

BIOLOGY AND DAMAGE OF THE FIG MOTH

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Abstract. Some researchers say that the fig moth develops by giving 3 generations in a season. But according to the results of the conducted research, it became clear in our laboratory and field observations in 2020-2021 that in the conditions of Andijan and Fergana regions, the fig moth developed by giving 5-6 generations.

Key words: fig fruit, fig moth, *Choreutis nemorana*, damage, phenogram, egg, worm, mushroom, imago.

Fig (*Ficus carica* L.) is a woody shrub that has been cultivated since ancient times. Figs have been known to mankind for 5-6 thousand years. The fruits of figs are rich in various vitamins and sugar. That is why it is eaten as a medicinal fruit, and its leaves are used to prepare medicines such as "Kafiol", "Regulax".

It is known that there are 18 varieties of figs in Uzbekistan. Among them, the most common are: Uzbekistan yellow fig, Karshi fig, Kadota, Smirin black fig and others. In the conditions of Uzbekistan, sufficient light and heat, as well as artificial irrigation and soil conditions are favorable for growing figs. Therefore, it can be found in the courtyards of all regions and in special plantation-gardens [1].

It is necessary to protect these trees and their fruits from various harmful organisms in order to obtain a high and quality harvest from figs, which are the gifts of the garden, and to meet the needs of the population.

It became clear from our inspections carried out in different regions of our Republic in different years and from the studied literature that there are 14 types of pests that have a nutritional connection with figs, 13 of them are insects and one type is a common spider mite [3].

The fig moth belongs to the family Choreutidae in systematics (previously it was in the family Glyphipteridae). Butterfly wings have a unique shape and color. When the wing is folded, its size reaches 15-17 mm. The body is dark brown. The forewings are brownish-brown, while the hindwings are dark brown. The edges of the wings are covered with flowing hairs. Mustaches are long, stringy. Eggs are oval-flat, runny-yellow, 0.5 mm.

We tested laboratory-grown trichogramma from eggs laid on fig leaves in microsacs. In this case, no ratio was studied: the goal was to find an answer to the question of whether the trichogram stings at all. To do this, we released about 1:10 ratio (that is, 10 trichograms per egg) to the counted moth eggs in a Petri dish. The result obtained after seven days showed that the eggs of the fig moth were found to be infected by Trichogramma. In the control variant, only 72% of the worms were not damaged, and the rest remained sterile. Out of 74 eggs offered in the experiment, 41 were infected, 11 had worms, and 22 were destroyed.

Some researchers say that the fig moth develops by giving 3 generations in a season [3]. But according to the results of the conducted research, it became clear in our laboratory and field observations in 2020-2021 that in the conditions of Andijan and Fergana regions, the fig moth developed by giving 5-6 generations.

The fig moth only damages figs. In the spring, it mainly eats the young leaves and makes them rot. As a result, the branch and tree lag behind in development, and the yield decreases. The pest spends its 3-4th generations during the "second" harvest period of the fig bush.



Figure 1. Pest damage to fig leaves

We learned how the fig moth butterfly lives and lays eggs. For this, 1 pair (male and female) mushrooms were placed in a small (capron mesh) box on tree branches. The sex of the butterfly was distinguished based on the location of the genital lines at the end of the abdomen.



Figure 2. Damaged fruits

Each female lives from 9 to 20 days. At this time (butterflies with additional feeding) each breed can lay up to 105 eggs on the underside of a leaf singly or in clusters of 10-14. Embryonic development of eggs lasts 4-6 days, worms hatch, 25-35 out of every 100 eggs remain sterile. Newly hatched caterpillars first feed on the remains (shell) of the egg in which they lived, and then begin to gnaw on the green soft tissue of the leaf. Adult caterpillars hide themselves by twisting the edge of the leaf with thin and soft threads that they weave.

According to the results of our research, 8 kg (-12.8 tons per hectare) were lost from each of the bushes less affected by the pest, and 14.4 kg (-23 tons

per hectare) from each of the heavily damaged bushes. Thus, it turned out that the damage of the fig moth is high.

Based on the obtained results, it was calculated to determine the IZMM to fight the fig moth. It gave the following result.

In the experiment mentioned above, if the average of the results obtained in both options is taken, if 1 out of every 200 fruits present in woody bushes is infected (0.5%), 55 kg of fruits per hectare can be lost. Taking into account that the experimental trees were also infested with a spider mite, if half of the damage is attributed to this pest, the fig moth itself can be considered as 1% of the IZMM. This means that only then the money spent on chemical treatment of 1 hectare of garden can be justified. For even more profit, it may be economically viable to start mothproofing fig bushes when an average of 1.5-2 out of every 100 fruits (1.5-2%) are infested.

1. Protection of figs against fig moth should be started only when 1.5-2 out of 100 fruits (1.5-2%) are affected (IZMM). Then the processing can be economically effective, in addition to paying for itself.

2. If the fig is infected with a spider mite in addition to the moth, it should be treated with 1% single-acting drugs (Karate, Tsiperfos, etc.) when the fruit is damaged.

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