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Research Article

BIOLOGICAL EFFICIENCY OF THE DRUG SPIDER DUO 28% k.s. AGAINST RUST MITE ON TOMATO

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ABSTRACT

At the present stage of development of agricultural production in the Republic of Uzbekistan, increasing the yield of crops, including tomato, is very important. However, the tomato, like many crops, is prone to colonization by many harmful insects, the most dangerous of which are rust mite. Several methods of struggle are used against them. But it should be noted that the most effective is the chemical method, although it has a number of disadvantages. In order to minimize the negative consequences of it, a competent approach is needed. One of the ways to solve this problem is the selection of the most effective, less toxic and fast-acting drugs. For this purpose, we tested a new preparation of the drug Speeder Duo 28% k.s. against rust mite on protected ground tomato.

KEYWORDS

Female, male, nymph, larva, phase, cycle, control measures.

INTRODUCTION

Tomato rust mite (Aculops licopersici Massee .) it is also called brown or rusty tomato mite. Willingly populates and feeds on tomatoes, potatoes, black nightshade, eggplant, does not adapt well to pepper. It causes great harm not only in protected, but also in open ground. This is a very small, sucking pest invisible

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to the naked eye. Unlike other ticks, it has not four, but two pairs of legs. The tick has an elongated body consisting of a cephalothorax and a ringed abdomen, two pairs of legs, and two long setae at the end of the body. The color of adult ticks is pale yellow, their length is 0.18-0.2 mm. Nymphs are similar to adult ticks, but differ from them in shorter legs and more subtle banding on the abdomen. Adult mites overwinter in the surface horizons of the soil. In the rust mite, the nymphs molt twice. The optimal temperature for the development of this mite is +25-30°C and the relative humidity of the air is 30-40%. Under such conditions, the development of the tick is completed in 7 days, and at a temperature of ¬+ 15-20 ° C and air humidity of 50-60% - 17 days. Under the conditions of Uzbekistan, the rust mite gives 15-25 generations, of which 10-15 generations - for June - August. According to the data cited by Sh.T.Khodzhaev (2014), until 1980, the harmfulness of this tick in Uzbekistan was not very pronounced.

Pic.1. harm rust mites on tomatoes

Experiments to test the effectiveness of the insecticide Speeder Duo 28% k.s. were carried out in stationary garden plots, with different densities of the rust mite pest . Preparation Speeder Duo 28% k.s. were carried out on stationary garden plots of the educational and experimental farm of the Tashkent State Agrarian University, located in the Kibray district of the Tashkent region tested consumption rates: 0.15 l/ha. During the period of the experiment, all phases of the development of the rust mite were present on the tomato of the protected ground . The results of the experiments showed that in a stationary garden plot, where the density of the pest in the sheltered soil was a high biological efficiency of the Spider Duo 28% c.s. at a consumption rate of 0.15 l/ha 85.4% in 7 days, respectively noted in the table below. It should be noted that in all tested variants, the drug Speeder Duo 28% k.s. was not inferior in efficiency to the reference

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variant Pilarmectin 1.8% em.c. applied at a rate of 0.2 l/ha. Preparative form Speeder Duo 28% k.s. easy to use, does not have a strong odor, forms a good stable suspension with water.

Table 1.

The biological effectiveness of the drug Speeder Duo 28% k.s. **against** rust mites **on protected ground tomatoes . (Tashkent region, Kibray district, Educational and experimental farm . Tashkent State Agrarian University 10.05.2022)**

№	Options	Consumption rates l/ha	The average number of mites per 1 infected leaf, ind.					Biological efficiency, %, per day			
			before processing	after treatment , per day							
				3	7	14	21	3	7	14	21
1.	Speeder Duo 28% k.s.	0.15	7.0	2.1	1.4	2.5	3.1	75.6	85.4	76.8	72.9
2.	Pilarmectin 1.8% em.a. (reference)	0.2	7.2	2.3	1.9	3.1	3.7	74.1	80.8	72.1	68.6
3.	Control (without processing)		8.3	10.2	11.4	12.8	13.6	-	-	-	-

Insectoacaricide Speeder Duo 28% k.s. showed high biological efficiency in the fight against rust mites on protected ground at a rate of 0.15 l/ha. The drug has a convenient, safe preparative form and is easy to use. During the period of the experiments, no phytotoxicity was noted in relation to the tomato of the protected ground.

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