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BIOLOGICAL EFFECTIVENESS OF THE ACARACIDE PROMAYT 73 % EC AGAINST SPIDER MITES IN APPLE ORCHARDS IN KHORAZM REGION

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Abstract
In the conditions of Khorezm region, Promayt against spider mite, 73% ec., had a high biological effect when applied at the rate of 0.6-0.8 l/ha and did not show any negative effect on the crop. It is recommended to use the promite in consumption rate of 0.6-0.8 l/ha against spider mite in apple orchards in conditions of Khorezm region.

Keywords: Apple, spider mite, pesticide, biological effect, yield, pest control, acaracide.

Introduction

In order to ensure food safety in the world, research is being conducted on advanced technologies for growing agricultural products and protecting them from harmful organisms. But part of the produce grown in the gardens is dying under the influence of harmful organisms. Controlling the number of apple tree leaf pests in the agrobiocenosis of fruit orchards is one of today's urgent problems. Accordingly, the distribution, damage, bioecological characteristics of orchard pests, the effectiveness of entomophages in managing their quantity, and the improvement of the integrated control system on this basis are of significant scientific and practical importance.

In order to further increase the effectiveness of the reforms carried out in the republic, to create conditions for the all-round rapid development of the state and society, to liberalize all sectors, to implement the priorities "Modernization and rapid development of agriculture", consistent production in agriculture development, ensuring the country's food security, production of ecologically clean products, significant increase of export potential in the agricultural sector, increase of new intensive gardens, creation and production of new selection varieties that are resistant to harmful organisms and suitable for local soil and climate conditions reach.

Ensuring the implementation of the Decree of the President of the Republic of Uzbekistan No. PF-5853 of October 23, 2019 "On approval of the strategy for the development of agriculture of the Republic of Uzbekistan for 2020-2030", fruit- production of high-value-added products in the field of vegetables and viticulture, increase in export volume, establishment of effective use of garden, vineyard and greenhouse opportunities, decree of the President of the Republic of Uzbekistan to fundamentally improve the system of plant quarantine and protection in the republic-implementation of the tasks specified in the decree No. 6262 on the measures of protection and the decision of the President of the Republic of Uzbekistan No. 5185 on the establishment of the Plant Quarantine and Protection Agency of the Republic of Uzbekistan and other normative documents is considered one of the urgent tasks of today.

The global climate change and the decrease of water resources, the weather changes, the winter

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season is getting warmer, and the precipitation is decreasing in the Republic. This, in turn, causes great problems in the production of agricultural products.

V.P.Vasiliev and I.Z.Livshis, one of the scientists who have studied the pests of fruit trees for several ears, divided the Lepidoptera insects in fruit orchards into 18 families, including Cossidae , Plutellidae , and thin-winged moths. (Argyresthiidae), moths (Yponomeutidae), glass moths (Aegeriidae), dwarf moths (Stigmellidae), thin-winged moths-miners (Lyonetiidae), spiny moths (Cemiostomidae), sheath moths (Coleophoridae), leaf-hopper moths (Glyphipterygidae), (Gelechiidae), leafhoppers (Tortricidae), caterpillars (Geometridae), silkworms (Lasiocampidae), wavy (Orgyidae), moths (Noctuidae), bear-adult breeds (Arctidae), white-adult breeds (Pieridae) [5, 6, 7].

Tortricidae are widespread in orchards, and more than 10,000 species have been identified in the world. Several representatives of this family are considered one of the main pests of the orchard. One such pest is the apple fruit eater (Grapholitha pomonella L., Laspeyresia pomonella L., Laspeyresia putaminana Stgr., Carpocapsa pomonella L., Cydia pomonella L.), which is classified under 5 species names based on world taxonomic groups [5, 6,7].

According to V.V.Yakhontov (1963), more than 150 species of arthropods damage orchards in Central Asia, and 50 of them are first-class pests [5] . According to VGBaeva, only in the Hisar valley more than 75 types of pests cause damage in orchards, but only 30 of them are dangerous insects. More than 90 types of pests are found in the gardens of Zarafshan oasis of Central Asia [3, 4, 5] .

In particular, he identified 18 types of the most common pests of seed-bearing fruit trees. Among them: pear mite (E.pyri), fruit spider mite (T.viennensis), mite (T.crataegi), pear aphid (P.vasilievi) and related species (P.pyricola) Medium Widespread throughout Asia. Leaf lice (Aphidoidea) are widespread in the regions of our republic. Coccides (Cocodea) purple shield, comma-shaped shield distributed on all continents. The Californian apple beetle (S. oshanini), a relative of the apple beetle, S. puri F., is a unique insect of Central Asia. Bud moth (T.ocellana), leaf moth (R.nanella) damage fruit trees in Central Asia, Kazakhstan, Caucasus, Crimea, Central and Southern Europe. Apple worm (Laspeyresia (Carpocapsa) pomonella L.) can be found in almost all places where apple trees grow [1, 3, 4, 5].

Research Methods

Agricultural entomology in the climatic conditions of Khorezm region , existing research methods in plant protection, biological features of fruit tree pests, bioecology of its parasitic and predatory entomophages and their breeding, application methods, accounting, pest management determining the biological, economic and economic efficiency of the combined protection system is the main goal of research. Promite 73% EC Experiments were conducted on the fruit orchards of "Ko'zibayev Jamolbek" farm, Shovot district, Khorezm region. Experiments were conducted in an apple orchard by selecting 10 evenly grown trees each time from 1 ha plot for each experiment and observing the pests on them. A 4-point scale was developed based on the number of mites on the leaves to determine the degree of spider mite infestation of gardens. In the course of conducting scientific research, generally accepted entomological and plant protection methods, as well as instructions and manuals for their application, were used. The biological effectiveness of drugs was calculated according to the formula of Abbot (1925). Experiments were conducted based on the "…..Instructions" issued by the State Chemical Commission (2004).

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Research Results

At the farm "Ko'zibayev Jamolbek", Shovot district, Khorezm region, Control - (without spraying), Ethalon - Omayt, 57% EC - 1.5 l/ha. Experience - Promayt 73% EC - 0.6-0.8 l/ha. The results of the application of the standard drug against spider mite on apple trees were calculated by taking 10 samples from the middle of each replicate and examining one infested leaf from each. The amount of infected leaf mite was determined to correspond to 1 leaf. Control observations were made before spraying the drug and on the 3rd, 7th and 14th days after it. When analyzing the results obtained in the studies on determining the biological effectiveness of the acaricide drug used against mites, it was observed that the test drug was also highly effective. Among them, Promayt showed the highest efficiency of 73%, 97.4-99.8% (Table 1). Based on the positive results obtained, it was recommended to use in the anti-mite season at the rates indicated in the table.

Table 1 Application of acaricides in the control of spider mite in apple orchards

(Large field experience, Khorazm reg., Shovot district "Qozibayev Jamolbek" f/x. 2023)

No	Options	Drug consumption rate, kg, l/ha	The number of mites on 1 leaf, pcs				Efficiency, % (by days)		
			Until it is processed	After processing, days					
				3	7	14	3	7	14
1.	Promite 73% EC,	0.6	71.6	8.7	6.7	5.2	87.9	91.3	93.7
2.	Promite 73% EC,	0.8	87.2	0	1.8	3.3	99.8	98.7	97.8
3.	Omayt, 57% EC (template)	1.5	80.1	4.1	3.2	2.4	94.8	96.7	97.4
4.	Control (not sprayed)	–	75.5	76.0	81.4	88.3	–	–	–
		LED $_{05}$ =					1.8	1.6	2,1

Summary

In the conditions of the Khorezm region, Promayt, 73% ec., against spider mites, has a high biological effect when applied at the rate of 0.6-0.8 l/ha and does not have a negative effect on the crop. It is recommended to use the promite in consumption rate of 0.6-0.8 l/ha against spider mite in apple orchards in conditions of Khorezm region.

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