

EFFECT OF ORGANOMINERAL FERTILIZERS ON SOIL AGROCHEMICAL PROPERTIES

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Abstract. The article provides information on the effect of Ekogum bio, Hydrogumat, Ekosil, Ekogum AF, Ekogum complex, Ekogum FK, Polibor and Immunoact biopreparations on corn yield before planting and during the growing season.

Keywords. Maize, humus, 3-4 and 7-8 leaf formation period, biofertilizer.

In the agriculture of the republic, the cultivation of corn as a repeated crop is very noteworthy. Because this crop is widely used as fodder and poultry feed in the agricultural production of our country. The problem is that corn takes a large amount of nutrients out of the soil to form a blue mass and grain yield, which has a negative effect on its fertility, according to some literature. Based on this, the purpose of the research conducted by us is to determine the effect of organomineral fertilizers such as Ekosil, Ekogum AF, Ekogum complex, Ekogum FK, Polibor and Immunoact on the yield and soil fertility of corn repeatedly planted after winter wheat in the grassland soil conditions of Andijan region. was to determine the effect of using dogs. Several tasks were assigned to the research work, one of which is to determine the effect of organomineral fertilizers on soil fertility, the mobile amounts of nitrogen, phosphorus and potassium in the soil, and the amount of humus.

As an object of research, grassland soils that have been irrigated since ancient times, Estar hybrid varieties of corn, Ekosil VE 50 l/ha, Ekogum AF, Ekogum complex, Ekogum FK, Polybor and Immunoakt organomineral fertilizers, as a research object. and changes in soil agrochemical properties and soil fertility are defined.

Field experiments are conducted in the meadow soil conditions of the experimental field of the "Information Consultancy Center" of the Andijan Institute of Agriculture and Agro-Technology. The soil of the experimental field is

a meadow soil that has been irrigated since ancient times, heavy sand according to its mechanical composition, and the seepage water level is located at a depth of 2.0-2.5 meters.

The results of agrochemical analysis of the soil of the experimental field before the start of the experiment are presented in Table 1.

During the agrochemical analysis of the soil of the field allocated for the experiment, it was found that the humus content of the plowed layer was 1.59%, and it was provided at a high level. In the same layer, the amount of mobile phosphorus is 16.8 mg/kg, and it can be seen that it is poorly provided, and it is provided with exchangeable potassium at an average level (230 mg/kg). In the subsoil layer, the supply of soil with humus, mobile phosphorus and exchangeable potassium is sufficient (humus 1.51%), low (mobile phosphorus 17.6 mg/kg) and low (potassium 200 mg/kg). It was found that it was mounted.

Table 1

Results of agrochemical analysis of the soil of the experimental field before the start of the experiment

Soil pit number	Soil layer, cm	Amount of humus, %	Amount of mobile nutrients, mg/kg	
			P ₂ O ₅	K ₂ O
Average of 3 points	0-30	1,59	16,8	230
	30-50	1,51	17,6	200

The manual "Metody agrokhimicheskikh analizov pochv i rasteniy" (Tashkent, 1983) is used for carrying out agrochemical analyzes of soils.

Studies on the effect of organomineral preparations Ekosil, Ekogum complex, Ekogum FK, Immunoact, Polibor and Ekogum AF on the growth, development, yield and quality of the corn plant are conducted. In particular, organomineral preparations are used in the types, rates and periods specified in the experimental system, and the following phenological observations are made in the corn crop, i.e.

- the germination of corn seeds is determined;
- during the growth periods, the number of leaves, the height of the main stem, the number of pods, the weight of 1 pod, the number of grains in 1 pod and

the weight of grains, the weight of 1000 grains were determined;

- the mobile amounts of nitrogen, phosphorus and potassium in the soil and the amount of humus are determined.

Data on changes in the amount of mobile phosphorus and exchangeable potassium in the soil are presented in Table 3. It should be mentioned that at the end of the vegetation period, the results obtained on the change of mobile phosphorus and exchangeable potassium compared to the beginning show that both elements have decreased. The amount of mobile phosphorus in the driving layer changed the least in control options 1 and 4 compared to the initial one, i.e. 0.8 mg/kg; and 1.0 mg/kg. In the remaining options, it was found that it decreased to 3-3.5 mg/kg. From this, it can be concluded that both drugs applied to the soil have a positive effect on the absorption of mobile phosphorus from the soil within the framework of their effect on the growth and development of the plant. It should also be mentioned that the rapid absorption of mobile phosphorus in the soil is also affected by the preparations used during the growing season of sunflower, but this indicator does not have a significant difference in the variants fed through the leaf or during the growing season. among the types of drugs used (used in all options by type and rate of application), it is reasonable to conclude that some drug has a clear advantage over others in terms of its effect on plant nutrition.

It should be noted that when only mineral fertilizers are applied to the soil, the amount of humus in it does not differ significantly compared to the option where other leaf-fed organomineral fertilizers and preparations are used. it became known that it can be felt in indicators such as quality.

Although the humus content of the soil decreased in all cases in the sections of the options, the highest results in terms of change were observed in options 1 and 5, where biopreparations were not applied to the soil before planting in the tillage layer (1.39; 1.37%, respectively), this is z in turn 0.20 from the initial state; and indicates that it decreased by 0.22%. It can be concluded that it is due to the high yield of corn and the effect of nitrogen fertilizers given to it.

From this, it can be concluded that the use of organomineral fertilizers in the cultivation of corn has a significant positive effect on the preservation of humus in the soil.

Based on the results of 1-year field experiments, we present the following conclusions and recommendations:

- when Ekogum bio is used in soils with a sufficient and high amount of humus, the microorganisms in it have a positive effect on the nutrition of plants through their activity in the soil, compared to the hydrohumate preparation, and mobile nutrients are better absorbed.

- at the same time, it is recommended to use combinations of preparations for foliar feeding of corn. In the 1st feeding, it is recommended to use combinations consisting of ecosil, ecogum AF and polyboron organomineral preparations, and in the 2nd feeding, combinations consisting of ecosil, ecogum complex, ecogum FK and polyboron organomineral preparations.

References

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