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The effect of different treatments on its seeds and additional feeding in addition to the root in increasing the yield of spring wheat in the Aralsea region.

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Abstract. In the article, in the Republic of Karakalpakstan, especially in the Aral Bay region, in weak and medium salinity areas, resistant to drought and diseases, spring soft wheat seeds with high yield and grain quality are treated before planting, as well as by root or leaf feeding, on the initial biometric indicators of wheat, the development of the root system and productivity. the results of the research carried out within the study of the effect of macro and micro fertilizers are presented.
Key words: Spring soft wheat, drained meadow alluvial soils, salinity level, mineral nutrition, root system, types of macro and microfertilizers, productivity.

Introduction. Wheat is one of the most important grain crops in world agriculture, occupying 17% of the total agricultural land, and about 750 million tons of grain is grown annually. Globally, a total of 240.8 million hectares of wheat are planted, and it is predicted that the demand for wheat grain will increase even more in the coming years.[1].

The drying up of the Aral Sea is causing global problems in the countries of Central Asia, especially in Uzbekistan. Currently, the complex stress factors occurring in the Aral Bay area have a negative impact on people, plants and animals. In addition, the size and main part of the Aral Bay region corresponds to the Republic of Karakalpakstan. This situation has a negative impact on all types of agricultural crops in the region.

The area has long been adapted to the cultivation of many agricultural crops, including grain crops, which are the main source of food for the local population. Including:

The total land area of the Republic of Karakalpakstan is 16,656.1 hectares, of which 509,500 hectares or 3.06% of the total area is irrigated, of which 53,000 hectares are cultivated with wheat. About 75.8 percent of these irrigated areas are of varying degrees of salinity, of which weakly saline lands

30.0 percent, moderately saline lands, 36.9 percent, and strongly saline areas, 8.9 percent.

As part of the solution to the above problems, we have conducted a number of research works. That is, the influence of macro- and micro-fertilizers on root system development and productivity of spring wheat in all phases of spring wheat by pre-sowing treatment, as well as root or leaf feeding on spring soft wheat seeds with high yield and high grain quality, resistant to salt, drought and diseases in the soils of the Aral Bay region, was studied.

Research methods.

Field experiments were carried out by the Southern Agricultural Research Institute within the framework of the project "Selecting varieties of spring wheat that are resistant to complex stress factors (salt, drought, disease) of the island region, with high yield and high grain quality indicators, and development of resource-efficient agrotechnology" in Nukus district of the Republic of Karakalpakstan. was carried out in the fields.

Placement of the experiment and during the experiment, phenological observation, calculations and analyzes were carried out according to the method of (All-Union Plant Science Institute VIR, 1984). Statistical analyzes are carried out based on the method of B.A. Dospekhov (1985). Dispersion analytical work was analyzed using ANOVA (Analysis of Variation) statistical method.

The purpose of the study. Effect of pre-sowing processing, macro and micro fertilizers application

[1] http://www.fao.org/worldfoodsituation/csdb/ru. https://www.fao.org/statistics/ru/

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on spring wheat seeds in all development phases of wheat in conditions of irrigated meadow-alluvial soils in Nukus District, Republic of Karakalpakstan and determining its effectiveness**.**

Research results. The yield of spring wheat depends on the biological characteristics of the variety, climatic conditions, water, light, nutrition regime, predecessors, applied technological methods [1].

Also, the most important thing depends on the fertility properties of the soil of the region. The average thickness of the humus layer in the soils of the region is 55-65 cm, and it is distributed along the profile based on clear patterns. That is, there is a large amount of humus in the upper horizons, and very little in the lower layers. Humus decreases to 1.03-0.403% in plowed and under-plowed soil layers of the region [2].

The experiments were mainly focused on the cultivation of grain crops resistant to salt and drought in the soils of the Aral Sea region, using the Southern Gem of spring wheat.

In the experiments, water-soluble mineral fertilizers were used for each variant in a homogeneous, i.e. N160P105K40, ratio. If we dwell on one of the relevant aspects of the scientific work, wheat seeds were treated before planting, taking into account the soil and climate conditions of the region. For example: option 1 was the control (no fertilizer and seed treatment), while in option 2 the seeds were soaked in water before sowing.

4-5-6 variants wheat seeds were soaked in an aqueous solution of fertilizers rich in trace elements such as Labyrinth Combi, Ento Micro and IFO Aminocal. In option 3, the seeds were encapsulated by coating with bentonite without buckling. Sungra, wheat was foliar fed with water in each phase, with an aqueous solution of Labyrinth Combi, Ento Micro and IFO Aminocal microfertilizers.

Our research has shown its influence on the development of the root system of wheat. In the control variant, the spring wheat root length reached 13.9 to 16.5 cm. Compared to the control variant, it was found that the root length of wheat was 4.9-17.4 cm longer in other variants (Fig. 1).

The highest indicator, i.e., the length of the wheat root of 31.3 cm, was observed in the variant 3, where the bentonite capsule was used. The reason for this is bentonite, experts say that bentonite contains a number of useful nutrients.

Using excess bentonite disrupts the soil structure and compacts it, but the advantage of our experience is that

For 1 hectare of area, the oil content of wheat seed capsulation is at least
10 kg of bentonite powder is enough. This has no effect. As a result of encapsulation, the water requirement of the wheat seed was satisfied. As a result, the seeds germinated earlier. This is of great importance in the soils of the Aral Bay region, which need water and nutrients.

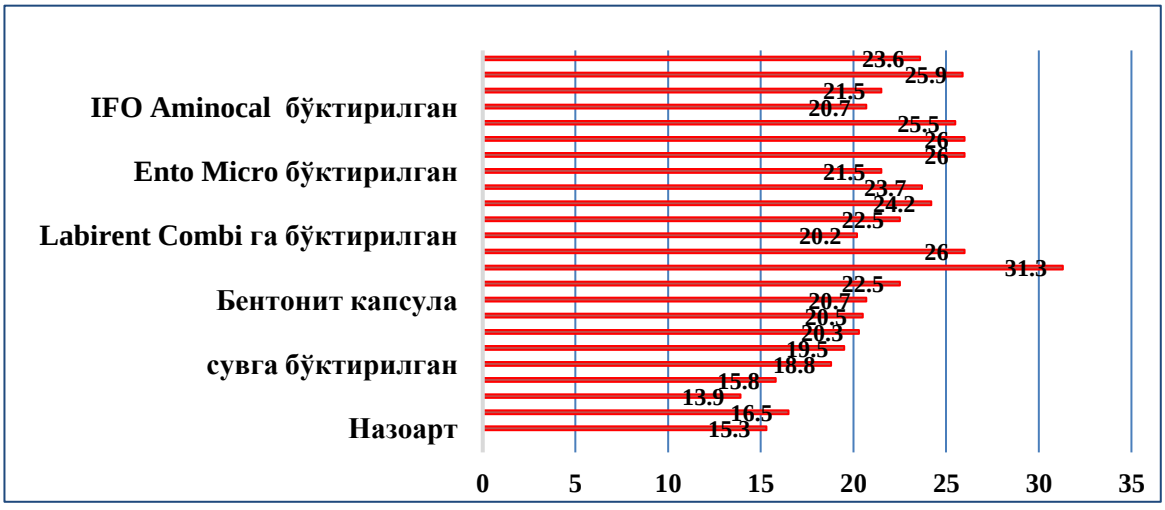

Figure 1. Effect of treatment of wheat seeds and its nutrition through macro and microfertilizers in each phase on root length**.**

Also, the effect of seed treatment, macro- and micro-fertilizers on the length, number of spikes, i.e., tiller till harvest and wheat yield of spring soft wheat cultivar South Gem was determined during the research. According to him, the height of wheat was 65-68 cm in the control variant, 68-73 cm in the variant in which seeds were planted after soaking in water, 69-77 cm in the variant of wheat seed encapsulation with bentonite,

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and 70 cm to 74 cm in the variants planted by soaking the seeds in a mixed microfertilizer solution. Bunnan found that wheat seed encapsulation with bentonite had a better effect on plant height than other options.(Figure 2).

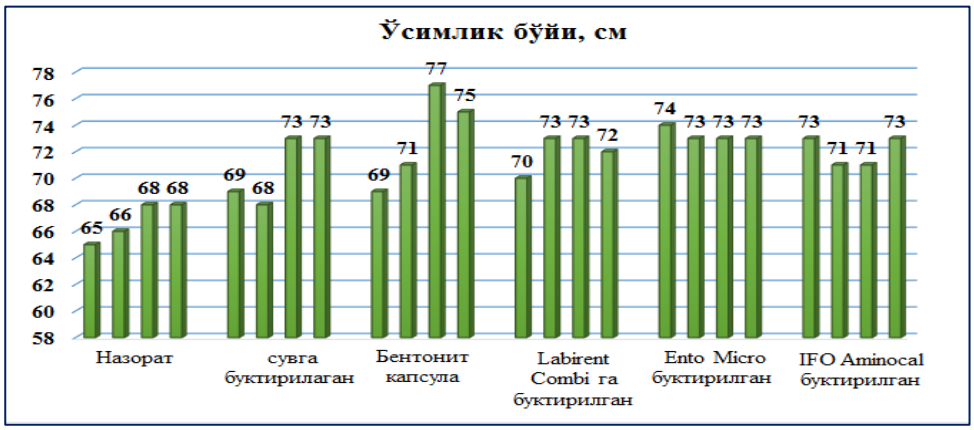

Figure 2. Effects of seed treatment and crop nutrition with macro and micro fertilizers on growth of wheat

In addition, during the phenological observations, we recorded the length of the last joint of wheat, the length of the ear and the number of grains.

In our observations, in wheat, the lowest index of final joint length was observed in the control variant (16 cm), while the highest index was observed in the seeds treated with 3-bentonite capsules and Ento-micro.

In our 5-variants (31 cm) it disappeared. The lowest value of spike length was 5 cm in the control variant, and the highest value was 11 cm in variants 3-5. If we focus on the number of spikes, the minimum indicator

7 units in the control option, the highest was 16 units in the 3rd option.

Wheat productivity is an indicator that changes depending on soil and climate conditions, agrotechnical measures, water, light, heat, nutrition regime, planting time and standards, and biological characteristics of the crop. When we do not apply integrated breeding technologies to the biological characteristics of each agricultural crop, perhaps wheat, we will not be able to achieve the highest, best quality harvest.

During our experiments, we witnessed that the yield of South Gem wheat variety was slightly lower when evaluated.

Because our control variant was planted without fertilizer and without any seed treatment, the yield was very low at 13-15.2 t/ha. In other variants, the yield was higher compared to the control variant due to root and non-root feeding through mineral macro and micro fertilizers. In this case, the lowest yield was 17.9-18.0 t/ha and the highest reached 22.0-23.4 t/ha. The highest yield was 22.0-23.4 t/ha. Our 3rd option, treated with bentonite capsule and treated with Ento-micro microfertilizer solution, 5th option was impossible. The average yield in the total control variant was 14.5 tons/ha, while in other variants the average total yield was 21.2 tons/ha. From this we can see that the yield in the other variants is 6.7 t/ha higher than the control (Figure 3).

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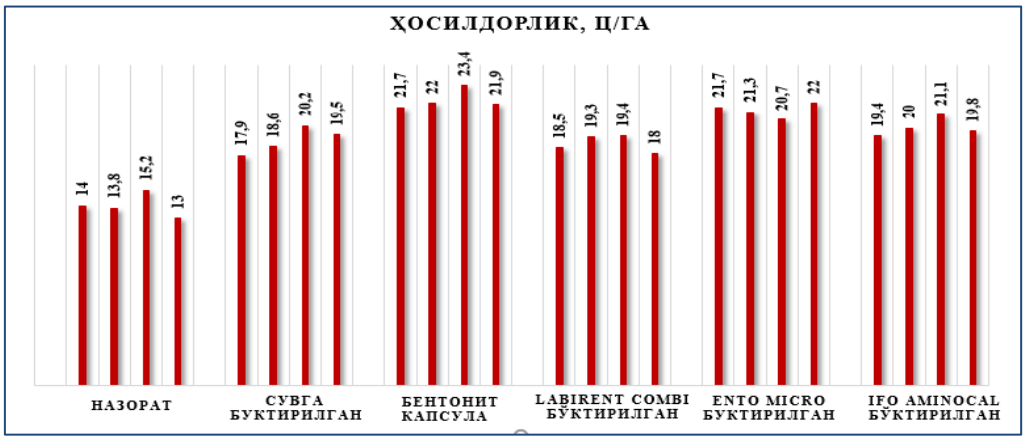

Figure 3. Effect of seed treatment and crop nutrition on wheat yield.

Conclusion.

The aggravation of soil and climate conditions in the Arolboyi region requires the cultivation of agricultural crops resistant to salt and drought, which have become urgent problems in the region. The low yield of wheat in the region was caused by the low amount of rain and very high air temperature in the Arolbay region in recent years.

It can be said that the arrival of climate conditions in this form created favorable conditions for the cultivation of spring soft wheat varieties resistant to drought and heat in the region. We can see from the results of the experiment that the South Gem variety is resistant to the soil and climate conditions of this region. As a final conclusion based on the results of the experiment, we can say that from this wheat variety, treatment of its seeds using bentonite capsules and feeding with non-root fertilizer suspension is a guarantee of high and quality harvest.

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