

INFLUENCE OF PARA-AMINO BENZOIC ACID ON COTTON GERMINATION AND YIELD IN SALINE MEADOW SOILS OF KARAKALPAKSTAN. INFLUENCE OF ORGANIC AND MINERAL FERTILIZERS ON THE YIELD OF WINTER WHEAT VARIETIES

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ABSTRACT

In recent years, in the cotton industry in the Republic and other cotton-growing countries, high efficiency is achieved in the care of cotton using organic active substances. It is known that the cotton plant grows very slowly in the early stages of development, especially 1-2 -3 grows very slowly and delicately during the period of leaf formation, ie during germination.

At the same time, this organic substance accelerates physiological and biochemical processes in the plant, which allows the cotton plant to grow normally. Experiments have shown that this has a positive effect on the acceleration of cotton production and the increase in overall yield.

Keywords: *Flowering, Ripening, Yield, Acid, Germination, Combing, Heat, Biological, Full, Cossack. Organic.*

INTRODUCTION

In the unfavorable weather conditions of recent years, early and full harvesting of seedlings, accelerating the growth and development of plants and obtaining high quality crops, the creation of new modern resource-saving agricultural techniques are urgent issues. One of the modern technologies is the use of growth regulators. Work in this area is not enough yet. It is necessary to intensify research on the development of new organic active substances that do not adversely affect the environment and their effectiveness in various crops, including cotton. High salinity of our soils adversely affects the growth, development and yield of the plant. Under this stress, nutrient uptake, cell division, protein synthesis, and carbohydrate metabolism are impaired. In such saline soils, organic matter is of great importance in ensuring a sufficient seedling thickness to produce a flat layer of seedlings.

MATERIALS AND METHODS:

Taking into account the above, we studied the effect of para-amino benzoic acid on the germination and yield of cotton seedlings in the conditions of saline meadow soils in Turtkul district of the Republic of Karakalpakstan. The work was carried out on the basis of the manual "Methods of conducting field experiments (Tashkent-2007)." The experiments were conducted in 2017-2020 on the farm "Shorahon" in Turtkul district. In the experimental variants, the germination of seeds, the height of the cotton, the elements of the crop, the number of stalks, flowers, pods and root rot, the degree of damage by gammosis were determined.

Para-amino benzoic acid is environmentally friendly and its purity has no harmful effects on nature. We use cottonseeds with powerful chemicals against gammosis and root rot diseases, which affect humans and animals, as well as various living organisms in the soil. Given the deteriorating ecological environment in the country, the growing number of harmful elements for living organisms in the air and soil, it is a modern requirement to obtain high yields of agricultural crops using harmless chemical bioactive substances. In early spring, cotton farms face difficulties in getting full seedlings from the field. Experiments show that before sowing, 0.5 kg of para-amino benzoic acid per ton of seeds is used.

RESULTS AND THEIR ANALYSIS:

This acid is first dissolved in 10 liters of water, the acid is in powder form, it is well dissolved at a temperature of 70-80 C, and the finished mixture is mixed in 500-600 liters of water and a ton of seeds are thrown on it. The seeds are mixed for 12-14 hours. After soaking, the seeds are covered with a film for 2-3 hours and sent to the field ready for sowing. Depending on the soil moisture, mechanical, composition, the seeds are sown at a depth of 5-7 cm with the help of selka. Experiments show that the ability to germinate cotton is observed every 3-5-7-9 days.

The treated seeds germinate completely in 5-6 days, and the seeds prepared without acid are found to be 8-9 or even non-germinated seeds. Para-amino benzoic acid has such an active property that accelerates the germination of seeds. We know that our fields are not uniformly flat, in some places the brine is well washed, in some fields the fields are uneven, the brine is not well washed, so when the seed is treated with seed acid, it is quickly washed away. we managed to get cotton seedlings. Experiments have shown that from the time of cotton germination to the time of cotton flowering, phenological observations are 3-4 cm long and the average number of leaves is 7-9% higher.

In the series of experiments with acid treatment, when the flowering of cotton was observed, it was observed that cotton began to bloom 4-6 days ago. abundance was demonstrated in phenological observations. Experiments have shown that the height of cotton and the average number of pods are 5-7% higher in acid-treated cotton fields. The difference between the ripening of cotton and the opening of the pods 3-4 days before, the weight of cotton in one pod is 0.1-0.3 grams. In cotton fields, the rate of opening or ripening of the pods is faster, and experiments have shown that the average yield per hectare is 4-6 quintals, and in some fields 8-9 quintals per hectare. Significant differences were also found in the length of the cotton seed and fiber.

CONCLUSIONS AND RECOMMENDATIONS:

1. The acid is ecologically harmless to the soil atmosphere and living organisms, and even plays a positive role in the activity of some microorganisms.
2. We observed the germination process of cotton, while acid-treated cotton completed the full.
3. In phenological observations of the growth and development phases of acid-treated cotton, experiments have shown that the length of the stem is up to 10% more than the number of leaves.
4. Cotton in each gin is higher in acid-treated cotton in the range of 0.1-0.3 grams when the weight is determined under laboratory conditions.
5. In cotton fields, the average yield was 5-8 quintals per hectare in high-acid fields.

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