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## DISTRIBUTION, DAMAGE AND CONTROL MEASURES OF TOMATO MOTH (TUTA ABSOLUTA MEYR.)

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**Abstract:** In our country, the leadership of our state attaches great importance to providing the population with food products, including domestically grown tomatoes. One of the most pressing issues today in our country is agriculture in a market economy, aimed at improving the living conditions of the population and protecting the environment. In particular, the promotion of a sufficient number of agricultural products per capita to the level of highly developed countries is the basis of the agrarian policy pursued in the Republic. This is due to the fact that in recent years, from the southern to the northern regions of the country, as a result of damage to the tomato crop (*Tuta absoluta* Meyr), the plant withers, yields fall, market prices rise.

**Keywords:** biology, morphology, damage control measures.

### Introduction

The homeland of the tomato moth is South America. In 1980, it was discovered to be present in all parts of the region. In recent years, it has spread to Spain, France, Italy, Greece, Malta, Morocco, Algeria, Libya, Turkey, Syria, Lebanon, Jordan, Iran, Egypt, Sudan, Ethiopia, Senegal, and Ukraine, causing great damage. It has been found in Russia since the fall of 2010 and in Kazakhstan in 2011.

It was found that tomato crops grown in Navoi, Bukhara, Kashkadarya, Samarkand and Tashkent regions of the country, as well as in some greenhouses and open fields of the Fergana

Valley are infected with tomato moth (*Tuta absoluta* Meyr). In the last 5 years, the early arrival of spring and the overheating of the air temperature have created favorable conditions for the growth and development of tomato moth. In addition, the mass flowering of tomatoes was observed in May, a little earlier than every year, when the first generation of tomato moth in the open field, as a result of which 50–70% of tomatoes planted during the growing season died during the growing season.

### Main Part

Tomato moth In open fields during the entire growing season of tomatoes, especially in areas where maintenance agrotechnical measures are not carried out in a timely manner, their damage increases, and the buds, leaves, stems and fruits at the point of growth of plants sometimes damage the root collars of the stem. Therefore, this year, as a result of the increase of this pest in the tomato fields of farms of the republic, it was observed that the yield increased by 50-100% and caused serious damage. In addition, as a result of the removal of plant moth-infested plant residues in the greenhouse in May due to the end of the growing season, the moths in the plant residues flew to the open field and grew sharply in the open field. the resulting damage was found to be increasing. For this reason, urgent agro-technical and biological control measures must be taken. **Countermeasures:**

**Agrotechnician.** The main advantage of the agrotechnical method in the protection of vegetable crops from pests is that there are no additional costs when using this method, as all agrotechnical measures are part of the technology of cultivation of plants. The application of timely and reasonable agro-technical complex measures to vegetable crops improves its growth and development, increases its resistance to tomato moth. To increase the plant's resistance to pests, it is necessary to provide mineral nutrition, timely watering, fertilizing. Some leaves of the first infected plants should be removed or strongly damaged plants should be removed from the

greenhouse or field, buried or burned. Weeding (belonging to the family of alfalfa) and disinfection of the greenhouse should be carried out.

**Biological control measures.** Currently (in Bukhara, Navoi, Tashkent region and valley regions) against the moth butterflies "Coppert BV" pheromone catchers "Pherodis", "Biobest", "Tutasan", "IFODA" and "OSIYOHIMIMPORT". Pheromone catchers are used and high results are achieved. "Tutamon" pheromone trap 2 pheromone traps will be approved for monitoring 1 hectare of land. 20-30 pheromone traps are provided for mass catching of butterflies on 1 hectare of land. To use the "Tutasan" pheromone handle, they are placed in the middle of the water container in special devices, to increase the viscosity of the water, 100 ml of liquid soap or oil is added to the water inside the container and placed 1 meter above the ground. When this pheromone trap was applied at 10-40 per hectare, thousands of butterflies were observed to fall in one day. Hanging screens with yellow glue at 35 per hectare will also prevent the spread of butterflies on the tomato moth.



#### **Biological control measures. "Tutasan" pheromone catcher**

Research on pheromone traps, which are widely used in the country today, is carried out by the staff of the laboratory "Fumigation and application of pheromones" of the Plant

Quarantine Research Center. Pheromone traps of 2 pieces per hectare are planted at a height of 15-20 cm from the plant and control of butterflies falling on the pheromone trap is carried out.

**The order of control is as follows:** Planted tomatoes (March-early, July-late) germinate and put pheromone traps in the phase of 4–5 leaves. After the pheromone traps are placed, monitoring is performed every 3 days until the first butterfly falls. As soon as the first butterfly is detected, it is counted every morning. The number of fallen butterflies is calculated for each contour, and the data obtained are recorded in a notebook. Information on the results of generalized pheromonitoring in the region (districts) is submitted to the inspection "Uzstatekarantin". By clarifying the areas where the tomato moth has spread, the areas where it can spread next year are predicted and a map is formed. This means that in order to reduce the spread and damage of tomato moth in greenhouses and in the open field, first of all, timely agro-technical measures, biological and chemical control measures can be used to maintain productivity. In order to prevent the damage caused by tomato moth in the country and to obtain high and quality yields from these crops, it is necessary to implement the following control measures:

- Pre-sowing treatment of tomato seeds with chemicals;
- selection of varieties and hybrids resistant to tomato moth, taking into account soil and climatic conditions, their placement on a scientific basis;
- Proper organization of crop rotation when planting tomatoes;
- Loss of wintering phases through high-quality autumn plowing;
- organization of burial of plant remains in specially dug pits and bags, which will be removed after the end of the season in the greenhouse;
- Selection of seedlings from nurseries not affected by moths and other diseases, chemical treatment of seedlings before planting in the field;

- to organize the systematic use of pheromone traps (to know the timing of emergence and, in part, as a measure of control) based on the timing of reproduction and reproduction.

- During the growing season of tomatoes it is necessary to apply the permitted drugs against these pests in the required time and in the prescribed manner.

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