



THE EFFECT OF ORGANO-MINERAL COMPOSTS ON THE GERMINATIVENESS OF COTTON SEEDS

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ABSTRACT

One of the main issues that we are facing today is to provide our growing population with quality food products. This, in turn, requires the implementation of such important factors as the development of agriculture, the transition to an intensive farming system, increasing soil fertility and thus obtaining high and quality crops. One of the important factors in the efficient use of agricultural land and increasing soil fertility is the joint use of local and mineral fertilizers in scientifically based proportions. However, today there is a shortage of local and mineral fertilizers. In addition to solving these shortcomings, maintaining and increasing soil fertility, the use of non-conventional agro-ores, organic fertilizers and composts in addition to mineral fertilizers has been proven in many studies. In the process of using composts, good water and nutrient regimes in the soil are necessary factors for plant growth. Composting of various wastes (waste of licorice) increases the supply of organic fertilizers, while preventing environmental pollution.

KEYWORDS: *Organo-mineral compost, non-conventional agro-ore, manure, licorice waste, cotton, soil fertility, water-physical properties.*

INTRODUCTION

For many years, soil fertility has been declining year by year due to the misuse of agricultural land. This has a huge negative impact on the food supply of our growing population. In this situation, one of the most pressing issues is to increase soil fertility in the saline soils of the Republic of Karakalpakstan, which is one of the most difficult areas of Uzbekistan. Currently, the amount of humus in the soil is declining due to the lack of organic matter supplied to the soil. This has led to a reduction in the number of microorganisms that convert organic remains into substances necessary for plant nutrition, which has a negative impact on plant growth and yield.

In order to increase soil fertility and get high yields from the soil application of glauconite agro-ore which is rich in more than 15 micronutrients necessary for plants, local manure and organo-mineral composts made from the anise root waste of legumes with biological nitrogen accumulation properties is an ecologically and economically important issue.

In addition, the main source of increasing the amount of humus in the soil is the use of the use of organo-mineral compost made from organic fertilizer, glauconite agro-ore and licorice waste improves the agrochemical, biological and microbiological properties of the soil. Along with organo-mineral composts, a large number of macro and micro elements, as well as a large number of microorganisms are brought to the soil. Organo-mineral composts accelerate biochemical and microbiological processes in the soil, increase soil moisture levels and prepare nutrients from phosphorus fertilizers in the soil to be easily assimilated by plants.

According to S. Boltaev, in order to prevent a decrease in soil fertility, it is scientifically recommended to apply 20-30 tons of manure or organo-mineral compost per hectare every two or three years.

Among other factors that affect the germination and growth of cotton, soil and climatic conditions, soil fertility, characteristics of the cotton variety, planting time and method, plant nutrition, irrigation system and soil reclamation and the process



of implementation of all agro-technical measures have a unique effect too.

The solution of the problem of getting complete seedlings of cotton and other food crops in the saline soils of the Republic of Karakalpakstan is a topical issue today.

According to the purpose and objectives of our research, the effect of changes in harmful soil salts, water-physical properties of soil, germination and growth of cotton seeds when using new non-traditional organo-mineral composts in saline soils was studied.

THE METHODS OF THE EXPERIMENT

In the experimental field with saline soil, the variety C-4727 of cotton was planted on April 14 and observations were made on the germination of seedlings by the applied reclamation measures.

It should be noted that in our experiment, organic fertilizers and organo-mineral composts were applied to the soil before planting.

THE RESULTS OF THE EXPERIMENT

According to the results of the experiment, in the control variant, the germination of cotton seedlings was observed on April 22 and averaged 1.5 pieces, and the 100% germination was observed on April 28 and averaged 18.5 seedlings.

In 2-3-4 variants using organic fertilizers, germination of seedlings was observed on April 21-22, and 100% germination was observed on April 27-28, with an average of 19.5-21.0 seedlings.

The optimum effect of the applied organo-mineral composts for germination rate per hectare was observed in the 8th variant with the use of 22 t / ha of organo-mineral compost prepared on the basis of (16 t manure + 3 t glauconitic agro-ore + 3 t licorice waste). The germination of seeds was observed on April 19, while the 100% germination was 23.5 on April 24, which was two to three days earlier than the other variants, and the seedlings were fully germinated.

As a result of organo-mineral composts in the experiment, due to the reduction of harmful salts in the soil plowing layer and the improvement of water-physical properties seed germination is accelerated.

CONCLUSION

In conclusion, it can be said that in the saline soil conditions of the Republic of Karakalpakstan, the use of organo-mineral compost at the rate of 22 t / ha gives good results in order to obtain sufficient cotton seedlings and to harvest a full hectare.



Influence of applied organo-mineral composts on germination of cotton seedlings, piece, 1 p / m.

Variants	20.IV.2021			22.IV.2021			24.IV.2021			26.IV.2021			28.IV.2021		
	1 p.m. intervals		Average	1 p.m. intervals		Average	1 p.m. intervals		Average	1 p.m. intervals		Average	1 p.m. intervals		Average
	1	2		1	2		1	2		1	2		1	2	
1	-	-	-	1	2	1,5	6	9	7,5	11	12	11,5	17	20	18,5
2	-	-	-	3	4	3,5	10	12	11,5	15	16	15,5	19	20	19,5
3	-	-	-	5	4	4,5	14	11	12,5	17	15	16	21	20	20,5
4	-	-	-	4	6	5	12	14	13	17	18	17,5	20	22	21
5	-	-	-	2	6	4	10	16	13	18	22	20	18	22	20
6	-	-	-	4	5	4,5	14	15	14,5	20	21	20,5	20	21	20,5
7	7	4	5,5	12	14	13	17	19	18	21	22	21,5	21	22	21,5
8	5	8	6,5	15	17	16	23	24	23,5	23	24	23,5	23	24	23,5
9	2	5	3,5	5	10	7,5	10	14	12	17	21	19	17	21	19
10	5	4	4,5	10	8	9	14	13	13,5	21	20	20,5	21	20	20,5



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