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Elimination Of Economic Damage from Eurygaster Integriceps

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Abstract: In our studies conducted in the wheat fields of Tashkent and Syrdarya regions, in the fight against the pest Euregaster integriceps Killer Super 20% em.k. on average 84.2-88.9% and 89.3-92.0% at 0.05-0.07 liter, Killer Neo 10% em. k. At a flow rate of 0.1 liters, an average of 84.3-85.7% and Imidocloprid 35% em. k. When consuming 0.1 liters, the insecticide showed an increased activity of 92.5-95.7%.

Keywords: Steam doi, pest, dragger, Euregaster integriceps, drug, insecticide, biological efficacy.

Introduction: Food security is one of the most pressing challenges facing countries in the world. As a result of measures taken in recent years to develop the food industry in the republic, attract investment funds to the industry and support export activities, the volume of food production exceeded 6.1 million US dollars, and their annual exports exceeded 510 million US dollars, the share of the food industry increased from 14 percent to 16.6 percent [1;5].

Wheat is the main food of more than half of the world's population (Liu et al., 2023). Wheat production is produced in the world on an area of about 219 million hectares and in 2020 amounted to 770 million tons [15].

In order to obtain a higher yield of wheat, it is important not only to take care of it in accordance with high agrotechnical rules, but also to study in depth the degree of harm caused by various pests that harm plants and their crops, and to carry out effective drying measures against them in a timely manner [7].

The use of organophosphorus and synthetic pyrethroid insecticides helped to reduce the number of pests [10]. In Russia, the harm caused to the pest by steam ranges from 12% to 18-35%, depending on soil and climatic conditions, but in some cases it can reach 40-73.4% [11].

More than 20 types of pests that harm the wheat crop have been identified, among which the harm from the Euregaster integriceps bite is high. The presence of 2-4% pest and pest infested grain automatically reduces the batch of wheat grain to class 3 quality level and renders 5-7% of the grain unfit for consumption. In addition, significantly reduces the cost of grain exported abroad [8;12].

Each year, more than 15 million hectares of land could be affected by eregaster integriceps. Damage usually leads to a loss of 20-30% of the barley crop and 50-90% of the wheat crop. This significantly reduces the quality of food preparation as a result of reduced gluten content in the grain as a result of exposure to the pest [14].

With the density of larvae and adults of the new generation Euregaster integriceps per 1 m2 equal to 10 samples, the degree of grain damage reached 7%, with a controlled sample of 3-38.7 per 1 m2, from 0.5% to 9.7%; In this case, the yield can be from 60-380 kg to 1531 kg [6;17].

This harmful vapor damages leaves, stems and grains. Failure to control will contaminate most of the crop and reduce klekavina and grain permeability [16].

The brief shows that "doubt and harm are essential and systemic measures are needed to tackle them. Therefore, we are faced with the task of "finding and selecting new promising remedies against wheat pests."

Research Materials and Methods

In 2025, one of the main pests of grain crops is the chemical against the pest Euregaster integriceps (per 1 hectare Killer Super 20% em.k. 0.05-0.07 L; Killer Neo 10% k.e. 0.1 L; Imidocloprid 35% k.e. 0.1 liters; Insekto Super 28% к.э. 0.1 liters), experimental tests of drugs were carried out on 10 hectares of the Research Institute of Grain and Legumes, located in the Tashkent region, and on 13.4 hectares of the Elyor'ogly Asilbek farm, located in the Khavast district of the Syrdarya region.

Calculation of the time of occurrence, population of pests was carried out in accordance with the generally accepted methods of Osmolovsky G.E., Bondarenko N.V., (1978), Voronin et al., (1988), Golba et al., (1980), Tansky et al., (2002) [2;3;4;13;18]. To determine the presence of harmful fields of wheat Euregaster integriceps in farms, 20 samples of 0.25 m ² (50x50 cm) were taken, the number of pests was calculated. Euregaster integriceps was experimented on wheat grain. This was done when 8-10 larvae of a new generation appeared per 1 m2 of field.

Experience organized options for experience, standards, and control. Each option was implemented 3 times. The number of pests was taken into account at 3, 7, 14 and 21 days after treatment. The effectiveness of the drug is determined compared to the control option. Field tests using Khojaev Sh. T. (2004) guidelines [9], the efficacy of chemical preparations was calculated by the formula of Henderson and Tilton (1955) [19].

Results and Discussion

When used against the pest Euregaster integriceps on a field of winter wheat with an area of 10 hectares of the "Research Institute of Grain and Legumes," located in the Tashkent region, Killer Super 20% em.k. When testing for 0.05-0.07 liters of expenditure criteria, the increased biological efficiency on day 7 was 84.2-89.3%, Killer Neo - 10%. With a consumption of 0.1 liters, this figure on day 7 is 84.3%, Imidocloprid - 35%. At a flow rate of 0.1 liters on day 7, 92.5%, for comparison, Insekto Super 28% k.e. was obtained. At a flow rate of 0.1 liters, day 7 was 87.8%. Initially, in the control version, it was found that by day 21, the average 2.3 grains increased by 6.0 pieces of 3.7 grain pests (Table 1).

When applied against the pest Euregaster integriceps on 13.4 hectares of the farm "Eleur li Asylbek," located in the Khavast district of the Syrdarya region, Killer Super 20% em.k. When conducting test experiments on 0.05-0.07 liters of consumption on the 7th day 84.2-89.3%, Killer Neo 10% em.k. At a flow rate of 0.1 liters, this figure is 84.3%, Imidocloprid - 35%. At a flow rate of 0.1 liters - 95.7%, for comparison - Insekto Super 28%. The high level of biological efficacy was 92.3% at a flow rate of 0.1 liters. Initially, 2.1 pests were identified in the control variant and 5.6 were identified by day 21 (Table 2).

Conclusion and Recommendations

In the Tashkent and Syrdarya regions of the republic in the fight against the pest Euregaster integriceps on the wheat crop Killer Super 20% em.k. 0.05-0.07 liters, Killer Neo 10% c.e. 0.1 liter and Imidocloprid 35% i.c. High insecticidal activity was observed when used at a flow rate of 0.1 liter. We consider these drugs to be an

effective chemical defense against the Euregaster integriceps pest.

Table 1

Biological efficacy of chemical preparations against the pest Euregaster integriceps

№	Parameters	Pharmaceutical ingredient	Application rate (liters, kg/per hectare)	Number of *Eurygaster integriceps* per 1 m² (individuals)					Biological efficacy by days, (%)			
				Number of pests before treatment	Days after treatment							
					3	7	14	21	3	7	14	21
1.	Киллер Супер 20% эм.к.	*Lambda-cyhalothrin*	0,05	2,6	0,8	0,5	0,7	2,0	71,7	84,2	81,7	70,5
			0,07	2,3	0,6	0,3	0,5	1,4	76,0	89,3	85,3	76,6
2.	Киллер Нео 10% эм.к.	*Lambda-cyhalothrin*	0,1	2,1	0,6	0,4	0,6	1,6	73,7	84,3	80,6	70,7
3.	Имидоклоприд 35% эм.к.	*Imidaclo prid*	0,1	2,2	0,4	0,2	0,4	1,3	83,2	92,5	87,7	77,3
4.	Инсекто Супер 28% эм.к. (Sample)	*Imidoclo prid+ L. cyhalothrin*	0,1	2,7	0,6	0,4	0,6	1,8	79,5	87,8	84,9	74,4
5.	Control	-	-	2,3	2,5	2,8	3,4	6,0	-	-	-	-

Table 2

Biological efficacy of chemical preparations against the pest Euregaster integriceps

№	Parameters	Pharmaceutical ingredient	Application rate (liters, kg/per hectare)	Number of *Eurygaster integriceps* per 1 m² (individuals)					Biological efficacy by days, (%)			
				Number of pests before treatment	Days after treatment							
					3	7	14	21	3	7	14	21
1.	Киллер Супер 20% эм.к.	*Lambda-cyhalothrin*	0,05	2,2	0,6	0,3	0,5	1,6	74,0	88,9	84,1	72,6
			0,07	2,0	0,5	0,2	0,4	1,3	76,1	92,0	86,0	75,6
2.	Киллер Нео 10% эм.к.	*Lambda-cyhalothrin*	0,1	1,7	0,5	0,3	0,5	1,4	72,0	85,7	80,3	69,1
3.	Имидоклоприд 35% эм.к.	*Imidaclop rid*	0,1	1,9	0,4	0,1	0,3	1,1	80,0	95,7	88,9	78,3
4.	Инсекто Супер 28% эм.к. (Sample)	*Imidoclop rid+ L. cyhalothrin*	0,1	2,3	0,6	0,2	0,4	1,5	75,1	92,3	87,8	75,4
5.	Control	-	-	2,1	2,2	2,6	3,0	5,6	-	-	-	-

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