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THE IMPORTANCE OF BIOLOGICAL PROTECTION IN COOPERATED FIGHT AGAINST PLANT PESTS

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Abstract:

The country is moving forward with effective and environmentally friendly pest control methods and techniques in restoring crop yields. To this end, great importance is attached to the use of biological methods against pests in agriculture. Entomophagous densities need to ensure that the size of the pest is kept unnoticed by the plants. The general occurrence of pest species in gardens depends on the level of efficiency of entomophagous and acariphagous, so it is necessary to look for ways to attract entomophagous from natural conditions.

Keywords: pest, entomophag, acariphage, parasite, predator, biological protection, pheromone, attractant, repellent, biofactory, biolaboratory, quantity density.

Biological protection plays a key role in the coordinated fight against plant pests. The biological method means the use of natural pesticides and their vital products against these pests. Natural cousins include wild and parasitic insects, canals, nematodes, vertebrates - frogs, fish, snakes, birds, entomophagous, bacteria, fungi and viruses from microorganisms. Vital products include pheromones, attractants, repellents. There are several ways to use natural insecticides in biological control of pests:

The first method. Adapting an effective entomophagous to a new area that has not previously spread. This method is called entomophagous introduction and acclimatization. This method is also widely used in Uzbekistan. For example, the parasite *Psefdofikus malinus*, introduced in 1947 against the comstock worm, which causes great damage to mulberry trees, and the parasite *Afeleinius mali,* imported from subtropical regions, have good results against the blood sap that damages apple trees.

The second method. This involves artificially propagating entomophages under laboratory conditions and using them against pests of agricultural crops. At present, there are more than 800 biolaboratories in the country, which reproduce trichogramma and poachers from beneficial parasitic insects used in the fight against autumn moths and tapeworms, which cause damage to cotton and other agricultural crops. The golden entomophagy, a predatory insect used against sucking pests, is multiplied.

The third method. It consists of keeping entomophages in their natural state and creating conditions for their reproduction. The use of natural entomophages gives good results in avoiding strong toxic chemicals. In order to create conditions for their reproduction, it is necessary to plant nectar-rich plants between crops. Currently, parasites and wild insects are attracted to arable lands by planting hantal, seed carrots, onions, garlic, dill among trees and vegetable crops, as nectar is an additional food for insects. Among the many insects, there are not only harmful but also beneficial species that feed on or paralyze harmful insects without feeding on plants, which humans can use to combat pests. As a result of the activity of such insects, the yield of agricultural crops increases. When arranging a garden, gardeners try to plant varieties that are resistant to various diseases and pests, adapted to certain conditions. Planting varieties that are adapted to development in another environment will result in their multiplication and extinction. The import of seedlings that have not been tested in various ways leads to the spread of dangerous pests and diseases. Planting seedlings that have not been tested will result in viral and bacterial diseases, shingles, pseudobulbs, nematodes, along with the American white butterfly, eastern nightshade, and quarantine pests.

Evening varieties of more seed varieties than garden crops are more susceptible. For this reason, it is advisable to mix grainy seedlings among such young seedlings. High-quality harvesting leads to a reduction in the number of apple pests, cherry flies, fruit rot and other pest species and diseases. Entomophobes can be divided into two groups: predatory and parasitic species. Predatory species feed on prey and cause the pest to die in a short time. Often (but not always) the prey is larger than a small prey. Predatory species include beetles, beetles, tortoises, flies, beshikterbatars, thrips, many spiders and canes. The parasitic species, on the other hand, feeds on its host for a long time and then destroys its little prey. The parasite species is a large number of small-winged insects. He called them egg parasites because the parasites laid their little eggs on the eggs of other insects. Harmful insects and herbaceous canals could multiply in large numbers, but in nature they also have natural enemies. Predatory and parasitic insects can lag behind in the development of pest species, losing a certain amount, but can not protect the plant from fiber damage. Sometimes the quantitative density of the pest species increases and partially alters the feeding conditions. Only in some cases do beneficial insects destroy some species of pests. This condition occurs when the parasitic young predator lives at the expense of only one species of pest. In particular, Afelinus imported from Italy is successfully using Rhodolia in the protection of apple red blood cell, lemon and other plants from chervets worms, which are considered a dangerous pest in the southern regions. In the control of the quantitative density of apple orchards, the possibility of using the ovarian trichogramma, its parasite Prospoltella in the fight against the California shield, which can lose up to 80% of the shield. With the help of this beneficial insect, horticulture in the Southern Hemisphere has been successfully controlled against California cannabis.

Coccinella septempunctata L. There are more than 4 species in Uzbekistan. The small beetle is 6-8mm long, with 7 black round spots on the red tip of the stems. The beetles fly to the areas where the aira colony colonies exist with parental precision and consume the airacs greedily. During this period, the beetles lay shiny eggs on the leaves and young twigs. From the eggs emerge long six-legged, open-lived, various larvae with feathers on their bodies, feathers emerge, feed on sap and turn into imago form. Wherever the beetles fly, the juices run out, and the beetles fly to the next fields. The body of the beetle is short oval, the upper part is convex, the lower part is flat, which differs significantly from other beetles. The female larvae eat 600-800 juices a season and 40-50 juices a day. Other species of beetles, including stetarus, are beneficial, as they can lose up to 100 spiders a day and an adult larva 60. They are constantly moving a certain distance in search of insects and canals. Where mature larvae feed, they turn into mushrooms.

Chrysopa perla L. Delicate light green, blue with 4 transparent wings, golden goat and long beak. Body length is 12-15 mm, wingspan is 25-30mm. It flies slowly, laying elongated eggs on the branches and leaves of sap-infested plants. After a few days, six-legged gray larvae emerge from the eggs. They run fast, sucking the juices with their long sharp jaws, leaving only their outer skin crust. From the shells of the larvae, the larvae make cocoons for the little ones. The common goldfish larvae are very hardy, feeding on more than 50-60 plant sap per day.

In addition to plant juices and spiders, golden larvae feed on about 70 species of arthropods, including cocoon eggs and young worms. In the laboratory, it was observed that the adult larvae of common goldfish (C*hrusora carnea* Sterh.) Eat 10-12 leaves of walnut juice per day. This entamophage loses up to 200 leaf sap during the larval stage, which lasts 2-3 weeks.

Trichogramma evanescens West are mass-produced and widely used in production. The trichogramma is a very small, 1 mm small yellowish, brown, or black insect. Adult insects feed on flower nectar. The larvae parasitize only on the eggs of various insects. Their hosts are the coin-winged and winged-winged, including the tortoises, the pardaknot, and the two-winged hard-winged. Several representatives of the trichogram are being reproduced in biofactories and production biolaboratories.

Evproctidis (*Trichogramma euproctidis* Giz.) Is widely used in the production of mass reproduction of simple trichogramma (*Trichogramma evanescens* West) for the purpose of biological control of nightshade eggs. The females of the trichogramma look for the eggs laid by the master by looking at their scent. Studies have shown that during egg laying, coins left on the wings of moths in plants, or hairs dropped from the abdomen, also attract less trichogramma. When the oviparous female finds the host egg, she lays one or more eggs in it through the egg yolk. The Trichogramma larva develops by feeding on the inside of the host egg. The trichogram inside the host egg marks the 3rd stage of larval development, and the host egg begins to blacken before the larva reaches the age of the 3rd end. When the larva has completed its low development phase, it turns into a mushroom here, inside the egg. The mature offspring from the fungus fly through the host egg hatch, mature, and immediately after mating with the male, begin to search for the host's eggs to lay eggs. Trichogramma develops well when the air temperature is 18-300 C and humidity is 60-90%. Females that develop in Tunlam eggs lay 40-50 eggs. In the laboratory, the sexual productivity of insects fed with additional carbohydrates is reduced by 2-2.5 times.

Mantis religiosa are diurnal heat-loving predators. *Mantis religiosa* consumer of everything, almost do not choose food. When there is a shortage of food, few people attack their relatives. *Mantis religiosa* are beneficial insects. But in nature, it is rare in the observed crop areas (2021 Fergana). Plenty of nutrition is very useful in biological control, but various birds with *Mantis religiosa*, some spiders, some parasitic insects do not give good results due to kop feeding.

9 species of Sirfid mosquitoes are widespread in Uzbekistan and play an important role in reducing the amount of plant sap in nature. Their matures are brightly colored, bee-like in appearance. But having a pair of wings differs in that it has black and yellow stripes on its belly. Flies seem to be constantly flying over the flowers of plants and

hanging in the air. The larvae are white-yellow, reminiscent of a leech in appearance. Very small white, elongated eggs are laid in clumps of plant sap. The larvae feed on plant sap. They are especially ulcerated in adulthood and feed on 500 to 200 plant sap throughout their lifetime. Sirfid flies lay 100-500 eggs and reproduce 4-5 times a year in Uzbekistan. More than 20 species of sirfit flies belonging to this family effectively reduce plant sap in nature and are of great importance in this regard. Sirfid flies live as predators in the larval phase. Their favorite food is vegetable juices.

Quantitative density of entomophages, which began to emerge in mid-April, reaches a high level in mid-May (18.05.2013, 14 entomophagous on the leaves at the tip of 10 cm from the branch on the 4th side of the walnut plant: 2 larvae of stsimnus beetle, 1 larva of sirfid mosquito, 7 larvae of beetle 2 adult beetles, 2 goldfish larvae, Fergana district).

Family of Levkopis flies (Chamaemuiidae). It is a small (2-3 mm) silvery-gray mosquito, often with spots or rashes on the abdomen. The most common type of leukopsis in Fergana is the *Apxidoleti apxidemuza* Fly. Mature flies are less noticeable and attract less attention. The eggs of levkopis are light-colored, elongated, small. They lay their little eggs one by one only between the colonies of aphids. Where there is no syrup, their eggs are not found. The female mosquito lays up to 160 eggs. The larvae lose an average of 7-10 plant sap per day on the leaves of the plant they feed on. During the larval stage, they shed 70-90 juices in the laboratory.

schedule

Efficacy of laboratory-fed entomophagous

Name of entomophages	**The number of juices consumed by the entomophag Effective**		**Effectiveness**
	ness 1 day	**Throughout his life**	
Coccinella septempunctata. L	50-70	300-450	60%
Coccinella septempunctata larvae	30-40	350-500	35%
Golden goat larvae -Chrysopa perla L	10-12	200	11%
Sirfid flies larvae	20-30	200-250	25%
Levkopis flies larvae	7-10	70-90	8,5%

The general occurrence of pest species in gardens depends on the level of efficiency of entomophagous and acariphagous, so it is necessary to look for ways to attract entomophagous from natural conditions. For this purpose, chemical control measures can not be applied in the crop areas around the garden. In order to attract beneficial insects, it is necessary to plant alfalfa, nectar-producing plants, buckwheat, mustard, dill. The arrival of insects for nectar leads to the arrival of other species of entamophagous as well, reducing the number of pest species. To preserve entamophagous species, low-toxic samples of chemicals for entamophagous species can be used, or sprayed only on areas with high pest densities in the affected area.

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