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THE EFFECTIVENESS OF MONITORING THE SPREAD AND DAMAGE OF ORIENTAL FRUIT BURGER (GRAPHOLITHA MOLESTA BUSCK) IN ORCHARDS

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KEYWORDS

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ABSTRACT

The article describes the results of the study of the internal quarantine object of the oriental fruit moth (Grapholitha molesta). The distribution of the eastern codling moth, a pest that damages fruit trees, has been studied.

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INTRODUCTION

Due to the fact that the climatic conditions of Uzbekistan are favorable for the reproduction of insects harmful to all types of crops, today, it is the reason for the widespread spread of harmful insects in the orchards of our republic.

Eastern fruit eater (Grapholitha molesta), which is under internal quarantine in the republic, belongs to the family of leafhoppers (Tortricidae) of the Lepidoptera family and is considered one of the pests of orchards. Fruit trees (peach, apple, pear, quince, plum, cherry, cherry, apricot) infested with oriental fruit borer often rot and cannot be saved. This pest causes 28% to 70% damage to tree branches and 54% to 85% damage to fruits.

Figure 1. Eastern fruit fly damage and its pheromone-trapped butterflies

Eastern fruit borer damages peach, apple, pear, quince, plum, cherry, cherry and apricot trees. When the fruit is not yet born, it forms 6-12 cm long strips on the branches. As a result, the tip of the branch begins to dry with leaves. One worm damages up to 5-7 branches. In addition to branches, the second generation of the worm spreads around the fruit bands and damages the next fruits through the bands. It damages approximately 50% of peaches, apples and pears. Every year, due to the damage of the eastern fruit borer, the fruit nodes and a large part of the cave fruits are lost. Fruits dropped by the Oriental Fruit Eater often rot and cannot be saved. This pest damages peach tree branches from 28% to 70% and fruits from 54% to 85%.

The general color of the butterfly is gray-brown. The front of the forewing has seven pairs of white spots, and the hindwing has a bronze coating. Wings are 12-14 mm in size. The female butterfly is slightly larger than the male. The mustache is stringy and makes up half the length of the front wing, with thin white hairs. The underside of the abdomen is silky white, and the legs are dark in color, covered with yellowish white short hairs. Eggs are 0.4-0.5 mm long and 0.15 mm wide, oval, oblong, white shiny, darkening to a reddish color

during maturation, then hatch into larvae in about 15-48 hours.

Hatched larvae are milky-white in color, head is black, and the body is completely covered with small cuticular hairs. The length will be 12 mm. The feathers on the body of an adult larva are brownish-gray in color. The front chest is yellowish-brown. Hind excretory segments are pale yellow-brown with black spots. Posterior excretory segments have comb-like anal combs with 4-7 teeth above the anal excretory organ. The length of the bulb is 6 mm. The length of the cocoon is oval, 12.5 mm, and it differs little from the surrounding color. In the summer season, cocoons can be found on fruits, tree trunks and seedlings.

A synthetic sex pheromone (JF) has been developed to detect and control the development of the oriental fruit borer. Rubber circles impregnated with synthetic sex pheromone can be hung on trees to attract the pest and determine the density and spread of the pest. At present, the sex pheromone (JF) composition of up to 600 insects has been identified in the world, of which 100 are used in practice.

RESEARCH METHODS

The research work was conducted in the orchards of the "Erkin" farm, Kibrai district, Tashkent region. The purpose of the research monitoring was to study the effectiveness of the pheromone trap proposed by the Italian "SIGMA" and the Russian Federation "VNIIKR" organization.

RESEARCH RESULT

Tests were conducted in 2 options and 3 returns. Russian "VNIIKR" pheromone traps are designed for 1 piece per 5 ha area, and they are hung at a height of 1.5-2 meters from the tree root when the air temperature is 15^0 C. After flowering, 1 pheromone trap was tested on 5 hectares of fruit trees. These pheromone traps consist of a colored laminate housing, a filter paper covered adhesive mount and dispensers. The Italian "SIGMA" company presented pheromone traps consisting of a cardboard house, a filter-covered glue holder and a capsule. When studying the pheromone traps of Russian "VNIIKR" and Italian "SIGMA" companies, it was found that 5.3 units were used on average on April 25, 5.3 units on May 5, and 0.3 units on May 17. it was found that a total of 38.6 pieces of oriental fruit-eating butterflies fell. It was found that pheromone traps provided by the Italian company "Sigma" had an average of 0.6 pieces on April 25, and 1.6 pieces on May 5, and no oriental fruit-eating butterflies on May 17, and a total of 17.3 pieces of oriental fruit-eating butterflies.

In our future experiments, it is planned to use the pheromone traps presented by "VNIIKR" in Russia to monitor the development and spread of the oriental fruit-eater in large areas (Table 1).

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Table 1

Efficacy of pheromone traps applied to oriental fruit fly

(Tashkent region, Kibrai district, 2022)

Options	Average number of butterflies per control pheromone trap, pcs												Total number of butterflies dropped
	Account days, date												
	25.04.	27.04	29.04	01.05.	03.05.	05.05.	07.05.	09.05	11.05.	13.05.	15.05.	17.05.	
"VNIIKR" Russia	5	5	7	5	5	4	3	3	2	2	0	0	41
	6	5	5	3	7	8	4	0	1	0	1	1	41
	5	4	5	5	6	4	2	2	1	1	0	0	35
Average	5,3	4,6	5,6	4,3	6	5,3	3	1,6	1,3	1	0,3	0,3	38,6
"SIGMA" Italy	0	5	2	4	1	3	0	1	3	2	0	0	21
	1	1	3	0	2	2	2	2	1	1	0	0	15
	1	3	3	2	2	0	0	3	3	0	0	0	17
Average	0,6	3	2,6	2	1,6	1,6	0,6	2	2,3	1	0	0	17,3