PROTECTION OF INTENSIVE APPLE GARDENS FROM SHIELDS

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There are a number of problems in the world population growth, further increase in the volume of fruit products and the constant supply of quality fruit products, increase productivity, reduce damage caused by pests. Accordingly, protection of the cultivated apple crop from pest damage is a topical issue.

Fruits grown in the conditions of our republic have always been distinguished by their taste and high quality. In the cultivation of apples in our country with the use of modern technologies, it is important to test high-yielding, high-quality apple varieties and their introduction into mass production. [1].

Among cultivated plants, fruit trees are most often damaged by various pests. The main reason for this is the long growing season and the relatively large size of the trunk. In the conditions of our region, more than 300 pests damage fruit trees.

Among the sucking pests that damage fruit trees, shields cause great damage. They belong to a specific group of insects that feed on plant sap, often shielding leads to pathological changes in plant tissue, resulting in shedding of leaves and fruits, drying out some twigs and branches, reduced yield and deteriorating quality. [2].

Shields damage many plant species, i.e. more than 200 trees and shrubs are damaged, their growth is stunted, yield and quality are reduced, damaged fruits appear red spots or blisters, they do not fully develop, take on an ugly shape and cracks appear, some branches dry out, In some cases, it can even cause the whole plant to dry out

The California shield was native to northeastern China, from where it spread to the Americas and in the 1930s to European countries. In South Africa, India, New Zealand insects are found in neighboring countries such as Turkmenistan, Tajikistan, the Caucasus, Ukraine, Moldova. It was first discovered in Uzbekistan in 1964 in Tashkent. After that it spreads in the Fergana Valley.

The body of the California shield female is lemon-colored (yellow), broadly ovoid, with a body length of up to 1.3 mm. The body is covered with a shield. The thyroid gland of the female is round, 1.5–2 mm in diameter, slightly convex, with two larval (worm) skins, which are located in the center of the thyroid. The shield is dark gray or dark. the shield of wintering larvae is black at first age. [3].

The male is pale yellow, up to 0.85 mm long, with well-developed legs, forewings and 10 articular whiskers, a long tumor visible at the end of the abdomen. Male nymph shield up to 1 mm long, gray, light gray, almost black, yellowish or yellow.

A low temperature of 7.3 C and a useful air temperature of 770 0 C are sufficient for the full development of a generation of California shield. The main reason for the decrease in the amount of the pest is the change in temperature in winter and spring, as well as the influence of entomophagous, the period of larval birth, when the dry air in summer is strong rainy days and windy.

Favorable temperature 23-280 C, relative humidity 70-75% is sufficient for the development and reproduction of shields. [4].

Our experience We conducted research to study the damage to the shield of the variety "Cholpon", created by scientists of the Research Institute of Horticulture, Viticulture and Enology named after Mirzaev and included in the state register.

Our experiment on the study of the Cholpon variety was conducted in the 1.5-hectare apple orchard of the farm "Donyorbek Baglari" Izboskan district.

Experiment options

№	Options	Drug consumption rate l/ hectare (ha)
1	control	Not processed
2	Karat gold 5% em.k.	0,5
3	Tvingo sus.k.	0,6
4	Bifenstar 20% em.k.	0,3

No control measures were used in the control option. In our second option, Karat gold is 5% em.k. The biological efficiency applied to 0.5 l / ha was on average 62%. In the third option, Twingo sus.k.0.6 l / ha was applied and the average biological efficiency was 68%. In our fourth option, Bifenstar is 20% em.k. When applied at 0.3 l / ha, the average biological efficiency was 78% (Table 1).

Table 1
An anti-thyroid chemical biological efficiency.

Preparation The name of	Consumption rate l/ hectare	Number of shields per branch, pcs	Number of shields remaining after processing, pcs			Biological efficiency (%)			Average
			3 day	7 day	14 day	3 day	7 day	14 day	
Control	Not processed	5,5	6,1	6,3	6,7	-	-	-	-
Карат голд 5% эм.к.	0,5	8,7	5,1	2,8	2	41,3	67,8	77	62
Твингосус.к.	0,6	9,1	4,8	2,3	1,5	47,2	74,7	83,5	68
Бифенстар 20% эм.к.	0,3	9,7	4,9	1,1	0,2	49,4	88,6	97,9	78

In summary, the use of Bifenstar 20% em.preparation at 0.3 l / ha is highly effective in the fight against thyroid.

References used

1. Abrorov Sh., Sultanov K., Normuratov I., "Modern intensive apple orchards in Uzbekistan" / BAKTRIA PRESS - T, 2016
2. Khojaev Sh.T., Kholmurodov E.A. "Fundamentals of entomology, crop protection and agrotoxicology" Tashkent, 2008
3. Khodjaev.Sh.T "Modern methods and means of combined plant protection from pests" Tashkent, 2015.
4. M.T. Arslanov, A.U. Sagdullaev, Sh.K.Aliev and others “Prevention of plant quarantine pests” Tashkent, 2017
5. Rakhimov, M. M., Azamov, A. A., & Zokirov, I. K. (2020). The Methods Of Intellectual Struggle Against Pest And Disease In Apple Orchards. *The American Journal of Agriculture and Biomedical Engineering*, *2*(11), 24-28.
6. Azamov, A. A., & Rasulov, U. Sh. (2020). ПЕРСИКОВАЯ МУЧНИСТАЯ РОСА БОЛЕЗНЬ И ПОВРЕЖДЕНИЕ. *Life Sciences and Agriculture*, (2-2).