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The influence of feed additive cotton on the growth, development and productivity in the conditions of barren soils of Surkhandarya province

Jamshid Abdinazarov[1, a)], Boltaev Saydulla [1], Rakhmonov Akramjon [2], Abduraim Nazarov[1]

[1] *Termez State University of Engineering and Agrotechnolgies, Termez, Uzbekistan*
[2]*Institute of General and Inorganic Chemistry of the Academy of Sciences of the Republic of Uzbekistan, Tashkent, Uzbekistan*

[a)] *Corresponding author: abdinazarovjamshid397@gmail.com*

Abstract. In this article information Scientific article, irrigation farming is practiced in our republic today food in order to meet the demand of cotton for organic and mineral fertilizers soil by using non-traditional organo-mineral supplements rich in nutrients to increase the nutrients in forms that can be absorbed by the plant and their is aimed at one of the urgent issues aimed at increasing the level of assimilation. Composts made from non-traditional agro-ores, bentonite of Khovdak, Phosphorite of Guliob, and semi-rotted manure were used under the plow at different rates to supplement the new varieties of fine-fiber cotton grown in large areas in the southern regions of our republic, and their effects and final effects were studied. Also, the effect of fine fiber cotton on the growth, development and harvest of SP-1607 variety when applied in 2 tons during the growing period of cotton, i.e. (phases of 2-3 true leaves, budding and flowering) was described.

INTRODUCTION

Among other factors of growth and development of cotton, soil fertility, planted cotton special biological capabilities of the variety, planting time and method, feeding system, mulching, growth regulators and irrigation system and it should be noted that the soil its salinity level affects the reclamation condition in a unique way. per hectare in the conditions of gray grassland soils in the central regions of our republic chlorine ion 36.6%, dry residue in washing 3500-4000 m^3/ha in salt washing in these options, it decreased by 16.3%, the growth and development of cotton improved, and the yield was 28.6 s/h obtained, but the amount of water used to wash the salt was high enough who pointed out [1].

High yield (35-38 t/ha) of 5904-I and T-7 thin fiber cotton varieties in irrigated flourless soils of Surkhan-Sherabad oasis. They were watered 6-7 times according to 1-4-1 or 1-5-1 irrigation systems during operation, it was reported that seasonal water consumption was obtained in 8237-9411 m^3/ha options. According to the results of previous studies, irrigating fine fiber cotton 800-900 m^3/ha before flowering, 1100-1300 m^3/ha during flowering-harvest-harvest, and 900 m^3/ha during ripening will be effective period was found to be [2].

In general, large amounts of water and other resources were required to produce high cotton yields in such soil conditions.

EXPERIMENTAL RESEARCH

It is worth noting that in our research, thin fiber under conditions of barren soils in the autumn of 2019 to obtain a high and quality harvest from the new SP-1607 cotton variety soil under the influence of organo-mineral composts applied to the soil before plowing affecting the structure and nutritional regime of the soil water-physical during seed sowing in spring it was found that their conditions have improved. It is also in the dynamics of germination of cotton

seedlings manifested in iariants. New thin fiber SP-1607 variety was planted and the additional nutrients used in the variants improved the germination of cotton observations were made to study the effect.

The analysis showed that the germination of the seed was one day later in the control variant. In the current year, 50% of the seed will germinate in option (1) on april 22, 100% four or five days later germination was observed on april 26.

Among the options where composts are applied, in option (3) one hectare three yield before 13.0 t/ha compost is prepared on the basis of 3.0 t (bentonite) + 10 t semi-rotted manure per area when applied under the plow, seed germination was a day or two faster on april 21.

It was reported that 50% of the seed had germinated, and on april 26, 100% had germinated. 13.0 t Guliob phosphorite and in option (4) where manure-based compost is used, it is almost identical to option (3) seed germination was observed during In the remaining options, april 22-23 by april 26, 50% of the seed had germinated, 100% had germinated (Table 1).

According to the results of phenological observations of the growth of cotton on the first day of every month, the differences between the options were analyzed. The same agrotechnics were applied to cotton in all options and the same watering rates and periods were used, but the annual rates of phosphorus and potassium were 30 kg without changing the mineral nitrogen of the additional nutrients used. The effect on the development of thin fiber cotton was unique when studied with a reduction of.

According to the results of monthly observations in the experimental field, the height of the cotton in the sample (1) option in august was 98.4 cm, the yield elements were 17.9 pieces, the number of available bolls was 8.9 pieces.

In control (2), the height of the cotton head stem is 90.1 cm on the first day of August the number of crop elements is 16.7 pieces, the number of available pieces is 8.2 pieces, option (1) compared to the pattern, the length of the cotton is 8.3 cm, the number of crop elements is 2.2 pieces, there are pockets and a decrease of 0.7 units was observed.

Table 1 Effect of applied additional nutrients on germination of cotton, seed on 15.04.2022 planted

№	Options.	19.04.2022	I- recurrence		II- recurrence		III- recurrence		By average repetitions	
		The beginning of germination	21-23.04	25-26-04	21-23.04	25-26-04	21-23.04	25-26-04	50%	100%
			50%	100%	50%	100%	50%	100%		
1	Template	19.04	22.04	25.04	22.04	26.04	22.04	26.04	22.04	26.04
2	Control	20.04	23.04	26.04	22.04	26.04	23.04	26.04	23.04	26.04
3	13.0 t/ha of compost based on 3.0 t bentonite- + 10.0 t semi-rotted manure under the plow.	19.04	21.04	26.04	21.04	25.04	22.04	26.04	21.04	26.04
4	13.0 t/ha of compost based on 3.0 t Guliob phosphorite + 10.0 t semi-rotted manure under the plow	19.04	22.04	25.04	21.04	26.04	21.04	26.04	21.04	26.04
5	2t (phosphorite compost)	19.04	22.04	26.04	22.04	26.04	22.04	26.04	22.04	26.04
6	2t (bentonite compost)	19.04	22.04	26.04	22.04	25.04	21.04	26.04	22.04	26.04

RESEARCH RESULTS

In the experiment, compost prepared on the basis of 3.0 t (bentonite) + 10 t semi-rotted manure 13.0 t in option (3), which is used under the plow, the growth of cotton is optimal in august, the height of the cotton head stem is 99.3 cm, the number of crop elements is 19.9 pieces, the number of sacks is 9.8 pieces, (1) the length of the sack from the template is 0.9 cm, the result the number of elements is 1.0 more, the number of cells is 0.9 more, (2) the length of the cell compared to the control the number of 9.2 cm crop elements is 3.2 more and the number of pods is 1.6 more was determined.

13.0 t of compost prepared on the basis of Guliob phosphorite and semi-rotted manure was applied under the plow (4) in option (4) the growth and development of cotton on the first day of august, the height of the cotton head stem is 98.9 cm, the number of crop elements is 19.1, the number of available bolls is 9.1 forming a grain, the length of the cotton from the template is 0.5 cm, the number of crop elements is 0.2 pieces and the available bolls are 0.2 more, compared to the control, the length of the cotton is 8.9 cm, the number of crop elements is 2.4 pieces and the available bolls are it was found that it was more than 0.9 units [16-35].

2.0 tons of Khovdak bentonite and Guliob phosphorite composts were used as additional nutrients during the growth period of fine fiber cotton, the number of pieces available is 8.4-8.6 pieces and the weight of one piece is 2.5 g, the length of the pitcher from the control is 6.9-7.7 cm, the yield elements are 1.4-1.9 pieces, there are increased by 0.2 -0.4 pieces, the development of cotton growth was close to the model option.

Due to the ameliorative and additional nutritional properties of the additional nutrients used in the experiment, it was found that the first and total yields were higher than other options in the options where different composts were used against the background of reduced standard mineral fertilizers. The weight of the second and third harvests was also superior in the options where composts were applied. 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 used (3), in option 3, 3.0 t of Guliob phosphorite + 10.0 t of semi-rotted manure was used (Compared to option 4), it was found that the harvest of cotton with thin fiber was 1.4 ts more.

Table 2. The effect of additional nutrients on the growth and development of fine fiber cotton, 2022 year

№	Options.	Amount of seasonal mineral fertilizers, kg/ha			Cotton length, cm				plant branches, piece	generated element, piece	number of cotton balls, piece	productivity ts/ha
		N	P_2O_5	K_2O	1.06	1.07	1.08	1.09	1.08	1.09	1.09	
1	Template	200	140	100	19.9	69.1	98.4	111.2	16.6	20.9	11.8	29.3
2	Control	200	110	70	18.9	63.0	90.1	102.2	15.3	18.3	10.0	26.6
3	13.0 t/ha of compost based on 3.0 t bentonite- + 10.0 t semi-rotted manure under the plow.	200	110	70	21.1	75.6	99.3	115.2	17.1	21.7	12.2	33.1
4	13.0 t/ha of compost based on 3.0 t Guliob phosphorite + 10.0 t semi-rotted manure under the plow	200	110	70	20.8	72.1	98.9	114.1	16.9	21.0	12.0	31.7
5	2t (phosphorite compost)	200	110	70	19.3	68.8	97.0	109.1	15.8	20.2	11.3	27.5
6	2t (bentonite compost)	200	110	70	19.5	69.1	97.8	109.6	16.0	20.4	11.4	28.2

As a result of the effect of additional nutrients, the yield of cotton is higher by 3.0 t per hectare compared to bentonite and 10.0 t semi-rotted manure, 13.0 t cotton-based compost compared to the option, the yield was 33.1 s/ha and (1) 3.8 s/ha, (2) control compared to the option, 6.5 s/ha, additional yield was obtained.

CONCLUSIONS

Soil tillage under the influence of additional nutrients applied to barren soil water-physical and meliorative conditions in the layer will improve, its density will decrease and increase in grain size and improvement of fertility status as well as given mineral increase in the effectiveness of nutrients and the speed of assimilation of nutritional elements of cotton it was determined that the increase has a positive effect on the growth and development of cotton.

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