



EFFECT OF PESTICIDES APPLICATION ON COTTON YIELD

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Annotation:

One of the main pests of spider mites is air temperature 7.3°C. emerges from the winter and multiplies in weeds. It comes down to cotton from the fourth generation. Vertimek energy 1.8% g / 10.4 l / ha, Abama 36 3.6% g / 10.3 l / ha, Agrilex 5% g / 10.2 l / ha were used against this pest and Agrilex 5% g / 10.2 l / hectare. The drug achieved high biological efficiency. 26.8 ts / ha in our control variant, the average yield in our variant using Vertimek energy is 1.8% g / l, 31.9 ts / ha in control, 5.1 ts / ha% g / l in our variant. The average yield is 32.2 ts / ha, 5.4 ts / ha more than the control, Agrilex in our variant is 5% g / l, the average yield is 34.5 ts / ha. We can see this to be 7.7 ts / ha more than the control.

Keyword: Cotton, Spiders, Vertimek energy 1.8%, Abama 36 3.6%, Agrilex 5%.

At present, the cotton plant is one of the main plants in the textile industry in the world, producing 20-22 million tons of cotton annually in 86 cotton-growing countries. tons of fiber are collected and exported. Due to the growing population of the world, the limited area of irrigated crops, the fight against pests is one of the most important tasks in the production of high quality cotton from cotton fields.

The unique natural climatic conditions of our region, as well as the favorable air temperature during the growing season of plants allow the development of many pests. That is why thousands of insects, canals, develop from agricultural crops, negatively affecting the quantity and quality of crops. There are many pests of cotton, and some species of pests affect plants only at certain stages of development. The chemical method has been used for many years in the field of plant protection, and it is one of the most effective methods in cotton fields when the amount of economic damage increases.

In cotton fields, the damage from a single cane per 100 leaves on average is 0.2%, and depending on the living conditions of the cotton, 12 to 20 generations of the pest develop throughout the year. On this account gives 8-12 generations in June-August. During development, up to 40% and more of the canals



naturally die. An air temperature of 26-33° C and a relative humidity of 35-66% are favorable conditions for spiders.

Spiders are found in 248 species of plants, including 173 species of weeds. The mite is mainly located on the back of the leaves and sucks its juice, causing damage. The leaf is wrapped with very thin gray spider webs. The spider develops in March-April for 26-30 days, in May for 15-20 days, and in summer for 8-12 days. Throughout its life, the geographical location gives 12-15 generations, depending on the type of cotton in weather conditions. Of these, the 8th-10th generation falls in June-August. When the temperature is 29° C and above, the canals break down naturally.

The spider emerges from the hibernation when the temperature is above + 7.3° C.

The spider is a constant and fierce enemy of cotton. The female of the canals goes through the developmental stages of egg, worm, imago. Favorable conditions for the development of the spider are 26-33° C and its relative humidity 55-60%. The spider spreads through the wind, work tools, water through its own threads. They thrive in weeds such as butterbur, mint, and weeds among mulberry trees.

The natural relatives of the spider feed on the blood-thirsty thrips, beetles, caterpillars, stetorus, sirfids, and wild flies. Bloodthirsty thrips lay up to 50 spider eggs and larvae per night, up to 60-70 on the Khanqizi larvae, and up to 800 on the Golden Eye larvae [2].

If the spider lands on cotton in June, 50-60% will kill 35-40% in July and 7-8% in August. Reduces fiber length. The spider is a small animal that belongs to the class of spiders. The ovary is 0.3-0.6 mm long, the spring and autumn offspring are yellowish-green, and the wintering females are reddish. During mite development, the egg, larva, nymph and mature mite go through cycles.

The larvae and nymphs resemble mature canes, their bodies are somewhat smaller, and the larvae differ in the number of 3 pairs of legs [3].

We know from the literature that the earlier a spider lands on cotton, the more damage it will do. It destroys 50-60% of the crop in the early infested areas and 15-20% in the late infested areas. The spider is a deadly pest of cotton, and if timely control measures are not taken against it, the opportunity to get the desired harvest will be lost. [4].

Our experiment was carried out on the 20-hectare field area of the farm "Sabr Qanoat Kelajagi" Shermat Yusupov massif of Izbaskan district of Andijan region in the following scheme.

No	Options	Preparation cost
1	Control	No control was used against cotton spiders.
2	Vertimek energy 1,8 % g / l	0,4 l / ha
3	Abama 36 3,6% g / l 0,3	0,3 l / ha
4	Agrilex 5% g / 10,2	0,2 l / ha

In our experimental field, Vertimek energy from anti-spider chemicals was 1.8% g / l. 0.4 l / ha, Abama 36 3.6% g / l. 0.3 l / ha, Agrilex 5% l / ha Biological efficacy was calculated during our experiments using 0.2 l / ha (Table No. 1)



Table 1 Biological efficacy of anti-spider chemicals in cotton fields

№	Options	Number of pests	Number of pests after the date of processing			Biological efficiency %			Average biological efficiency %
			3	7	14	3	7	14	
1.	Control	42	51	56	70				
2.	Vertimek energy 1,8 % g / 10,4 l / ha	40	8	6	10	80	85	75	80
3.	Abama 36 3,6% g / 1 0,3 l / ha	43	9	5	11	79	88,3	74,4	80,5
4.	Agrilex 5% g / 10,2 l / ha	42	8	5	9	85	92,5	78,5	85,3

As can be seen from the table, the first option is the control option and no countermeasures have been taken. In the second option, the Vertimek energy is 1.8% g / l. Before spraying at 0.4 l / ha, the number of pests was 40, and after 3 days the number of pests was 8. The biological efficiency was 80% and the average biological efficiency was 80% in 14 days.

In the third option, Abama 36 has a 3.6%. g / l. Before spraying at 0.3 l / ha, the number of pests was 43, and after 3 days the number of pests was 9. The biological efficiency was 79% and the average biological efficiency was 80.5% in 14 days. In the fourth variant, Agrilex was 5% em.k. Before spraying at 0.2 l / ha, the number of pests was 42, and after 3 days the number of pests was 8. The biological efficiency was 85% and the average biological efficiency was 85.3% in 14 days.

In conclusion, Agrilex 5% l / ha. High efficiency was achieved in our variant using the drug 0.2 l / ha. Based on these results, chemicals also affect productivity in different ways.

Table 2 Effects of chemicals on productivity

Options	Productivity ts/ ha				Total cotton harvest ts/ ha
	1- return	2- return	3- return	4- return	
Control	27,2	26,4	26,6	27,1	26,8
Vertimek energy 1,8 % g / 10,4 l / ha	31,8	30,2	32,5	33,4	31,9
Abama 36 3,6% g / 1 0,3 l / ha	32,7	31,5	32,5	32,3	32,2
Agrilex 5% g / 10,2 l / ha	34,3	34,7	34,5	34,8	34,5

As can be seen from the table, the average yield in terms of returns was 26.8 ts / ha in our tour control option, the average yield in our variant using Vertimek energy was 1.8% g / l, 31.9 ts / ha in excess of the control, 5.1 ts / ha % g / l In our variant, the average yield is 32.2 ts / ha 5.4 ts / ha more than in the control, Agrilex 5% g / l in our variant, the average yield is 34.5 ts / ha 7.7 ts / ha more than in the control we can see that



Table 3 Yields on returns at harvest

Options	Productivity ts/ ha			Total cotton harvest ts / ha
	1- harvest	2- harvest	3- harvest	
Control	19	6,3	1,5	26,8
Vertimek energy 1,8 % g / 1 0,4 1 / ha	22	8	2	32
Abama 36 3,6% g / 1 0,3 1 / ha	22,3	8	2	32,3
Agrilex 5% g / 1 0,2 1 / ha	23,5	9	2	34,5

Table 3 shows the yield in terms of returns at harvest. In our experimental variants, yields ranged from 22 ts / ha to 23.5 ts / ha. Thus, in the experimental variants, an additional yield of 5.1 to 7.7 ts / ha was achieved compared to the control.

LIST OF REFERENCES

1. Khasanov BA, Khamraev A. "Protection of cotton from pests, diseases and weeds." Tashkent, 2002
2. Khojaev Sh.T., Kholmurodov E.A. "Fundamentals of entomology, crop protection and agrotoxicology" Tashkent, 2008
3. Khodjaev.Sh.T "Fundamentals of entomology, crop protection and agrotoxicology" Tashkent, 2010.
4. Khamroev.A, Khasanov.B.A, Kojevnikova.A.G and others "Means of biological protection of plants" Tashkent 2013
5. Азамов, А. А., & Расулов, У. Ш. (2020). ПЕРСИКОВАЯ МУЧНИСТАЯ РОСА БОЛЕЗНЬ И ПОВРЕЖДЕНИЕ. Life Sciences and Agriculture, (2-2).
6. 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.