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New and modern methods of combating grain pests

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Abstract
The scientific article examines the species composition, bioecological characteristics of the dominant species, habitat, harmfulness, as well as the species composition and importance of natural weeds in the development of measures to protect grain crops.
The results obtained were analyzed and effective chemicals and measures were introduced to combat harmful pest species.
Key words
Eurygaster integriceps Put, Eurygaster maura L, Aelia acuminata F, Dolyciris penicillatus Horv, cereal crops, wheat

Although grain-growing farms in Uzbekistan have planted winter wheat on more than 1 million hectares and produced 8.1 million tons of crops, 25-30 percent of the harvest from some grain fields is being lost due to the effects of harmful organisms (weed pests, aphids, wheat thrips, mealybugs, etc.).
The agriculture-related item of Goal 30 of the New Uzbekistan Development Strategy of the Republic of Uzbekistan for 2022-2026 sets as a priority the goal of "increasing the income of peasants and farmers by at least 2 times through intensive scientific development of agriculture, and bringing the annual growth rate of agriculture to at least 5 percent."
In this context, developing measures to combat dangerous pests in order to improve the product quality of grain crops is one of the urgent tasks of today. Based on this situation, the staff of the Khorezm branch of the Scientific Research Institute of Plant Quarantine and Protection under the Agency for Plant Quarantine and Protection of Uzbekistan conducted experiments on the use of new and modern methods of combating pests belonging to the family of aphids, which are one of the main pests of grain crops. The main goal of scientific research is to scientifically substantiate the species composition of pests belonging to the family of candals, the bioecological characteristics of dominant species, their range, damage, and the species composition and importance of natural pests in the development of measures for the protection of grain crops.
In order to achieve the specified goal, the species composition, dominant species, distribution, species composition of harmful weeds distributed in grain crops, determination of the species composition of natural pests, the degree of damage and bioecological characteristics and the importance of natural pests in reducing the amount of harmful pests, determining the biological effectiveness of protective measures against harmful pests and satellite pests, developing and implementing countermeasures, and assessing the economic and economic efficiency of the measures used to protect against pests received.
As a result of many years of scientific research and field experiments, there are 4 types of harmful eurygasters observed in domestic and foreign varieties of winter wheat: Eurygaster integriceps Put., Eurygaster maura L., Aelia acuminata F., Dolyciris penicillatus Horv.
Also, among the Eurygaster species distributed in the fields of cereal crops, Eurygaster integriceps Put. was found to occur in 88.8% of cases and was noted as the dominant species. It was found that when there were an average of 2-3 Eurygaster per 1 square metre during the wheat accumulation phase, the yield decreased by 39.4-42.4%.
The range, bioecological characteristics, incidence in grain crops, and damage to wheat of Eurygaster integriceps Put. were studied, and it was found that in the climatic conditions of Uzbekistan, one generation develops, 8.2-13.1% of Eurygaster integriceps Put. naturally dies during wintering in the fall and 14.1-28.2% in the spring, and that Eurygaster integriceps Put. that went to winter was infected with natural pathogens on average 19.5-20.5% in the fall (late November) and 30.0-35.5% in early spring (March).
It was found that the oviparous pest Telenomus, which parasitizes the eggs of Eurygaster integriceps Put., multiplies during the active egg-laying period and naturally infects up to 20-23%.
During scientific research, coordinated control measures were developed based on data collected on the

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bioecological characteristics of Eurygaster integriceps Put., its occurrence in grain crops, and the level of damage to wheat.

According to this, against harmful insects in winter wheat crop: V-gunsiyo super, 20% em.k. - 0.075 l/ha; Heben effect, 15% em.k. - 0.5 l/ha; Super-Power 25% em.k. - 0.25 l/ha; Yespada, 35% sus.k. - 0.25 l/ha; Comprador, 35% em.k. - 0.075 l/ha; Chlorpyrivite Agro, 55% em.k. - 0.5 l/ha; Neocloprid, 35% sus.k. - 0.07 l/ha; Imidagold, 35% em.c. – 0.1-0.2 l/ha; Urell D, 55% em.k. - When applied at a rate of 0.5 l/ha, biological efficiency of 82.8-97.2% was achieved.

As a result of measures to protect the wheat crop from harmful pests, the additional yield saved per hectare amounted to an average of 3.5-5.8 seteners.

Finally, the timely implementation of protection measures, the justification of every 1 soum spent was 4.6-8.2 times, and the profitability level was equal to 457.5-818.8%.

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