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DAMAGE CAUSED BY THRIPS IN CUCUMBER PLANTS GROWN IN THE GREENHOUSE

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Abstract

This article presents the damage caused by thrips in cucumbers grown in greenhouse conditions. If a pest infects a cucumber that has entered the harvest, the shape of the fruit changes, a white spot is formed in the affected area, and it stops developing and hardens in this place. As a result, the quality of the product deteriorates, and the productivity is sharply reduced, and when the plant is damaged by thrips with 1 point, the yield is reduced by 1487.2 grams, the damage coefficient is equal to 47.5%, and when it is damaged by 5 points, the productivity is 2965.0 grams. . and the damage coefficient of reduction was found to be 94.7%.

Keywords: Greenhouse, plant, vegetable crops, pest, thrips, cucumber, harvest, fruit, quality, fruit, harmfulness coefficient.

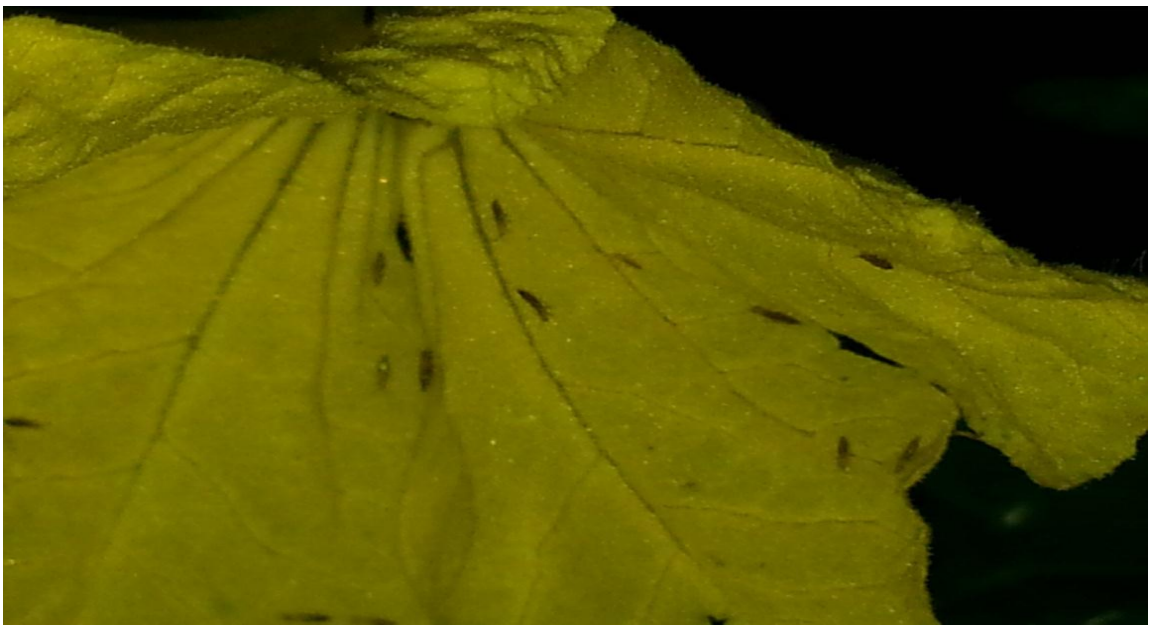
Introduction: Vegetable crops are of great importance in human life and occupy an important place in the food diet. To continuously provide the population with these products throughout the year, it is important to find ways and means of effective protection of their crops from diseases and pests. Cucumbers, tomatoes, and sweet pepper crops are grown in farms of all regions and districts of our Republic and private plots of the population. In these crops, various diseases and pests occur in large numbers and cause great damage.

Thrips, a sucking pest, cause considerable damage to cucumbers grown in greenhouse conditions. As a result of the damage of this pest, the plant stops growing, the physiological and biochemical processes are disturbed. This complicates combat measures.

Experimental results: Thrips' damage symptoms depend on the plant species. If the cucumber planted in February coincides with hot days, thrips develop very quickly. If this pest infects a cucumber that has entered the harvest, the shape of the fruit changes, a white spot is formed in the affected area, and it stops developing and freezes in this place (Fig. 1). As a result, the quality of the product deteriorates, and the productivity decreases sharply.

1. picture. Damage of thrips in cucumber crop

When thrips attack strongly, even young plants die. Adult and mature thrips like to feed on the sap of newly opened flowers of cucumber, and when multiplying strongly, up to 10–15 thrips can be found in one flower (Fig. 2). Such a situation was also observed in the flowers of the upper parts during the cucumber growth period.



Picture 2. Damage of thrips on cucumber flower

a **b**

Figure 3. The greenhouse where observation was carried out (a. germination time of the growing season, b. flowering time of the growing season)

The coefficient of damage caused by thrips in cucumbers. During 2018-2021, we studied the damage caused by thrips in cucumbers planted in the greenhouses of the Scientific Research Institute of Vegetables and Potato. For this, 20 marked plants were taken. The location of the pest on the surface of the cucumber leaf was recorded on a 5-point scale. (points and damage percentage are below)

Score	Percentage of damage, %.
I	0-10
II	11-25
III	26-50
IV	51-75

V 76-100

The pest in the cucumber plant in the control variant was controlled chemically. The yield of experimental and control plants was measured, and the average weight of fruits was counted and averaged. Based on the obtained data, the harmfulness coefficient of thrips in cucumber was determined.

In this case: 1 point of the surface of the leaves in cucumber was damaged by this pest, the yield of 1 bush of cucumber plant decreased by 1487.2 grams, and the coefficient of damage was equal to 47.5%. When plant leaf thrips damage was 2 points, a yield reduction of 1917.7 grams was observed, and it was determined that the damage coefficient was 61.2%. When the damage of thrips on the surface of the cucumber leaf is 3 points, the yield reduction is equal to 2426.3 grams, and the damage coefficient is 77.5%. At the same time, it was observed that when the pest causes damage on the surface of the leaf at the level of 4 points, the yield will decrease by 3068.3 grams, and the damage coefficient will be 81.8%. In our experiments, the yield of 1 cucumber plant decreased by 2965.0 grams, and the damage coefficient was equal to 94.7% when infected with thrips of 5 points of the leaf surface of cucumbers (table).

During fruit ripening, when the level of damage was 1 point, it was found that the yield was reduced to 200.6 grams per bush, and the damage coefficient was equal to 5.3%. When damaged by two points, 450.8 grams of the crop were killed, and the damage coefficient was equal to 12.02%. Three points at the door of fruit ripening. and when infected, the yield is 1052.4 grams. the decrease was confirmed and the damage coefficient was 28.0%. When the pest was infected with 4 points, the yield from 1 plant to 1563.3 grams was destroyed, and the coefficient of damage was equal to 41.8%. When infected with 5 points, the coefficient of damage in 1 plant is equal to 64.8%, and 2434.1 grams of yield decrease was confirmed by our observations.

Table 1. The harmfulness coefficient of trypsin in cucumber under greenhouse conditions

Location of thrips on the leaf surface, (points)	Harvest from 1 bush cucumber, gr. average	The number of fruits in 1 bush of cucumbers, pcs average	Yield reduction compared to control Gr.	Damage coefficient, %	Average weight of 1 cucumber Gr.
Control	3129,3±0,71	28,5±0,60	--	--	109,8
1	1642,1±0,65	17,3±0,57	1487,2±0,61	47,5±0,58	96,4
2	1211,6±0,72	13,8±0,63	1917,7±0,77	61,2±0,70	87,8
3	703,0±0,69	9,5±0,74	2426,3±0,68	77,5±0,67	74,0
4	390,5±0,73	5,9±0,79	2738,8±0,57	87,5±0,72	66,2
5	164,3c±0,68	2,8±0,72	2965,0±0,74	94,7±0,70	58,7
EKF_{05}				0,7	

Conclusion: It was found out from the conducted experiments that when a cucumber plant grown in a greenhouse is damaged by thrips with a score of 1, the yield is reduced by 1487.2 grams, the damage coefficient is equal to 47.5%, and when it is damaged by a thrips with a score of 5, the yield is 2965.0 grams. and the damage coefficient of reduction was found to be 94.7%.

LIST OF REFERENCES

1. Mamatov K. “Sabzavot ekinlari zararkunandalari va ularga qarshi kurash” //“Agro kimyo himoya va o'simliklar karantini”. Ilmiy- amaliy jurnal. Toshkent -2017 y. № 4(4). B. 46-47.
2. Mamatov K. Va boshq. “Sabzavot kartoshka va poliz ekinlarining zararkunandalari va kasalliklariga qarshi kurash bo'yicha tavsiya” “MNA-SHOH” MChJ Toshkent.- 2020 –B-18.
3. Alimuxamedov S., Mamatov K. “Issiqxona sharoitida yangi agrotexnologiyalarni qo'llashning ahamiyati” Agro Kimyo Himoya va O’simliklar Karantini. №5. Toshkent-2022y. 54-56b.