

TO STUDY THE EFFECT OF ADDITIONAL NUTRIENTS IN THE CARE OF FINE-FIBER COTTON IN THE CONDITIONS OF BARREN SOILS OF SURKHANDARYA REGION

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ABSTRACT

The scientific article presents data on the impact of the additional use of compost preparation based on bentonite clay and Gulioib phosphorite on the agrophysical properties of soils and the growth, development and yield of fine-fiber cotton.

Keywords: agricultural ores, bentonite clay, phosphorites, compost, supplementary nutrients.

INTRODUCTION

Introduction of resource-saving agrotechnologies in ameliorative improvement of moderately saline soils of Surkhandarya region, the southernmost region of Uzbekistan, sufficient yield of agricultural crops in saline soils, development and widespread use of new modern agrotechnologies to improve ameliorative condition is one of the most pressing issues of the day. The use of bentonite sludge, Gulioib phosphorite and composts based on various local fertilizers as additional fertilizers in moderately saline bare soils has a wide range of effects on soil reclamation and fine-fiber cotton yields have not studied on a scale. Academician K. Mirzajonov noted that different levels of soil salinity dramatically reduce the coefficient of seasonal use of mineral fertilizers by plants. [1] M.A. Belousov found that in saline soils the absorption of nitrogen by plants varies, and when the chloride ion in the soil is 0.04%, the yield elements have the lowest absorption of nitrogen. [2] S.Boltayev studied the effect of the application of additional nutrients to the soil at different rates and terms on soil fertility and crop yields. It was found that the agrochemical properties improved, the yield of cotton increased by 4.7 s, the yield of mosh increased by 3.5 s and the yield of winter wheat increased by 7.1 s. [3]

Methods: experiments "Methods of conducting field experiments" UzPITI (2007), agrophysical analysis used the methodical manuals "Methods of agrophysical research" SoyuzNIXI (1973). As a result of the reforms carried out in the agricultural sector in recent years, the country is taking comprehensive measures to increase the area under fine-fiber cotton, in particular, to increase the area under fine-fiber cotton. Experiments were conducted to study the reclamation of soil in the conditions of barren soils of Surkhandarya region, where fine-fiber cotton varieties are grown, and the effectiveness of the use of Khovdak bentonite and Gulioib phosphorite in addition to mineral fertilizers for cotton and composts based on them.

We have seen that the effect of additional nutrients used in the experiment also had a positive effect on the agrophysical properties of the soil. When the effect of different amounts of organo-mineral composts on seasonal changes in soil mass (Table 1), there was no significant difference between the first and second options in changes in soil volume before planting at the beginning of the season. Supplements are 13 tons and 3.0 tons of 3.0 (bentonite) +10 tons of semi-rotted manure used before plowing. In the variants using 13 tons of compost based on Gulioib phosphorite + 10 t of semi-rotten manure, a partial improvement in soil volume was observed at the beginning of the application period and a difference of 0.01-0.02 g / cm³ compared to the control. It should be noted that under the influence of the applied organo-mineral compost standards at the end of the season, according to the data obtained at 22.08, in the standard and control variants there was a significant increase in the volume mass in the topsoil and subsoil. In the variants using composts, there was an increase in the volume and mass of the soil layers at the end of the season compared to the beginning of the season.

However, 3.0 (bentonite) +10 t of 13 tons of semi-rotted manure and 3.0 t. Gulioib phosphorite + 10 tons of semi-rotted manure-based composts with 13 tons of composts at the end of the season It was found that in the subsurface layer of 13 tons of bentonite composts decreased by 0.03 g / cm³ in the variant and 0.02 g / cm³ in the variant with phosphorite composts.

Influence of additional nutrients on soil mass (gr / cm³) Table 2

	Annual rates of mineral fertilizers, kg / ha			Amount of supplements used, t / ha,	At the beginning of the validity period 28.03.2021y		End of validity period 22.08.2021y	
	N	P ₂ O ₅	K ₂ O		0-30	0-50	0-30	0-50
1	200	140	100	Template	1.32	1.38	1.37	1.42
2	200	110	70	Control	1.33	1.39	1.38	1.42
3	200	110	70	3.0 (bentonite) +10 compost plowed with half-rotted manure	1.32	1.36	1.35	1.39
4	200	110	70	3.0 t.g.phosphorite + 10 t semi-rotten manure under plowing	1.32	1.37	1.36	1.40

Additional composts applied to the soil had a positive effect on other agrophysical and agrochemical properties of the soil as they were applied before plowing in the fall. The effect of composts prepared on different bases used for the growth, development and harvesting of fine-fiber cotton grown in the experimental field was also unique. When analyzing the cotton harvest

by harvest and total yield (Table 2) by options, the weight of the first harvest in the first option, fully fed with mineral fertilizers during the season, was 26.4 s. against the background of the reduced git, this figure was 24.2 s. It should be noted that in the second control variant, phosphorus and potassium fertilizers were applied by 30 kg less than the standard, without reduction of mineral nitrogen fertilizers. In these variants, the total yield of cotton did not exceed 30.4-28.0 s.

In the experiment, in 2021, in addition to the reduced amount of mineral fertilizers, 13.0 tons of compost prepared with 3.0 t / ha of bentonite and 10 tons of semi-rotten manure with the maximum first harvest weight was in option 3 used as a supplementary feed, with 32.5 s / ha in the first harvest in this option. This was 8.3 s / ha higher than the eas control variant and 6.1 s / ha higher than the standard variant. Due to the fact that the additional nutrients used in the experiment have both reclamation and additional nutritional properties, it was found that the initial and total yields were higher than the other options in the variants using different composts against the background of reduced standard fertilizers. The weight of the second and third harvests was also higher in the composting options. In the experiment, 3.0 t (13 tons of compost based on 3.0 (bentonite) +10 t semi-rotten manure was used, 3.0 t. it was found that the yield of cotton was more than 1.4 s.

In conclusion, the use of additional organo-mineral composts for seasonal mineral fertilizers in the conditions of bare soils is the basis for the improvement of soil fertility and high yields of fine-fiber cotton.

Yield in terms of harvests and returns in the experimental field, s / ha. Table 2

Options		Picking			Productivity, s / ha
Results of the experiment for 2020-2021		1	2	3	
Template	N,P,K - 200-140-100	26,4	3,4	0,6	30,4
Control	N,P,K - 200-110-70	24,2	3,3	0,5	28,0
Bentonite	3.0 (bentonite) +10 compost plowed with half-rotted manure	32,5	4,8	1,0	38,3
Gulioib phosphorites	3.0 t.g.phosphorite + 10 t semi-rotten manure under plowing	31,6	4,1	1,2	36,9

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