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SUCKING PESTS OF ALMONDS AND THEIR CONTROL IN UZBEKISTAN

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Abstract:

The agro-technological features of almond cultivation in Uzbekistan are described, their pests and methods of control should be removed. The article provides information on almond lice and their effect on the quantity and quality of the crop.

Keywords: Almonds, species, pests, almond lice, insecticides, efficiency, method of application.

INTRODUCTION.

The typical representative of the walnut fruit plant is almonds, and in the composition of nuts grown all over the world, almonds rank first with a weight of 26%.

Central Asia is one of the centers of origin of almonds. Almonds (Amygdalus L.) are a tree species on which nuts and nut-like trees grow. 5 types of almonds grow in Uzbekistan, sweet almonds (Amygdalus comminis L.) are grown, the rest are found in the wild.

Almonds are grown mainly for their sweet heart. Bioecology, agricultural technology, harmful organisms and the fight against them in our country have not been deeply studied.

RESEARCH METHODOLOGY.

In the experiments, the degree and percentage of infestation of almond plants with lice was determined according to the accepted method (1, 2). The calculation of the infestation of aphids was made according to the following scale: - infestation is low, the pest was recorded in very small quantities around the main stem of the leaf; - moderate infestation, the pest spreads around the main and lateral stems of the leaf; - severe infestation, spreading to all the cores of the leaf.

RESEARCH RESULTS AND THEIR ANALYSIS.

An important task is to study the species composition, range, infestation and developmental features of pests in biocenoses of almond orchards in Uzbekistan, to clarify and develop data on the degree of infestation according to the conditions of development of the species (5, 6). To study the distribution area of almond pests, bioecological features, duration and degree of damage, the amount of damage in leading world universities and research centers, including Xinjian Academy of Agricultural Scinces (China), Texas A&M University (USA), All-Russian Institute for Plant Protection (AIPP, Russia) China Agricultural University (China) conducts extensive research in priority areas (3,4,7).

In general, when natural and cultivated almonds were examined, it was noted that there were relatively few pests and types of pests. This is explained by the unique biological properties of the almond tree and the natural conditions of the area in which it grows.

In the natural and cultivated almond gardens of Uzbekistan, almond lice (*Aphididae*) feed mainly on leaf sap, almond moth (*Ephestia cautella*) feeds on fruits, ticks (*Campylomma verbasci*) feed on plant sap, caterpillar (*Dailognatha*) causes gnawing damage, phytonomus (*Phitonomis varbilis Hrbst*) causes gnawing damage, root nematode (*Meloidogyne*) - causes swelling and damage, thrips (*Thripinae, Thysanoptera*) - bite and slow down growth, sucking the plant growth point, and spider mite (*Tetranychus Viennensis Zacher*) feeds on leaf sap.

Table
The main pests of almonds and their effect on the plant

№	Pests	Detachment	Affected part of the plant
1	Short-bodied nematode	Tylenoid series	Roots
2	Round-root nematodes	Tylenoid series	Root system
3	California shield	Homoptera	Trunks, branches, leaves, fruits
4	Turanian shield	Homoptera	Branches, shoots, trunks
5	Comstock worm	Homoptera	Leaves, shoots, roots
6	Rose crayfish	Homoptera	Shoots, plants
7	Peach lice	Homoptera	Leaves, shoots
8	Lumberjack	Lepidoptera	Inside wood, shoots
9	Rose Leaves Curler	Lepidoptera	Leaves
10	Oriental Peach Eaters	Lepidoptera	Fruits and shoots
11	Sailboat	Lepidoptera	Leaves
12	Gamma Night	Lepidoptera	Leaves
13	Autumn Night	Lepidoptera	Roots
14	American White Butterfly	Lepidoptera	Leaves, young shoots
15	Marble Pincers	Hemiptera	Leaves, stems
16	Straight Mustache Thrips	Fringe	Buds, buds, flowers
17	Almond Seed Eater	Hymenoptera	Fruits
18	Walnut Longnose	Coleoptera	Fruits
19	Goose	Coleoptera	Fruits
20	Bukarka	Coleoptera	Buds, buds and leaves
21	Hairy beetle	Coleoptera	Buds, flowers
22	Western May beetle	Coleoptera	Roots
23	Spider mite	Tick series Thrombidiform	Leaves
24	Fruit brown beetle	Series of mites Acariform	Leaves
25	Veal head	Orthoptera	Roots

Almond lice (*Aphididae*) are found in almost all almond orchards of the Samarkand and Kashkadarya regions of the Republic of Uzbekistan. Almond lice act on tree leaves and feed on tissue fluid. (9,10).

It causes great harm, in particular, to young almond seedlings, causing them to shed their leaves and dry out. Almond lice are found on the upper side of the leaves, around their central root, in the form of elongated colonies in the form of lines. Some lice feed on the cellular fluid on the underside of almond leaves. In most cases, almond growers do not pay much attention to this pest.

Lice usually lay eggs on leaf axils, flower buds and young almond twigs, the number of which depends on the age of the tree, the number of young twigs and the period of development. The early appearance and development of almond lice is influenced by the temperature and humidity in March and April. In the southern regions of the country, slightly lower air temperatures (on average + 3- + 4^0C) in the mountains and foothills slow down the development of almond lice in comparison with the plains. The average air temperature, favorable for the development and reproduction of lice, is 18-25^0C, and the humidity is 60-75%. The optimum temperature for lice breeding was 22-27^0C. It was noted that the yield of larvae sharply decreases at temperatures above 35^0C. Temperatures below 10^0C, increased rainfall and strong winds negatively affect the development and distribution of lice. In the almond orchards of the Samarkand region, during periods of a sharp increase in temperature (late May, June, July, August), a sharp decrease in the number of almond lice is observed. In this case, the lice go into summer dormancy. Their organism undergoes morphological and physiological changes, and in its bioecology - adaptation to specific unfavorable conditions. They work in the cool parts of the almond tree. In the mountainous and foothill areas of the Yakkabag district of the Kashkadarya region, in the first half of September, the extinction of lice occurred in walnut groves, and on the plains - in November. In the Dzhambay district of the Samarkand region, nut lice can be found until the end of November.

Lice are insects that biologically and morphologically deeply specialize in the almond tree, forming a development cycle in accordance with the growth and development of the tree. With the formation of the first leaves on the almond tree, lice emerge from the eggs. Lice larvae first appear on well-lit tree branches and begin to feed by clinging to and around leaf veins. They change the feeding place. This helps to protect them from entomophages. As the lice multiply, their females fly to other trees and begin to suck on young small leaves in the form of colonies. Since the tissue of the large leaves is hard, there are few lice. It is commonly observed that the color of winged female lice is yellow before larval birth and orange after birth. The lice were noted to be orange and reddish yellow in September and October. Female lice live longer than males. In the mountainous and foothill regions of the Dzhambay district of the Samarkand region, it was found that lice give from 10 to 15 joints.

In order to biologically protect almonds from various lice, the entomophagy of goldfish was tested in ratios of 1:20, 1:10, 1: 5 during the periods of leaf and fruit formation of the plant. At the same time, the biological effectiveness of the golden eye was high when applied in a ratio of 1:10 and 1: 5. It was reported that the biological effectiveness was 72.0–83.0%, respectively, on the 14th day of calculation, and the biological effectiveness was 61% at a ratio of 1:20.

The drug imidor against lice in an almond orchard showed high biological effectiveness when applied in the form of a 20% emulsion at the rate of 0.3 l / ha. At the same time, the biological effectiveness against lice 3 days after administration of the drug was 83.1%, after 7 days - 87.2% and after 14 days - 96.1%. When using the drug in the form of Vaulent emulsion (active ingredient - indoxycarb) at the rate of 0.4 l / ha, the biological effectiveness of the fight against almond lice increased by 77.3% after 3 days, 82.1% after 7 days and 86.9% after 14 days. A decrease in the number of other pests on the almond tree has been observed with the use of chemicals.

CONCLUSIONS.

In the agrobiocenoses of natural and cultural almond groves in the mountains and foothills of the Samarkand and Kashkadarya regions, the distribution, number and damage of lice play an important role. Lice species differ from each other in their bio-ecological properties, which seriously damage the growth and development of the almond tree. Their distribution and development, as well as their number, are influenced by the climatic parameters of natural areas - air temperature and humidity, as well as wind speed.

The use of the golden eye in a ratio of 1: 5 or 1:10 in the biological fight against almond lice provides high biological effectiveness.. Of the chemical preparations against almond lice, Imidor (20% emulsion) had a high biological efficiency of 94.1% at a consumption of 0.3 liters per hectare.

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