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To Determine the Effectiveness of The Chemical Preparation "Cyotin 25%, Em.K." against the Harmful Organism Eurygaster Integriceps in Winter Wheat

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Abstract: With the rapid growth of the world population, the need for food is increasing, and this requires the use of resource-efficient methods of agricultural production and the development of innovative technologies. In Uzbekistan, as in the rest of the world, the most important crop grown to meet the needs of the population is wheat. The main pests that cause the most damage to crops include the pest mosquito, the leopard, the thrips, the peacock moth, the Swedish fly, the gessen fly, and others. This article discusses the use of Cyotin 25%, one of the most dangerous pests of the wheat plant, which is very important for agriculture around the world, the criteria for its use, its test results and the biological effectiveness of the preparation.

Keywords: Wheat, insecticide, Eurygaster integriceps Put., bio-efficiency, wheat seed.

INTRODUCTION: As we know, pest control is one of the key factors in obtaining a high-quality and abundant crop today. According to the UN Food and Agriculture Organization (FAO), 30-35% of agricultural and food products are lost annually due to various pests, diseases and weeds. The climate of the republic is continental. In addition, in most cases, warmer winters allow pests to overwinter with little or no damage, and sometimes 10 to 15 days of early spring can help plants wake up earlier and allow pests to emerge at the same rate.

In recent years, due to the global climate change, environmental changes are also occurring in our region, namely, the winter season is relatively warm in our country. It should be noted that such negative environmental conditions are very favorable conditions for the development and spread of some pests, especially crop pests. Wheat is a strategic and important food crop in our country, which ensures the sustainable development of our national economy. By 2024, more than 1 million hectares of land will be covered with grain, and more than 9 million tons of wheat will be harvested. In order to achieve this milestone, it will be necessary to continue to study and develop control measures for Eurygaster integriceps, one of the most dangerous pests of wheat.

One of the most voracious pests of wheat is the plant-eating Eurygaster integriceps of the order Hemiptera, family Scutelleridae, which feeds primarily on wheat and barley pods and the head of

a buckwheat, resulting in reduced yields. A late damage to the wheat by the chaff can result in a decrease in the grain's puffiness and white matter, which can result in poor quality bread made from such wheat. A widespread outbreak of smallpox in wheat fields causes great economic damage.[2]

The height of the pest is 10-12 mm, the color of the body is yellow or gray with a secret marble pattern. When the pest is mature, it overwinters under the remains of rocks or vegetation. In March and April, the plant leaves the village and covers the fields. Eurygaster integriceps lays eggs on either side of a leaf on cereal plants. A single female will lay 100 to 180 and even 300 eggs. Eurygaster integriceps develops by reproducing once a year. There are several species of hawthorn in nature, of which Telenomus chloropus is the most important.[4]

Agrotechnical measures play a special role in the fight against the pest Eurygaster integriceps. This includes, first of all, plowing the fields infested with Eurygaster integriceps immediately after harvest. Through this measure, spilled grain, which could be additional food for Eurygaster integriceps, is buried in the ground, depriving the pest of additional food.[5]

Choosing early maturing and resistant varieties is a very effective way to combat Eurygaster integriceps. This is because when early maturing varieties are planted, Eurygaster integriceps does not have time to fully develop. As a result, the crop is preserved, while preventing the next generation of pests from multiplying.[6]

Among the most aggressive pests of wheat, Eurygaster integriceps ranks high in terms of damage, despite the sufficiently thorough study of this pest and the development of measures to combat it, which require constant improvement.[8]

METHODOLOGY: Cyotin 25%, i.e. 0.25 l/g, is a complex insecticide and is recommended for testing against Eurygaster integriceps, a pest of cereal crops. Tests were conducted on irrigated agricultural land in the pilot field of the Branch in Bagdad district of the Farghand region. Experiments were conducted on an area of 0.5 hectares of each replication using a handheld device with 300 l / h of working fluid. The experiments were conducted between 8 and 10 a.m., when the air temperature was below 300°C and the wind speed was 1 m/s.

Experience system

№	Variants	Consumption rate l/ha
1.	Cyotin 25%, em.k.	0,25
3.	Cyperain Full 25% ,em.k.	0,5
4.	Control	Not processed

The experiments were conducted according to the existing methodology (Methodological instructions, 2004) and the calculation of biological efficiency was carried out using the Abbott formula (Abbot, 1925).

RESULTS: On May 24, 2024, a test of the Cyotin 25% em.k. preparation against the pest Eurygaster integriceps was conducted on wheat, and the biological effectiveness of the preparation was fully calculated on days 3, 7, 14, and 21 after the test. The results of the biological effectiveness of the Cyotin 25% em.k. preparation against the pest Eurygaster integriceps at a consumption rate of 0.25 l/ha are presented in the table. In the variants where the Cyotin 25% em.k. preparation was used against the harmful plant at a rate of 0.25 l/ha, the biological effectiveness after treatment was 86.7% on day 7, 95.5% on day 14, and 73.3% on day 21.

The biological efficiency after treatment with the standard variant Cyperain Full 25% - 0.5 l/ha was 83.7% on day 7, 90.7% on day 14, and 67.4% on day 21. Thus, the results obtained show that

the drug Cyotin 25% em.k. is recommended as an optimal consumption rate for production against Eurygaster integriceps in wheat at a consumption rate of 0.25 l/ha.

Biological effectiveness of the insecticide Cyotin 25%, e.m.k. against harmful insects in grain.

№	Variants	Consumption rate of the drug, l/ha	Number of pests per 1m^2 (piece)					Efficiency, %, days			
			Before processing	Days after processing							
				3	7	14	21	3	7	14	21
1.	Cyotin 25%, em.k.	0,25	4,5	1,0	0,6	0,2	1,2	77,8	86,7	95,5	73,3
2.	Cyperain Full 25% em.k. (andoza)	0,5	4,3	1,1	0,7	0,4	1,4	74,4	83,7	90,7	67,4
3.	Control	-	4,4	4,4	5,2	6,3	6,8	-	-	-	-

In these agrotoxicology studies, we have set the main goal of finding the most acceptable minimum rates of drug consumption and creating the most effective ways of their use, that is, the duration and methods. In addition, in order to recommend the use of chemical preparations, the biological effectiveness of the tested chemical preparation must be above 95 percent.

DISCUSSION AND CONCLUSION: The main goal of using this chemical is to achieve maximum control of the pest Eurygaster integriceps without affecting the growth and development of the cotton plant during the growing season. This is of great importance in the early stages of plant development, when the pest is significantly ahead of it and can delay its development.

The first signs of the effect of Cyotin 25% em.k. are observed 7, 14, 21 days after treatment with the harmful organism Eurygaster integriceps. The pests settle on the back of the leaf and suck out plant nutrients through the leaf veins, weakening the plant, and the color of the leaves becomes red-yellow.

The results of the observation are presented in the table. They show that at the consumption level of Cyotin 25%, it effectively affects mainly the growth points of the harmful organism of cotton Eurygaster integriceps and reduces their number to an almost imperceptible level. This can also be seen in the calculations carried out 14 days after the insecticide was applied to cotton crops.

The biological effectiveness of Cyotin 25% em.k. insecticide, in the experiment, shows an average of 3 calculations. The table also shows the effect of Cyotin 25% em.k. insecticide, Cyotin 25% insecticide, 0.25 l / ha has a good effect against the pest Eurygaster integriceps, but It should be noted that the Cyotin 25% em.k. preparation, at the tested consumption rates of 0.25 l / ha against the harmful organism Eurygaster integriceps, should be included in the "List of permitted drugs in the Republic of Uzbekistan".

Based on the results of the experiment, the following conclusions can be drawn for production: In the conditions of the Fergana region, in our variants of the insecticide “Cyotin 25% em.k. against the harmful organism Eurygaster integriceps, which causes severe damage in cotton fields, at a consumption rate of 0.25 l / ha, a biological efficiency of 95.2-97.6 percent was achieved. Based on the experimental results, we can conclude that in our variants of the drug Cyotin 25% em.k. used at a consumption rate of 0.25 l / ha, a high biological efficiency was achieved against the harmful organism Eurygaster integriceps in grain fields, therefore, we recommend using this

chemical preparation at the proposed consumption rates in fields affected by the spider mite of grain plants.

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