



THE EFFECTIVENESS OF THE DRUG "ROKOGUMIN LIQUID" JV LLC "BIO ECO WORLD" (UZBEKISTAN) ON WINTER WHEAT CROPS UNDER IRRIGATED CONDITIONS

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ABSTRACT

This article provides information on the testing of the drug "Rokogumin liquid" JV LLC "Bio Eco World" (Uzbekistan) on winter wheat crops in irrigated conditions of the Andijan region.

Tests of the preparation "Rokogumin Liquid" as a growth stimulator on winter wheat show that when spraying plants at the beginning of the tillering phase, normally 5.0 + 2.5 + 2.5 l / ha accelerates the process of tillering, growth and development of plants, increases productive bushiness, ear productivity, due to which the grain yield increases by 2.2 c / ha and the quality indicators of grain.

KEYWORDS: *preparation, winter wheat, Rokogumin liquid, spraying, yield.*

INTRODUCTION

In recent years, chemical-technogenic intensive technology has become widespread in the agriculture of the Republic, with the help of which significant progress has been achieved in the production of agricultural products. At the same time, the introduction of technogenic-intensive technologies of agricultural crops was accompanied by high labor costs, which are most manifested in the deterioration of the soil condition, i.e. excessive intensification of agricultural production has led to a violation of the laws of nature and agriculture, to the degradation and depletion of natural resources, environmental pollution, and deterioration of the phytosanitary state. Almost everywhere, there is a decrease in humus in the soil, which ultimately leads to a decrease in the natural fertility of the soil and the productivity of agricultural crops, including the productivity and quality of winter wheat grain. Pesticides applied to the soil can change the composition of the soil microflora. The impact of

pesticides on the number and activity of microflora is reflected in the content of mobile forms of nutrients in the soil and its fertility [2].

Restoration of soil fertility with the use of the preparation "Rokogumin Liquid" NPK, humin and folium with acid salt will allow grain-growing farms of the Republic to exit and the economic crisis, which was caused by the excessive application of pesticides, seed disinfectants and mineral fertilizers.

Physiological processes in plants are strongly influenced by external factors - soil composition, weather conditions. One of the most important tasks in this area should be considered the study of soil organic matter, its role in soil processes, in the creation, maintenance and improvement of soil fertility.

Knowledge of the entire set of effects of growth regulators on plants, taking into account all the factors influencing these effects and identified as a result of precise experiments, allows you to fully use the potential of synthetic plant growth regulators.



Therefore, testing of inexpensive and affordable fertilizers with micronutrient supplements is of current importance. Trace elements are vitamins for plants. Their micro-doses can dramatically increase metabolism, synthesis of hormones, enzymes and photosynthesis.

Considering the above, the researchers of the institute set the task to study the biological effectiveness of the new preparation "Rokogumin Liquid" of humic acid JV LLC "BIO Eco World" (Uzbekistan), which stimulates the growth and development of winter wheat. The scientific team of the Research Institute of Grain and Leguminous Crops carried out field tests in the conditions of irrigated lands of the Andijan region in 2019-2020.

The experiment was carried out on crops of winter soft wheat variety Krasnodarskaya-99, zoned in irrigated conditions of the Republic of Uzbekistan since 2008. The variety was created by the Krasnodar Research Institute of Agriculture named after P.P. Lukyanenko. Semi-dwarf cultivar, plant height 75-85 cm, resistant to lodging, early maturing, variety Lutescens. The spike is cylindrical, the spike length and density are average. The grain does not crumble, large, ovoid, red in color. Productivity: when cultivated on an average agricultural background in various soil and climatic conditions, it was 55-70 c / ha. Baking qualities of grain: valuable, 1000 grain weight 44-45 g, grain nature 790-815 g / l.

Experience scheme:

1. Control - without treatment
2. Gummimax - 0.5 l / t + 300 + 300 ml / ha
3. Rokogumin Liquid - 5.0 l / t + 2.5 + 2.5 l / ha

Experiments on the study of the biological effectiveness of the drug "Rokogumin Liquid" were carried out in the experimental production farm of the Institute "Istiklol", Izboskan district, Andijan region. The main direction of the economy is grain growing.

The first treatment with the drug was used before sowing, treatment with 1 l / t of seeds and 2 times during the growing season. The first treatment was applied on March 17 in the tillering phase, the second treatment on April 10 in the booting phase (2020).

In the plot experiment, spraying was carried out using a knapsack sprayer "AGROMONDO" (Italy) with a slotted tip. A boom sprayer "ISO" (Austria) was used in production conditions. Continuous spraying of crops was carried out in the first half of the day at an air temperature of 22-24 degrees. With a single treatment, the consumption rate of the working fluid is 200 l / ha. During processing, the wind speed did not exceed 5 m / s.

Mineral fertilizers were applied before plowing the soil at the rate of phosphorus — 100 kg / ha and potassium — 60 kg / ha of active agent. Plowing

was carried out in early September with the Albatros PYa-5–35 reversible plow to a depth of 27–30 cm. Sowing of wheat seeds was carried out on November 8, 2019, using a CH-16 selection grain seeder to a depth of 3-4 cm. Seeding rate of seeds 200 kg / ha. Full seedlings received on November 1-3.

Mineral fertilization of crops with ammonium nitrate was carried out in three periods at the rate of 180 kg / ha of active agent. or 620 kg / ha of physical weight. At the beginning of March, in the tillering phase, crops were applied at the rate of 25% of the annual rate, i.e. 150 kg / ha, in the booting phase 50% of the annual rate of 320 kg / ha and in the heading phase 25% of the annual rate of 150 kg / ha.

Before harvesting, according to the variants of the experiment, we collected 25 bushes from each variant, sheaf samples for laboratory biometric analyzes and determined: plant height, bushiness, spike length, the number of spikelets and the number of grains in one spikelet, as well as the weight of 1000 grains. Wheat grain was harvested from the entire area of the experimental plot when the grain was fully ripe. Each replication was harvested separately using a Klass grain harvester made in Germany [1].

According to the results of the studies conducted, in general, the presence of a stimulating effect of the drug on the growth and development of plants was confirmed. According to the results of phenological observations, in comparison with the control variant in the experimental and reference variants in the tillering phase, an increase in bushiness was observed, the booting phase began 3 days earlier, heading 3 days earlier, flowering began 2 days earlier, the total ripeness phase accelerated by 2 days (Table . No. 1.).

The effect of the drug on biometric indicators was also positive compared with the control option (Table No. 2.). Grain yield based on each hectare of area compared with the control variant was an increase in the variant used the drug "Rokogumin Liquid" 5.0 + 2.5 + 2.5 l / ha 2.2 c / ha, in the reference variant, where Humimax yield increase was 1.8 c / ha higher than the control variant.

It should be especially noted that the effect of the preparation on grain quality (Table No. 4.) was positive compared to the control variant without treatment, the grain nature indicator was 20 g / l higher, wet gluten by 2.5%, vitreousness by 9%, and the indicators of the IDK and the Group were the same.

Annual tests of the preparation "Rokogumin Liquid" as a growth stimulator on wheat shows that when spraying wheat plants at the beginning of the tillering phase, at a rate of 2.5 l / ha, it accelerates the process of tillering, plant growth and development, increases productive tillering, productivity of an ear, for due to which the grain yield increases by 2.2 c / ha. Of course, this is the result of one-year research,



preliminary conclusions, "Rokogumin Liquid" for wheat is a good growth stimulant.

Table 1.
Influence of the preparation Rokogumin Liquid on the phases of development of winter wheat.

№	Consumption rate,	sowing	seedlings	Tillering	Booting phase	Earing	Blooming	Maturation		
								Milkye	Wax	Full
1	Control	20.10.2019	30.10.2019	30.11.2019	21.03.2020	25.04.2020	30.04.2020	11.05.2020	25.05.2020	09.06.2020
2	(Humimax etolon) 0.5 l / t + 300 + 300 ml / ha	20.10.2019	28.10.2019	28.11.2019	19.03.2020	23.04.2020	28.04.2020	09.05.2020	22.05.2020	07.06.2020
3	Rokogumin Liquid 5.0 + 2.5 + 2.5 l / ha	20.10.1920	28.10.1920	27.11.1920	18.03.2020	22.04.2020	28.04.2020	09.05.2020	22.05.2020	07.06.2020

Table 2.
The effect of drugs on biometric indicators of winter wheat

№	Experience options	Number of plants на 1m ² , шт.	Plant height, cm	Ear length, cm	The amount of grain in one ear, pcs.	Weight 1000 pcs. seeds, gr.	Grain yield, c / ha
1	Control	368,9	82,5	8,2	30,5	40,2	65,2
2	Humimax (etolon) 0.5 l / t + 300 + 300 ml / ha	370,5	84,7	8,3	31,0	41,0	67,0
3	Rokogumin Liquid 5.0 + 2.5 + 2.5 l / ha	370,0	84,5	8,3	31,2	41,3	67,4

Note: Experimental plots were processed in the tillering and booting phase.

Table 3.
The effect of the drug on the grain yield of winter wheat.

№	Experiment options	Repetitions, c / ha				Average, c / ha	Increase, +/-
		I	II	III	IV		
1	Control	64,7	65,6	65,0	65,5	65,2	-
2	Humimax (etolon) 0.5 l / t + 300 + 300 ml / ha	66,9	67,3	66,7	67,1	67,0	1,8
3	Rokogumin Liquid 5.0 + 2.5 + 2.5 l / ha	67,3	68,1	68,1	65,3	67,4	2,2



Table № 4.
The effect of the drug on the quality of wheat grain

№	Experiment options	Grain nature g / l	Amount of gluten, %	Vitreousness, %	IDK indicator	Group
1	Control	810	27,0	72	115	III
2	Humimax (etolon) 0,5 l/t+300+300 ml/ha	820	27,7	81	85	II
3	Rokogumin Liquid 5.0 + 2.5 + 2.5 l / ha	830	29,5	81	85	II

CONCLUSION

1. Tests of plot experiments, plant growth stimulator "Rokogumin Liquid" conducted by the method of double spraying in the phase of wheat development, tillering and booting at rates of 2.5 + 2.5 l / ha, each period of treatment stimulated the formation of productive stems and, as a result, an increase in the mass of 1000 grains.

2. Tests of the preparation "Rokogumin Liquid" as a growth stimulator on winter wheat shows that when spraying plants at the beginning of the tillering phase, at a rate of 5.0 + 2.5 + 2.5 l / ha, it accelerates the process of tillering, growth and

development of plants, the productive bushiness, the productivity of the ear increases, due to which the grain yield increases by 2.2 c / ha and the quality indicators of grain. Of course, this is the result of one-year tests, preliminary conclusions, "Rokogumin Liquid" for wheat is a good growth stimulant.

REFERENCES

1. *Dospekhov B.A. "Methodology of field experiments" Moscow 1985, 12-30 p.*
2. *Nurmatov Sh. - Phosphate fertilizers. / Journal Agriculture of Uzbekistan. No. 5 2018 9 p.*