EFFECTIVE FIGHTING AGAINST PESTS IN THE CUCUMBER PLANT IN GREENHOUSE CONDITIONS

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Abstract. This article discusses the damage caused by melon juice (Aphis gossypii Glov.) and greenhouse aphids (Trialeurodes vaporariorum West) in the greenhouse cucumber plant and the effectiveness of microbiological drugs used against it. In this: Bioslip BT, cook. 1.0-1.5kg / ha, Bioslip PV, 2.5-3.0 l / ha from the liquid preparation, and Tetramectin in the test variant, 3.6% em.k. (0.15 l / ha) chemical preparation was selected.

Introduction. Relevance of the topic. Due to the favorable climatic conditions of the country in all respects, the cultivation of vegetable crops in agriculture is now widely covered. Due to the fact that vegetable products contain a variety of vitamins, organic acids and trace elements necessary for the human body, it is important to use a combination of environmentally friendly measures to protect these crops from various pests and diseases. The convenience of our climatic conditions allows the rapid development and spread of various pests and diseases. Such pests appear in areas where poor quality control measures are carried out, and from there spread to other vegetable crops.

Today, greenhouse owners and landowners need to know the main types of pests and diseases of vegetable crops, their area of origin, dominance, species composition and proper planning of vegetable protection areas to protect crops from pests. The existence of more than 70 species of pests that damage vegetable crops in the conditions of our country has been repeated by experts. Of these, rodent-sucking and sucking pests are distinguished by the prevalence of pests such as nightshades, aphids, aphids, thrips porous flies, canals [1,2,3,4,5].

The purpose of the study. Through the spread of cucumber-sucking insect pests in greenhouses and their species composition, distribution area, dominant species and their damage to different varieties of plants, the development and recommendation of coordinated control measures against them with minimal negative impact on the environment.

Research methods. The research used common entomology as well as generally accepted methods in agricultural entomology.

In the study of the biological effectiveness of pesticides was carried out in accordance with the "Methodological guidelines for testing insecticides, acaricides, biologically active substances and fungicides" II edition T.2004 (Khodjaev, 2004). [6]. The biological effectiveness of drugs against pests was based on the formula of Abbott (1925) [7]. Insect counts are carried out before and after spraying on days 1,3,7,14. The results obtained show that B.A. Statistical analysis by Dospekhov's method (1985) revealed the smallest average difference between the experiments.

Research results. In our scientific experiments, we studied the damage and biological properties of melon juice (Aphis gossypii Glov.) And greenhouse aphids
(Trialeurodes vaporarlorum West) in cucumber plants grown in greenhouses and measures to combat them. Experimental work was carried out in 2019 in the greenhouse of LLC "Shomurod ogli" in Qibray district on a 50-day field of cucumber (Orzu-navi). Bioslip against melon juice (Aphis gossypii Glov.) BT, cook. Experiments were performed to determine the effectiveness in the amount of 1.0-1.5kg / ha. Bioslip BT, cook. 1.0l / ha. 48.7% of the biological efficiency was observed on the 7th day and 73.2% on the 21st day. The results of the experiment are given in Table 1.

Microbiological drugs tested against syphilis efficiency.

(Greenhouse experience, “Shomurod ogli” farming industry 2019, Qibray district).

**Table 1**

| No | Preparations            | Active substance               | Drug consumption% kg, l.ga | Efficiency, % by days |
|----|-------------------------|--------------------------------|---------------------------|-----------------------|
| 1  | Bioslip BT, cook        | Bacillus thuringinsis 1.1011 koe/r | 1.0                       | 30.4                  |
|    |                         |                                |                           | 39.8                  |
|    |                         |                                |                           | 48.7                  |
|    |                         |                                |                           | 61.4                  |
|    |                         |                                |                           | 73.2                  |
| 2  | Bioslip BT, cook.       | Bacillus thuringinsis 1.1011 koe/r | 1.5                       | 41.5                  |
|    |                         |                                |                           | 53.6                  |
|    |                         |                                |                           | 69.6                  |
|    |                         |                                |                           | 77.8                  |
|    |                         |                                |                           | 80.2                  |
| 3  | Bioslip PV, liquid      | Beaveria bassiana OPB-09, 1x108 | 2.5                       | 45.5                  |
|    |                         |                                |                           | 50.6                  |
|    |                         |                                |                           | 58.7                  |
|    |                         |                                |                           | 65.3                  |
|    |                         |                                |                           | 78.4                  |
| 4  | Bioslip PV, liquid      | Beaveria bassiana OPB-09, 1x108 | 3.0                       | 50.1                  |
|    |                         |                                |                           | 57.7                  |
|    |                         |                                |                           | 71.9                  |
|    |                         |                                |                           | 78.0                  |
|    |                         |                                |                           | 81.4                  |
| 5  | Tetramectin, 3.6% em.k. | Abamectin                       | 0.15                      | 40.7                  |
|    |                         |                                |                           | 68.4                  |
|    |                         |                                |                           | 81.9                  |
|    |                         |                                |                           | 88.4                  |
|    |                         |                                |                           | 84.6                  |
| 6  | Control                 | -                              | -                         | -                     |
|    |                         |                                |                           | -                     |

Bioslip BT, cook. When applied at a dose of 1.5 kg / ha, the efficacy was found to be 69.6% on day 7, and the biological efficacy was 80.2% on day 21 of follow-up. In the test variant of Bioslip PV, a liquid drug in the amount of 2.5l / ha, 58.7% of the biological efficiency was obtained on the 7th day and 78.4% of the biological efficiency on the 21st day. Bioslip PV was found to be 71.9% effective file:///C:/Users/User/Downloads/Telegram Desktop/илова.xlsx on day 7 and 81.4% effective on day 21 when the liquid drug was used at a consumption rate of 3.0 l / ha. Tetramectin in the template variant, 3.6% em.k. (0.15 l / ha) found that the biological efficacy of the chemical was 81.9% on day 7 and 88.4% on day 14.

Similar experiments with the greenhouse pest (Trialeurodes vaporarlorum West), which harms cucumbers in greenhouse conditions, gave the expected results. In our experiments, tetramectin, whose active ingredient was abamectin, was 3.6% em.k. the chemical drug was applied in an amount of only 0.15 l / ha. In it: Bioslip BT against greenhouse whitewash (Trialeurodes vaporarlorum West), cook. Experiments were performed to determine the effectiveness in the amount of 1.0-1.5kg / ha. Bioslip BT, cook. 1.0l / ha. 41.3% of the biological efficiency was observed on the 7th day and 70.3% on the 21st day in the variant used in the amount of Bioslip BT, cook. When applied at a dose of 1.5 kg / ha, the efficacy was found to be 63.7% on day 7, and the biological efficacy was 81.3% on day 21 of follow-up. In the test variant of Bioslip PV, the liquid drug in the amount of 2.5l / ha, the biological efficiency was obtained on the 7th day, 60.2%, and on the 21st day, 74.5%. Bioslip PV was found to be 74.5% effective on the 7th day when the liquid drug was used at a
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The consumption rate of 3.0 l/ha, and 83.5% effective on the 21st day when biological efficacy was obtained. The results of the experiment are given in Table 2.

Efficacy of microbiological drugs tested against Trialeurodes vaporariorum West (Greenhouse experience, Qibray district “Shomurod ogli” f/x 2019).

Table 2

| №  | Preparations                | Active substance   | Drug consumption n% kg, l.ga | Efficiency, % by days |
|----|-----------------------------|--------------------|------------------------------|-----------------------|
| 1  | Bioslip BT, cook            | Bacillus thuringinis 1.1011 | 1.0                          | 25,4 33,5 41,3 69,4 70,3 |
| 2  | Bioslip BT, cook.           | Bacillus thuringinis 1.1011 | 1,5                         | 32,5 52,1 63,7 78,9 81,3 |
| 3  | Bioslip PV, liquid          | Beavaria bassiana OPB-09, 1x108 | 2,5                          | 38,5 49,8 60,2 66,7 74,5 |
| 4  | Bioslip PV, liquid          | Beavaria bassiana OPB-09, 1x108 | 3,0                          | 42,1 54,9 74,5 80,0 83,5 |
| 5  | Tetramectin, 3.6% em.k.     | Abamectin          | 0,15                         | 41,7 54,4 76,8 84,8 86,0 |
| 6  | Control                     | -                  | -                            | -         |

Tetramectin in the template variant, 3.6% em.K. (0.15 l/ha) found that the biological efficacy of the chemical was 76.8% on day 7 and 84.8% on day 14. The results showed that Tetramectin, 3.6% em.k., was applied to the greenhouse pest (Trialeurodes vaporariorum West). The chemical drug gave high efficiency. In summary, the active ingredient is Abamectin - based Tetramectin, 3.6% em.k. The chemical preparation is a highly effective chemical agent against sucking pests in cucumber crops grown in greenhouse conditions.

This drug does not cause burns in the vegetative and generative organs of plants, and has little effect on natural cousins.

Bioslip BT, cook. (1.5kg/ha) and Bioslip PV, it is advisable to recommend liquid (3.0l/ha) microbiological preparations for pests of vegetable crops, taking into account the effect on satellite pests (aphids, thrips, algae).

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