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Bioecological Properties Of The *Psylla Pyri* L

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ABSTRACT: This article discusses the bioecological characteristics of the sucking insect pest *Psylla pyri*. The adult form and larvae of the insect cause damage by sucking the sap from the shoots, stems, leaves and fruits of the pear plant and secrete a sugary sticky liquid. As a result, vital processes in various organs of the plant are disrupted, the leaves darken and fall off, the fruits become hard and dehydrated, and the plant weakens, which leads to a significant decrease in the yield of the following year.
Key words: pear psylla, pest, population density, yield, import, adult insect, sticky substance.

INTRODUCTION

Ensuring food security in our country, solving problems of import substitution, especially in the field of horticulture; requires optimizing and phytosanitary improvement of agroecosystems, ensuring the ecological safety of products and increasing their competitiveness. In this regard, one of the problems that requires an urgent solution is the protection of garden crops from dangerous pests. Among fruit crops, pears are distinguished by their sweet taste, and the area under cultivation is increasing every year. However, in recent years, a serious limiting factor in expanding the production of this crop has been the damage caused to plants by the common pear borer.

The *Psylla pyri* is widespread in almost all pear growing zones and is distinguished by its high harmfulness and aggressiveness among phytophagous insects. It is a pest of pear trees, sucking their sap, damaging their leaves, flowers and fruits, and reducing their yield. The pear borer mainly damages pear trees. The pest damages the plant by sucking the sap from the buds, leaves, young branches, flower stalks and fruits. The damaged organs weaken, the leaves and nodes darken, curl, dry out and fall off. The adult insect is 3.7 mm long, and the color of the larva changes depending on its age. It is yellowish in the first and second years, bluish-green in the third year, and the color of the wintering species is dark gray. Its wings are small, yellowish white in color. This pest only damages pears. The pear borer is distributed throughout Central Asia. Adult insects hibernate in tree cavities. Female borers hibernate. This pest is quite resistant to cold temperatures. It even comes out of hibernation and begins to fly when the temperature exceeds +5 degrees in spring. When spring comes, it lays eggs on branches near the ground. We observed that they lay their eggs around the buds. It takes 15-17 days for the larvae to hatch from the eggs. The larvae that hatch from the eggs begin to suck the leaves, branches, and buds of the pear tree. After a month, the larvae mature and become winged. The pear moth reproduces 5 times per season. In our region, it has been observed to produce 4-5 broods. The adult moth lives up to two months.

RESULTS AND DISCUSSION

The pear psyllid is an insect belonging to the Psyllidae family. *Psylla pyri* is the most aggressive pest of pear in all regions. This pest is widespread in Central Asia and mainly damages pear fruit plants. If the trees damaged by this insect are not well protected, the yield will not be high.

The experimental work was carried out daily or 1-2 times a week, depending on the tasks, before the development of overwintered larvae and the start of egg laying. In the control work, pear psyllid was counted daily from the leaves of our seedlings, depending on their age and the sides of the tree (East, South, North and West from a 10 cm distance from the pear seedling branch). In the experimental field, the growth and development of plants is mainly monitored through phenological observations, and the changes occurring in them are evaluated by analyzing the damage caused by pests.

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Based on the results of the experiments conducted at the Fergana Regional Scientific Research Station the pear aphid caused significant damage in May-June, causing the pear tree to shed its leaves and buds. The pear aphid on the experimental control tree was more common in the West than in the East. When the number of pear aphids increases in the plant (late May-early June), the pear tree is covered with sap. As the air temperature rises above 35° C, the pear aphid descends to the back of the leaf and the leaves in the lower part of the tree. The pear aphid, which began to appear in early May, caused a certain amount of damage until the end of October. The pear aphid feeds on leaf sap, and as a result, the leaves can dry out and fall off. After feeding and reaching adulthood, these insects begin to lay eggs. It lays 10 to 25 eggs on one leaf. In the controlled pear orchards, in May, the entire body of pear seedlings was covered with sap. In mid-June and early July, the damage to the pear sap decreased slightly, but in August-September the number of sap increased again.

The pear moth leaves its wintering grounds when the average daily air temperature reaches -2...-3° to +2...+3°. The beginning of the emergence of larvae from wintering grounds in the Fergana region varies from year to year and lasts from the end of the first decade of March to the beginning of the second decade of April. The emergence of the pear moth is manifested by the beginning of sap flow in the trees. Egg laying can begin when the average daily temperature reaches +6 +8 °C, effective temperatures are above the threshold of +6 °C and by this time vary from 2 to 7 °C depending on the year.

The interval between the appearance of adults and egg laying varies from 2-3 days to 2 weeks, depending on the meteorological conditions of the year, and embryonic development lasts from 2 to 5 weeks in the spring period (Table 1).

Development characteristics of the first generation of common pear sweet potato in 2024
(in the conditions of the Fergana region)

Table 1

Phenology of leaf development	**2024**	
	date	**The sum of effective temperatures above +6 0C**
Leaving wintering grounds	11.04	6
Start of egg laying	15.04	6,5
Start of mass egg laying	17.04	11.0
Start of larval hatching	29.04	44,1
Start of mass larval emergence	06.05	78,2
Flight of the 1st spring generation	21.05	260,1

SUMMARY

It was found that in the study area, a large part of the eggs laid by the pear borer in late autumn and the larvae that hatched from them do not die when the first frosts come. They continue to withstand repeated short-term drops in air temperature after leaf fall (on buds and shoots) until the end of autumn, until December 1, 2024. After completing their development, most of the larvae transition to the winged form, that is, to adulthood, and hibernate. According to the monitoring in Andijan, Namangan and Fergana regions, the damage caused by the pear borer in Fergana region was significant and seriously affected the yield.

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