



Application of Promite Plus Against Dangerous Spider Mite in Bukhara Region

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Abstract: In agriculture, one of the main issues is the study of the entomophagic properties of beneficial insects, pest control, causing a decrease in productivity from the field in natural and climatic conditions such as farms.

Keywords: Promite Plus, entomophages, spider mites, pests.

Protection of plants from pests, diseases and weeds is the most important and highly effective factor in the technology of crop cultivation. In the development of agriculture in a market economy, increasing the productivity of cotton plants, selective planting of resistant, high-yielding varieties to protect them from diseases and pests is of great importance [1,2,5].

Among the pests that damage cotton, the most dangerous is the spider mite, whose biology has been widely studied. In the Bukhara region, the spider mite damages cotton and reduces its yield by 25-30%.

The main goal of our experiments is to determine the period of damage by the spider mite of cotton and the development and implementation of measures to combat it in the farms of the region.

The spider mite damages more than 248 plant species, of which 173 are weeds and ornamental plants, and 38 are fruit trees and shrubs.

The spider mite of the species "Tetranychus urticae Koch" is widespread in the areas and areas of cotton cultivation and destroys 30-40% of the cotton crop.

According to the experimental data of the farm "Sorgun" of the MFI "Akhmedov Alisher" of the Kogon district, if protective measures are not taken, when a spider mite falls on cotton in June, it is 50-60%, and up to 2-6% if it falls in August, it reduces the yield cotton.

If an average of 150 spider mites per 100 cotton leaves is found, it is recommended to protect it with chemicals during this period. For the active movement of the spider mite, the temperature should be 25-30 C, and the relative humidity of the air should be 45-65%. The female spider mite lives up to 30 days and lays 200 or more eggs. In early spring, spider mites appear on weeds. In roadside weeds, they are 20-30 times more common than in other areas.

During 2021-2022 as a result of our experiments carried out on old-irrigated alluvial-meadow soils in the farm "Akhmedov Alisher" of the Kogon district of the Bukhara region, it turned out that by the end of April in the cotton crops found at the beginning of May there were 14-15 pieces per 100 cotton leaves [6, 7].



In order to study the effectiveness of the drug "Promite plus" developed in cooperation between Uzbekistan and Germany in the fight against spider mites found on cotton, the following options were tested.

1. Control (with water):
2. Keltan 2 l/ha (comparative preparation - emulsion concentrate 18%);
3. Promite plus 0.3 l/ha (emulsion concentrate 72%);
4. Promit plus 0.4 l/ha (emulsion concentrate 72%);

In the experiment, cotton of the Bukhara-102 variety was grown. Repetition three times on an area of 100 m², cotton sprouts 90-94 thousand/ha.

On the morning of July 13-14, 2021-2022, cotton was sprayed with working fluid at the rate of 600 l/ha using an Automax sprayer. Scientific observations and research work were carried out to study the effectiveness of the drug used against spider mites.

The effectiveness of the drug Promayt plus in the fight against cotton spider mites in the farm "Akhmedov Alisher" of the Kogon district of the Bukhara region (average for 2021-2023)

Table 1

Experience Options	Application rate l/ha	The average number of mites on 1 sheet						Efficiency between days, %		
		before processing	days after treatment				3	7	14	
			3	7	14					
1. Control (with water)	0	61.8	65.0	100.5	1.7			-	-	-
2. Comparator Keltan 18% em.k.	2.0	42.0	1.5	0.8	1.0			96.5	98.1	50.0
3. Promite plus 72% em.k	0.3	38.0	15.0	2.5	0.8			60.6	94.5	97.9
4. Promite plus 72% em.k	0.4	75.0	3.0	1.8	0.5			96.0	97.6	99.6

From the data presented in Table 1, it was found that after 7 days of using chemicals to combat spider mites, these drugs showed their effect in reducing the number of spider mites, and after 14 days their number decreased to 99.6%. The option with the use of the drug Keltan also leads to a decrease in the number of spider mites. But due to the presence of sulfur in the composition of this preparation, the effectiveness of the preparation did not last long and it lost its effect on the safety of the crop due to low humidity and high air temperature in the soil and climatic conditions of the Akhmedov Alisher farm in the Kogon district. The results obtained as a result of the experiments performed show that the Promite plus used has 72% em.c. the drug has a long-term effect on cotton, protecting it from spider mites, led to an increase in the cotton harvest. (Table 2)

**Table 2**

Options	Consumption rate of preparations l/ha	2021		2022	
		Productivity c/ha	Additional yield c/ha	Productivity c/ha	Additional yield c/ha
1. Control (with water)	-	30.5	-	28.8	-
2. Comparator Keltan 18% em.k	2.0	34.8	4.3	32.5	3.7
3. Promite plus 72% em.k	0.3	35.3	4.8	34.0	5.2
4. Promite plus 72% em.k	0.4	36.0	5.5	34.5	5.7

As can be seen from the results presented in Table 2, the number of pests per leaf at the end of the year in the conditions of the farm named after Akhmedov Alisher in the Kogon district was 63.3-70.1 ind. Chemicals, especially Promite plus 72% em.c. and in the variants used, the spider mite completely disappeared. To maintain the yield according to the options, when using the drug Promite plus 72% em.k at the rate of 0.3-0.4 l/ha, an additional cotton yield of 4.8-5.7 centners/ha was achieved, resulting in high economic efficiency.

Also, Promyte plus 72% em.k against spider mites is used at the rate of 0.3-0.4 l / ha on cotton plants grown in the Bukhara region, having a positive effect on the growth and development of the plant, it was possible to obtain a yield of 34-36 centners with hectares, and if there was an additional crop, then 4.8-5.7 s.

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