European Journal of Agricultural and Rural Education (EJARE)
Available Online at: https://www.scholarzest.com
Vol. 2 No. 4, April 2021,
ISSN: 2660-5643

INDUSTRIAL CULTIVATION TECHNOLOGY FOR POACHING (HABROBRACON HEBETOR SAY)

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Article history:

Received March 30th 2021
Accepted: April 7th 2021
Published: April 30th 2021

Abstract:

These insects belong to the genus Hymenoptera, the family Braconidae, and the genus Bracon (Habrobracon). belonging to the type. This entomophagous is mainly recommended for biological use against pests in the form of tapeworms, mulberry moths and similar worms.
Bracon is an external parasite that paralyzes the middle and adult larvae of the caterpillar and then lays 4-5 to 16 eggs on it. If there is a lot of prey, it will not lay its eggs on all the paralyzed worms. The eggs may be single or multiple. Each female can lay up to 400 or more eggs. Bracon overwinters under tree bark, plant debris and cuttings in the form of mature breeds. In addition to this entomophagous occurrence in nature, it is propagated in laboratory conditions by wax moth worms or mill moth worms. Methods for propagating this entomophagous in the laboratory under special mechanized devices have been developed. With the emergence of cotton bollworms in plants in biological control programs are distributed from 500 to 2000, depending on the number of pests per hectare (1: 10-15 ratio).

Keywords: Bracon, entomophagous, bio-laboratories, larvae, honey.

The search for and application of Bracon entomophagy to pest butterfly worms has long been studied by scientists. S.Bogolyubov (1914), Wishart (1943), X.R.Mirzalieva (1986), X.Atamirzaev (1994), Z.Saidova (1989), X.X.Kimsanboev et al. (2000) studied the phenology and bioecology of the development of brackish and carried out work such as its propagation, application and storage in the laboratory.

One of the main reasons for the scientific and economic importance of the Bracon entomophagy is that it is a pest of pests in nature. Scientific studies have shown that in Moldova and southern Ukraine, this entomophagous free-ranging maize stem moth infects 5% to 22% of earthworms and 35% of field night worms (Adashkevich, 1972). In the Central Asian region, the incidence of cocoon worms in nature with poaching entomophagy was found to be 10-50% (Hamraev, Velnazarov, 1983). In Uzbekistan, in July-August, 20-45% of cotton worms, poachers, caterpillars, tomatoes up to 60% and cabbage up to 30% were found to be infected with various nematodes (Mansurov, 1961; Rashidov, Saidova and others). , 1986).

From the above, it can be seen that the bracon found in nature has a high biological effectiveness against harmful butterfly worms, but in nature, various factors hinder their development, overwintering and reproduction. For this reason, the introduction of bracon entomophagy into special bio-laboratories has been established. One of the foundations of effective biological plant protection depends on the quality of the bioproducts produced in these biolabs. A quality bioproduct released into the field following the rules can protect the crop from low-density pests, or it can keep the reputation of the pests at a level that does not harm the farm

Habrobracon hebetor Say.

Breeding a bracon. Adult beeswax larvae are collected from special containers and placed in 3-liter balloons 300 of them. They are filled with folded special paper, then the balloons are wrapped in black cloth and left in a dark place for 4-5 hours. During this time, the worms that do not enter the paper are dropped. These worms are lowered into a pre-prepared, two-day supplementary feeding container with about 600 mature breeds of poachers. After that, the bracons, kept in a dark place for 4 hours, bite all the worms and lay eggs on them. To increase the productivity of the bracon, it is supplemented with honey or syrup rubbed on a special cloth.

The larvae that hatch from the eggs feed on the worms for 4 days and turn into fungi. Mushrooms develop in 6-7 days, from which mature offspring fly. After that, the bracon is collected and transferred to clean balloons. They are used for processing or for field removal.

Bracon storage. Preparations for this important event usually begin in late October. In the laboratory, 50-60 thousand planters are isolated, they are fed with honey juice, and the temperature is gradually reduced from 27°C to 16°C and stored for 5-6 days. Glass balloons are removed and pre-sterilized in an autoclave. The cousin is then transferred to glass balloons. Under the lid of the jar hangs honey wrapped in gauze. Sadoks with dimensions of 700x600x1500 mm are made. 3 holes with a diameter of 10 mm are drilled in the lid of the sadok and a 1 mm kapron net is pulled into it.

Sadocks are thoroughly washed with boiling water before use and covered with polyethylene film to retain moisture inside during the winter. On top of the film is poured 10-12 cm thick of pre-autoclaved decontaminated wood chips. Glass balloons with spreaders on the sawdust are stacked vertically in 2 rows and covered with sawdust again. The top layer is covered with 5–10 cm thick sawdust on top of the balloons. Sadokas are kept under an awning in the insecticide. It is important to keep the air temperature and relative humidity in the insecticide during storage. For this purpose, the top of the sawdust is lightly moistened (if it is dry) every 25-30 days.

If the stored predators die, a reserve fund of the parasite is created by regularly multiplying the poacher in the laboratory (100-300 test tubes per day). In the warmer years of the winter, the herdsmen, who are put to winter once every 15 days, are taken to the laboratory, fed with honey for 3 days and put back to winter. In the spring, in the first ten days of March, the wintering squirrels are taken to the laboratory, supplemented with honey, and the main breeding begins from the 2-3rd ten days of March.

In the laboratory, the spreaders are mainly stored in refrigerators. In this case, the cultivators are first fed for 2 days, then the air temperature is reduced from 27°C to 16°C. The parasites are then placed in balloons along with wooden slats, and a piece of sieve with honey is also hung under the balloon lid. The balloons are then placed in an 8°C freezer. Every 15-30 days, the balloons are removed from the refrigerator and the insects are re-fed for 2 days. The air temperature is then lowered from 25°C to 16°C and the balloons are placed back in the refrigerator.

To remove the parasites from the diapause, the balloons filled with biomach product in the spring are removed from the refrigerator and stored at a temperature of 25-30 ° C and a relative humidity of 70-75%. The primary product is then used in the laboratory to multiply the parasite.

BIBLIOGRAPHY:

1. Alimukhamedov S.N., Adashkevich B., Adylov Z, Khodzhaev Sh. // Biological method of combating the main pests of cotton - Tashkent, Mekhnat, 1986 - p.30-65.
2. Yu, Dicky Sick Ki. "Habrobracon juglandis (Ashmead 1889)". Home of Ichneumonoidea. Taxapad. Archived from the original on February 18, 2017.
3. Yu, Dicky Sick Ki. "Habrobracon brevicornis (Wesmael 1838)".Home of Ichneumonoidea. Taxapad. Archived from the original on February 18, 2018.
4. Ghimire, Mukti N.; Phillips, Thomas W. (2010-10-01). "Mass rearing of Habrobracon hebetor Say (Hymenoptera: Braconidae) on larvae of the Indian meal moth, Plodia interpunctella (Lepidoptera: Pyralidae): effects of host density, parasitoid density, and rearing containers". Journal of Stored Products Research. **46** (4): 214–220. doi:10.1016/j.jspr.2010.05.003. ISSN 0022-474X.