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THE EFFECT OF COMPOSTS ON THE YIELD OF FINE-FIBER COTTON

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Abstract: *In the cultivation of fine-fiber cotton on takyr-like soils in the Surkhandarya region of the Republic of Uzbekistan, a compost based on 3 tons of bentonite and 10 tons of semi-decomposed manure was applied at 13.0 t/ha under plowing and 2 t/ha during the growing season. As a result, the average yield of fine-fiber cotton over three years reached 35.9 centners per hectare, which is an additional 7.5 centners per hectare. When phosphorite compost was applied, the yield was 34.5 centners per hectare, which is 6.1 centners per hectare higher than the control.*

Keywords: *Various composts, bentonite compost, Guliob phosphorite compost, compost, yield.*

INTRODUCTION

Cotton is cultivated in more than 90 countries worldwide, covering an area of 31.90 million hectares. The volume of cotton fiber production in China totals 5,988 thousand tons, of which 8.8 thousand tons is fine fiber cotton. In India, the production is 6,205 thousand tons, with 3.6 thousand tons being fine fiber cotton. Pakistan produces 1,785 thousand tons, of which 2.2 thousand tons is fine fiber cotton.

Natural agrorudas [1] the application of composts made on the basis of Hawthorn bentonite. Guliobian phosphorite itself and semi-rotted manure in various norms and deadlines in the same period as the adsorption of easily soluble salts anion and cations in saline soils according to their properties of meliorance and otdsorbency. by coagulating difficult soluble salts. positively affecting changes in the amount of harmful salts in. application of compost once every 3 years to 13.0 t/ha of dew and as 2.0 t/ha of various composts during the growing season in thin-fiber cotton has been observed to improve soil reclamation and reduce chlorine ion by 0.011%.

The scientific [2] article presents data on the impact of the additional use of compost preparation based on bentonite clay and Guliob phosphorite on the agrophysical properties of soils and the growth, development and yield of fine-fiber cotton.

The article [3] discusses the advantages of drip irrigation in the cultivation of winter wheat in the conditions of bald meadow soils of Surkhandarya region, moistening of the furrowed and subsoil layers of the soil with scattered roots, water consumption is reduced by 45-50% of the number of irrigations and seasonal water consumption, and nitrogen mineral fertilizers by 20-25%, and the yield of winter wheat grain increased by 4.9-6.5 ts.

The methodological. Manuals used were "Methods of conducting field experiments" from UzRICP (2007) [4] analyses.

Result. During the research years, variants with various composts applied showed additional yield over a 3-year period compared to control variants with reduced mineral

fertilizers and full mineral fertilizers. In the experiment, different increases in cotton yield were observed when various composts, Khovdak bentonite, and Guliob phosphorite were applied separately in different rates, as well as when composts prepared from these agro-ores and manure were used at various rates and times. Changes in yield, similar to changes in the effect of applied additional nutrients on soil fertility, varied under the influence and aftereffects of different composts. It was found that the effect in the third year was relatively diminished.

Analysis of cotton yield by harvest and total yield by variants in the second year of research showed that the control variant (1) showed a yield of 26.6 centners per hectare against a background of reduced phosphorus and potassium levels of mineral fertilizers. It should be noted that in the control variant, mineral nitrogen fertilizers were applied without a decrease in phosphorus and potassium fertilizers by 30 kg.

In the second year (2021) of the experiment, in the variants with the application of compost in addition to reduced mineral fertilizer rates, the harvest increased, with 13.0 t/ha of compost prepared on the basis of 3.0 t of bentonite and 10.0 t of semi-rotted manure under plowing, and in the variant (2) with the annual application of 2.0 t/ha of compost as an additional nutrient during the growing season, the harvest amounted to 32.5 t/ha in the first harvest, which is 5.9 t/ha higher than

Table -1

Cotton yield in s/ha according to harvests and returns in the experimental field (2020-2022y)

Option e	Option Experienc	Crops Average yield			s/ha control to sunset	the difference (-) (+)
		2020	2021	2022		
1	Control	28,0	30,5	26,6	28,4	-
2	Bentonite compost	36,2	38,3	33,1	35,9	7,5
3	Phosphorite compost	35,0	36,9	31,7	34,5	6,1
		NSR_{05}=1,1 s/ha Sx=3,46%	NSR_{05}=1,0 s/ha Sx=3,26%	NSR_{05}=1,0 s/ha Sx=3,40%		

In the experiment, it was found that the weight of the first harvest and the total yield was higher in the options where agro-ores and composts based on them were used in different rates against the background of reduced standard mineral fertilizers compared to other options. The weight of the second and third harvests was superior in the options where composts were used. In the experiment, 13.0 t of compost prepared on the basis of 3.0 t (bentonite) + 10.0 t of semi-rotted manure was applied under the plow and 2.0 t/ha of compost was applied every year during the growing season in option (2) and 3 .0 t of

Guliob phosphorite + 10.0 t of semi-rotted manure based on 13.0 t of compost under the plow and 2.0 t/ha every year during the growing season compared to the used compost (3) option, the harvest of thin-fiber cotton was close to each other, and it was noted that it was 1.4 s more on average in three years.

As a result of the effect of various composts, the highest cotton yield per hectare was made with 13.0 t of bentonite and 13.0 t of phosphorite composts prepared on the basis of bentonite, phosphorite and semi-rotted manure under the plow and 2.0 t/ha every year during the growing season. observed in the 2-3 options used, the cotton yield was 38.3-36.9 s/ha and 7.5-6.1 s/ha compared to the control, 4.9-3.5 s/ha additional yield was obtained compared to the production control option.

It can be said that the annual rates of seasonal mineral fertilizers are N-200, P-140 and K-100 ha/ha in the mineral and local feeding of thin-fiber cotton in the conditions of barren soils with a certain degree of salinity. by reducing the amount of P and K by 30.0 kg, in addition 13, t/ha once in three years before plowing and under the plow and every year during the growing season Composts applied at 2.0 t/ha, along with treatments and mineral feeding during the growth period of cotton, the rates and timings of applying these composts annually at the rate of 2.0 t/ha will improve soil fertility. and can be the basis for obtaining additional yield from thin fiber cotton.

It was observed that the effects of the first year and the last second year of different composts were high, and the last effects of the third year were decreasing. The reduction of the final effects of applied composts and individual agro-ores according to the norms and periods was also manifested in the growth, development and harvest of cotton.

Summary:

1. When compost based on bentonite 3 t and semi-rotted manure 10 t is applied under the plow at 13.0 t/ha and 2 t/ha during the growing season, the yield of cultivated thin fiber cotton is 35.9 on average in three years s/ha or additional, 7.5 s/ha higher yield was obtained.

2. When compost based on phosphorite 3 t and semi-rotted manure 10 t is applied under the plow at 13.0 t/ha and 2 t/ha during the growing season, the yield of cultivated thin fiber cotton is 34.5 on average in three years s/ha or 6.1 s/ha high yield was obtained.

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