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EFFECTS OF CHANGING THE NUMBER OF MAIZE BUSHES ON ITS GROWTH, DEVELOPMENT AND PRODUCTIVITY

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ABSTRACT

Field experiments were conducted to determine the effect of the number of bushes on the growth, development and yield of maize. The experiment was conducted in saline soil conditions of the Republic of Karakalpakstan. According to the data obtained, mineral fertilizers for good growth, development and high yield of maize should be applied in the amount of N250 P175 K125 kg / ha when the number of bushes is 500 thousand (60x33x1).

KEYWORDS: ***maize, growth, development, saline soil, mineral fertilizer, number of bushes, nutrition, area.***

INTRODUCTION

Currently, the number of livestock in the Republic of Karakalpakstan is growing and modern complexes are being built. It is important to provide the cattle in these complexes with useful fodder and silage. High-quality silage can be made from maize, which has a high nutritional value. It is important to get high yields from arable lands, in particular, the use of mineral fertilizers and leaving the optimal number of bushes are important agro-technical measures.

In recent years, with the spread of farms, not enough attention has been paid to the cultivation of maize. Over the next 4-5 years, the President and the Government have issued resolutions on the redevelopment of livestock. The number of livestock has increased. They need to be provided with useful fodder and alfalfa.

METHODOLOGY OF THE RESEARCH

8 variants were studied in the experiment. Option 1-4, mineral fertilizer N200 P150 K100 kg / ha and number of bushes 33.0; 41.0; 50.0 and 66.0 thousand, and in 5-8 variants the amount of mineral fertilizer is N250 P175 K125 kg / ha and the number of bushes is 33.0; 41.0; 50.0 and 66.0 thousand units. The variants are located in one tier, with 1.5-2.0 m of saline groundwater in the experimental field soil. Before planting, the soil was washed from salt and then the Turkish variety “Biotek” was planted.

RESULTS OF THE RESEARCH

As of September 1, the plant height was 16.0-185.0 cm when the amount of mineral fertilizers was N200 P150 K100 kg / ha, when the amount of mineral fertilizers was N250 P175 K125 kg / ha, it was 175.0-201.0 cm, the number of leaves was 18.5-21.5 (var. 1-4), 20.5-21.0 (var. 5-8), the number of buds in a bush was 1.4-1.9 in 1-4 variants and 1.7-1.9 in 5-8 variants. Regardless of the amount of fertilizer applied, different number of bushes affected its growth and development differently. When

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the number of bushes was very few (var. 1 and 5), the maize stem was very large and the plant height was lower than the other options. When the number of bushes was 41.0 thousand (var. 2 and 6), the plant height was slightly higher, and the number of leaves and buds was higher than in variant 1. If the number of bushes was 50.0 thousand (var. 3 and 6), the plant height, number of leaves and number of buds were higher than the previous variants. When the number of bushes was 66.0 thousand, the plant height was higher than other options, but the number of leaves and buds was found to be lower than other options. For good growth and development of maize, it is advisable to have 50.0 thousand bushes.

The soils of the Republic of Karakalpakstan are characterized by low fertility and salinity. Therefore, it is necessary to take measures to increase soil fertility in order to get high yields from any agricultural crops. This is due to the fact that the soil is saline, so it is washed and irrigated every year. The remaining nutrients in the soil are washed into the lower layers. This work is repeated every year. The layer of soil where the roots of the plants are located is very low in nutrients. The plant needs nourishment from the very beginning of its growth. The amount of mineral and organic fertilizers depends on the type of plant, biology, variety and soil climatic conditions. Due to the high surface area of the maize studied in the experiment, it requires large amounts of nutrients. In the experiment, we used mineral fertilizers in the amount of N200 P150 K100 kg / ha and N250 P175 K125 kg / ha. We found out how maize affects grain yield when the number of bushes were 33,0; 41,0; 50.0 and 66.0 thousand, the following became known.

A general rule that can be found in both backgrounds of these mineral fertilizers is that the growth, development, and yield of maize in all bushes are good at the full rate of mineral fertilizer.

When the amount of mineral fertilizer was N200 P150 K100 kg / ha, the grain yield of maize was 51.0-54.5 tq / ha. The lowest yield (51.0 q / ha) was observed when the number of bushes was 33.0 thousand, and the highest yield was observed when the number of bushes was 50.0 thousand. When the number of bushes was 41.0 and 66.0 thousand, the yield decreased by 1.5-2.5 q / ha compared to the 3 options. In this amount of mineral fertilizers, it is desirable that the number of bushes of maize was 50.0 thousand per hectare.

When the amount of mineral fertilizers was N250 P175 K125 kg / ha, the grain yield of maize was 52.5-56.0 q / ha. The lowest yield of this fertilizer was observed in Option 1, which was 52.5 q / ha. The number of bushes was 41.0 thousand when the yield was 54.0 q / ha and 56.0 ts / ha when the number of bushes was 50 thousand, which is more by 3.5 and 2 q / ha compared to options 5 and 6, which is 3.0 q / ha more than in 8 variants with 66.0 thousand bushes.

Influence of Number of Bushes on Growth, Development and yield of Maize, 1.IX

Variants	Growth-development			Yield			Average
	Height of the plant, cm	Number of leaves, piece	Number of buds, piece	Repeating			
				I	II	III	
1	160,0	19,5	1,8	53,0	50,0	50,0	51,0
2	171,5	19,0	1,5	54,0	54,0	51,0	53,0
3	180,5	21,5	1,9	53,0	56,0	54,5	54,5
4	185,0	18,5	1,4	53,0	50,5	52,5	52,0
5	175,0	20,5	1,9	53,0	52,0	52,5	52,5
6	184,5	22,0	1,7	53,0	56,0	54,0	54,0
7	197,0	22,5	1,9	55,0	56,0	57,0	56,0
8	201,0	20,5	1,5	52,0	55,0	52,0	53,0

As can be seen from the table, it is important to determine the optimal number of bushes in any feeding regime. Against the background of the two types of mineral fertilizers we studied, it was

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found that good growth, development, and yield of corn would be good when the number of bushes was 50.0 thousand.

CONCLUSIONS

Measures should be taken to increase the fertility of the soils of the Republic of Karakalpakstan.

The amount of mineral fertilizer used for good growth, development and yield of maize in saline soils is N250 P175 K125 kg / ha, the number of bushes per hectare is 50.0 thousand.

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