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The Influence Of Organo-Mineral Composts On The Dynamics Of The Opening Of Cotton Bolls In Saline Soil Conditions

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Annotation. In the article, the effect of organo-mineral compost, manure and mineral fertilizers on the opening dynamics of cotton bolls was determined. In this, the positive effect of organic fertilizers and organo-mineral composts on the water-physical and agrochemical characteristics of the soil and the dynamics of the opening of cotton bolls by increasing its productivity were explained.
Key words. Soil, organo-mineral compost, manure, mineral fertilizers, cotton boll, fertility.

Introduction. Today, in the conditions of the Republic of Karakalpakstan, soil salinity and low humus content have a negative effect on soil fertility and the productivity of agricultural crops. In such conditions, the scientists of our republic are carrying out activities such as providing different types of fertilizers, planting siderat and intermediate crops, and introducing rotation systems in order to increase soil fertility.

In addition, in recent years, scientific research is being conducted on preparing composts of non-traditional agro-ores with domestic animal and poultry manure in scientifically based proportions and applying them under the plow before planting and during the growing season of crops.

By using organo-mineral composts, it leads to the improvement of water-physical properties and nutrient regimes in the soil, reduction of soil porosity and density, and increase of water permeability. This, in turn, provides the necessary factors for the growth of cotton, has a positive effect on the dynamics of the opening of cotton bolls, and as a result, an increase in cotton productivity is achieved. .

Literature analysis. The use of organo-mineral composts has a positive effect on the water-physical and agrochemical characteristics of soils. As a result, due to the sufficient amount of organic matter in the soil for the growth of cotton, the cotton bolls open on time according to the characteristics of the variety. In areas with low nutrients, cotton bolls are not fully developed and open quickly.

In addition to increasing soil fertility, the use of organic fertilizers, mainly composts, in addition to mineral fertilizers, in increasing the growth and productivity of cotton, has been shown in many studies. proved himself [5; p. 10].

S. Boltaev [2; 55-56-p.] according to the results of experiments, in order to prevent the decrease of soil fertility, according to scientific recommendations, apply 20-30 tons of manure or organic compost per hectare once in two or three years. required.

In addition, composts applied to the soil have been observed in many researches conducted after the agrophysical and agrochemical properties of the soil have improved, and the water, air and nutrient regime in the soil has been favorable for plants [1; pp. 203-208, 6; pp. 34-35].

Research methods. The experiment was conducted according to the field method. The studies consisted of 4 responses out of 10 options, and the options were arranged in a systematic manner. Methodical manuals "Методы агрофизических исследований" (Tashkent, 1973) [3] and "Методика агрохимических анализов почв и растений" (Tashkent, 1977) [4] were used in conducting agrophysical analyzes of the soil.

Determining the opening dynamics of cotton bolls and phenological observations were carried out on 100 specially labeled plants in each variant of 1 and 3 repetitions of the experiment.

Research results and their analysis. In our experience, the dynamics of the opening of cotton bolls with organic fertilizers and organo-mineral composts combined with mineral fertilizers N185 P130 K90 kg per hectare. the options used in the amount of only mineral fertilizers annual norm N250 P175 K125 kg. compared to the control option used in the amount.

In our experiment, the dynamics of the opening of the pores was slower in the options where organo-mineral composts were used compared to the control option.

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Ripening of cotton bolls was 0.5-5.5% starting from September 6 and 51.0-64.0% on the next day of observation (September 16). In this case, in all other options, except for the control option, the opening of 50% of the cells corresponded to September 16, that is, 51.0-56.5%, which is 8.5-14.0% less than the control option.

In the control option, where only mineral fertilizers N250, P175, K125 kg/ha were used, the opening of the polls was observed on September 14, and it was 58.0%. Mineral fertilizers N185, P130, K90 kg/ha along with different amounts of manure were used in options 2-4 on September 16, 53.5-56.5%.

According to the information received on September 16, the annual norm of mineral fertilizers has been reduced by 50% (N185, P130, K90 kg/ha) and additional 10-12 tons of manure, glauconite and licorice waste. 53.0-53.5% on the last day of observation in options 5-6 where organo-mineral compost prepared from a mixture of waste was used, 52 in options 7-8 where 20-22 t/h of organo-mineral compost was used, 0-53.5%, and 51.0-51.5% in options 9-10, where 30-32 t/h of organo-mineral compost was used, which means that opening of pores compared to the control option is 2-3 it's late.

Normal opening of cotton bolls depends on soil fertility and humus content. When the plant lacks nutrients and water, the growth and development period is naturally shortened, that is, "physiological aging" occurs. If the soil is fertile, its growth and development will be good, it will accumulate fruit matter as much as possible, and corn varieties will ripen biologically in a specific period.

We can see the information related to the process of opening cotton bolls in Table 1.

Table 1

Determining the opening dynamics of cotton bolls, %

Options	Observation days					
	6.IX	8.IX	10.IX	12.IX	14.IX	16.IX
1	2,5	14,5	26,5	42,0	58,0	65,0
2	4,0	22,0	31,0	44,5	49,0	56,5
3	5,5	20,5	29,5	42,0	45,5	55,0
4	3,0	18,5	27,5	43,5	48,0	53,5
5	4,0	21,0	29,0	41,0	47,5	53,5
6	3,5	20,5	31,0	42,0	46,5	53,0
7	2,5	18,0	28,0	40,5	45,0	53,5
8	1,0	14,5	25,5	37,0	44,0	52,0
9	1,0	12,0	22,5	35,5	43,5	51,5
10	0,5	11,0	21,0	35,0	42,0	51,0

Summary. Summarizing the results of the experiment, mineral fertilizers are N185 P130 K90 kg/ha the use of organic-mineral composts in the norm and additional to it, compared to the control option that used only mineral fertilizers in the norm of N250 P175 K125 kg/ha, an increase in soil fertility and improvement of its melioration, water-physical and agrochemical condition was achieved. As a result, due to the sufficient supply of soil with nutrients, conditions were created for the completeness of the bolls and it had a positive effect on the dynamics of its opening.

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