9 in proportion to the observation periods; It was 41.6 and 88.9%, or these indicators are 0.7, respectively, compared to the option where the corn is planted separately at the above seed rate with a row spacing of 15 cm; It was higher by 1.2 and 0.3%. So, it was observed that the methods of sowing seeds (row spacing) also have an effect on the dynamics of germination of seedlings.

The influence of planting methods, standards and fertilizers on the dynamics of germination of corn, (%)

Variant	Crop Types	Sowing methods	Sowing rates, kg/ha	Observed deadlines		
				Germination		
				23.VII	25.VII	27.VII
Fertilizer rate N₁₀₀P₇₀K₅₀ kg/ha						
1	Control	No crops	-	-	-	-
2	Corner	Planted with 15 cm between rows (60x30)	250	12,2	40,4	88,6
3	Corner	60cm between rows planted in each row (60x60)	250	12,9	41,6	88,9
4	Corn and triticale were planted	Planted in rows 60 cm apart (60x60)	250/200	10,7	39,2	87,6
5			250/150	11,5	39,9	88,0
6			250/100	11,9	40,3	90,0
7		Planted with 15 cm between rows (60x30)	250/200	10,4	38,7	87,2
8			250/150	11,2	39,4	87,9
9			250/100	11,7	39,7	88,2
Fertilizer rate N₁₃₀P₉₀K₆₅ kg/ha						
10	Control	No crops	-	-	-	-
11	Corner	Planted with 15 cm between rows (60x30)	250	13,2	41,2	90,1
12	Corner	60cm between rows planted in each row (60x60)	250	13,1	41,8	90,2
13	Corn and triticale	Planted in rows 60 cm apart (60x60)	250/200	11,2	40,1	88,1
14			250/150	11,6	41,2	89,1

15	were planted	Planted with 15 cm between rows (60x30)	250/100	12,0	42,0	91,2
16			250/200	11,0	39,1	87,2
17			250/150	11,3	38,8	88,2
18			250/100	11,4	40,1	87,6

But these indicators are also 0.7 and 0.4% lower than those of the variants planted separately (in the last observation), but 1.2% higher than those of the variant with 250/200 kg/ha of seed.

In the options (7-9) where corn is mixed with triticale, 250/200, 100 kg/ha of seeds are used per hectare, and 15 cm between rows are planted, sprout germination at the end of observation is proportionally 87.2; It was equal to 88.2%. In the experiment, the lowest values (87.2%) were obtained when corn was combined with triticale at a seed rate of 250/100 kg/ha per hectare and planted at a row spacing of 15 cm, while the highest values were obtained when corn was planted separately at a row spacing of 60 cm per row (88.9%). received.

It should be noted that during the observation period, there was no effect of fertilizers applied before planting or with planting of the planned annual fertilizer rates on the germination of seedlings.

It should be noted that in the options where research years N100R70K50 kg/ha were applied, the actual seedling thickness of corn did not differ much among returns, in option 2, where corn was planted with 250 kg/ha of seeds per individual hectare, the actual seedling thickness was 547 in proportion to the research years; It was 594 and 602 thousand/ha, and averaged 581 thousand/ha in 3 years. This plant yielded an average of 599,000/ha or 0.18,000/ha more in 3 variants planted in the above seed rate with 60 cm between rows. In the remaining options, the average in 3 years was equal to 588, 592, 597, 586, 591 and 592 thousand/ha, and differed from each other by 7-13 thousand/ha.

Even in the options where mineral fertilizers were applied at the rate of N130R90K65 kg/ha, the actual seedling thickness of the bean was in the range

of 590-610 thousand/ha, and did not differ from those in the background of N100R70K50 kg/ha. Therefore, the actual seedling thickness of the bean did not change under the influence of planting methods, norms and fertilizers. In our opinion, the main reason for this is that corn is planted at the same rate (250 kg/ha).

Summary.

1. When the corn plant is planted in each row with a distance of 60 cm between the rows in the above seed and fertilizer standards (option 3), the germination of seedlings is 12.9 in proportion to the observation period; It was 41.6 and 88.9%, or these indicators are 0.7, respectively, compared to the option where the corn is planted separately at the above seed rate with a row spacing of 15 cm; It was higher by 1.2 and 0.3%.

2. In the options where mineral fertilizers were applied at the rate of N₁₃₀R₉₀K₆₅ kg/ha, the actual seedling thickness of the bean was in the range of 590-610 thousand/ha, and did not differ from those in the background of N₁₀₀R₇₀K₅₀ kg/ha. Therefore, the actual seedling thickness of the bean did not change under the influence of planting methods, norms and fertilizers.

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