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APPLICATION OF CARBOPHOS IN THE CONTROL OF PLANT SPIDERS IN BUKHARA REGION

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ABSTRACT

One of the most important and highly effective factors in the technology of cultivation of agricultural crops is the protection of these plants from pests, diseases and weeds. The present paper is about the application of carbophos in the control of plant spiders in Bukhara region.

KEYWORDS: Tetruychusurmal Koch, Spider, Cotton Plant, Fruit Trees and Shrubs, Omayt, Carbophos, Agriculture, Avtomax, Yield, Hectare.

INTRODUCTION

In the economic development of agriculture, it is important to increase the productivity of cotton plants by selecting and planting high-yielding varieties that are resistant to pests, diseases and weeds [1, 2, 5].

THE MAIN FINDINGS AND RESULTS

Among the pests that damage the cotton plant, the most dangerous is the spider, the biology of which has been extensively and comprehensively studied [6,7]. In Bukhara region, spiders also damage cotton, reducing cotton yields by 20-25%. The main purpose of our experiments is to determine the timing of spider damage to cotton, to develop measures to combat it and to introduce them to regional farms. The spider infects more than 248 plant species, including 173 weeds and ornamental plants, and 38 fruit trees and shrubs.
Tetruychus urmal Koch is the most common spider in cotton-growing areas, killing an average of 35-40% of the cotton crop.

According to F.M. Uspensky [3, 4], spiders reduce cotton yields by 50-60% if no protective measures are taken when they fall on cotton in June and by 2-6% if they fall in August.

On average, if there are 150 spiders per 100 leaves, it is recommended to protect them with chemicals during this period.

For the active movement of the spider, the temperature should be 25-30 °C and the relative humidity should be 45-65%. The female of the spider lives up to 30 days and lays 200 or more eggs. The spider lives in weeds in early spring. They are 20-30 times more common in roadside weeds than in other areas [6, 7].

During 2020-2021, an experiment was conducted at the Khumin mahalla of Jondor district of Bukhara region, at the farm “Urin-Bahun-Bekzod”. As a result of our experiments on ancient irrigated meadow-alluvial lands on the farm, it became clear that the spider was found in the cotton plant in late April and early May, with 14-15 pieces per 100 cotton leaves. In order to study the effectiveness of the drug “Carbophos” in the control of spiders in cotton plants, the following variants were experimented with 50%.

1. Control (with water);
2. Omayt 1.5l / ha (57% concentrate emulsion) comparator;
3. Carbophos 1.2 l / ha (50% concentrate emulsion);
4. Carbophos 1.7l / ha (50% concentrate emulsion);

The Bukhara-6 cotton variety was used in the experiment. There are 3 replants in the area of 100 m²; cotton seedlings are located at a thickness of 91-95 thousand pieces per 1 hectare.

2020-2021 On the morning of July 14-15, using a rentomoy machine “Avtomax” sprayed the cotton plant with a working fluid at a rate of 600l / ha. Scientific observations and specific studies have been conducted to study the effectiveness of the drug used against spiders.

**TABLE 1 THE EFFECTIVENESS OF THE DRUG “CARBOPHOS” IN THE FIGHT AGAINST COTTON SPIDERS (AVERAGE FOR 2020-2021)**

<table>
<thead>
<tr>
<th>Experimentoptions</th>
<th>Consumption drug rate 1 / ga</th>
<th>The average number of spiders per leaf. untilprocessed 15. 07.</th>
<th>Daysafterprocessing 3, 7, 14</th>
<th>Efficiencybetween days, in% 3, 7, 14</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Control (with water)</td>
<td>0</td>
<td>61.8</td>
<td>65.0</td>
<td>100.0</td>
</tr>
<tr>
<td>2. Omayt 57% k.em. comparator</td>
<td>1.5</td>
<td>42.0</td>
<td>1.5</td>
<td>0.8</td>
</tr>
<tr>
<td>3. Carbophos 1.2 l / ha 50% k.em.</td>
<td>1.2</td>
<td>75.0</td>
<td>3.0</td>
<td>1.8</td>
</tr>
<tr>
<td>4. Carbophos 1.7l / ha (50% concentrate emulsion)</td>
<td>1.7</td>
<td>38.0</td>
<td>15.0</td>
<td>2.5</td>
</tr>
</tbody>
</table>
From the data in Table 1, it was found that after 7 days of chemical control of spiders, these drugs showed their effect in reducing the number of spiders, and after 14 days, their amount decreased to 99.6%. The variant used by Omayt also reduced the number of spiders, but due to the sulfur content of this drug, the farm of Khumin mahalla of Jondor district did not last long due to low soil and climatic conditions, high air temperature and lost its effect on crop storage.

The results of the experiments showed that the carbophos used was 50% k.em., the drug had a long-term effect on the cotton plant, protecting it from spiders and increasing the yield of cotton (Table 2).

**TABLE 2 THE EFFECT OF THE DRUG “CARBOPHOS” ON THE YIELD IN THE FIGHT AGAINST COTTON SPIDERS**

<table>
<thead>
<tr>
<th>Options</th>
<th>The rate of drugs consumed, l / ha</th>
<th>2020йил Productivity, ts / ha</th>
<th>Additional yieldts / ha</th>
<th>2021йил productivityts / ha</th>
<th>additional yieldts / ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Control (with water)</td>
<td>-</td>
<td>30.5</td>
<td>-</td>
<td>28.8</td>
<td>-</td>
</tr>
<tr>
<td>2. Omayt 57% k.em. comparator</td>
<td>1.5</td>
<td>34.8</td>
<td>4.3</td>
<td>32.5</td>
<td>3.7</td>
</tr>
<tr>
<td>3. Carbophos 1.2 l / ha 50% k.em.</td>
<td>1.2</td>
<td>36.6</td>
<td>5.5</td>
<td>34.5</td>
<td>5.7</td>
</tr>
<tr>
<td>3. Carbophos 1.7 l / ha 50% k.em.</td>
<td>1.7</td>
<td>35.3</td>
<td>4.8</td>
<td>34.0</td>
<td>5.2</td>
</tr>
</tbody>
</table>

The results in Table 2 show that the number of pests per leaf in the control variant was 63.3-70.1 at the end of the year in the control variant of Khumin MFY farm of Jondor district, and the spider completely disappeared in the variants using chemicals, especially “Carbofos”.

According to the options, when maintaining the yield of “Carbofos” at a dose of 1.2-1.7l / ha, an additional yield of 4.8 to 5.7 ts / ha of cotton was achieved, which ultimately led to high economic efficiency.

**CONCLUSION**

Also, the application of “Carbofos” against spiders in the amount of 1.2-1.7 l / ha in cotton plants grown in the Bukhara oasis, has a positive effect on plant growth and development in alluvial soils, which have long been irrigated; it was possible to get 34-36 quintals per hectare, and the additional yield was 4.8-5.7 quintals / ha.

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