

Pheromonitoring Conducting Surveillance of Learning Tuta Absoluta and Phthorimae Opercolella's Density and Spreading

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Abstract:

In this article, marking of effective methods to demands of protecting plants with biological agents through the Republic's economic regions is displayed.

Keywords: tuta absoluta, phthorimae opercolella, pheromone handle, experiment, option, density, damage, duration.

Introduction. Vegetables- are most consuming food products category in humanity. On the one hand, useful for our health, on the other hand, they are a beauty of our tableware, also: tomato, cumumber, several greens. But in recent years, in main tomato growing areas, the pest of tomato-tuta absoluta is spreading.

At this point, it is worth to say tuta absoluta is found in 2015 in Toshkent, Navoiy, and Buxoro regions. The habitat of this insects is South America, and they harm to the Nightshade plant family, especially, tomato, aubergine, and tobacco. Damaged saplings will fall behind from growth. Leaves may be yellow and dry off. Their fruits' quality will be damaged by the impala. Productivity will be decreased sharply. They may be damaged by 100 %, if pest control will not be taken.

From a Head Institute to the Andijan regional branch of Plant Quarantine and Protection Scientific Research Institute, the "Sigmaitaly" pheromone handles made by "Biosigma MCHJ" and " IDEAL AGRO HIMOYA" pheromone handles made by "Ideal Agro Himoya MCHJ" are brought. Pheromone handles' main function is detect a density and flight times of mature species of Tuta absoluta and Phthorimae opercolella and choose a best way to attack against pests.

For a purpose of find a pheromone handles' right selecting efficiency, in 2024 6th May , in Andijan

experiment station fields "Vegetables, Field Crops and Potato Farming" Scientific Research Institute, in Andijan region, Andijan district, the tomato's TMK species and potato's Barlos species are tested. Experiments have been carried out every two days with the observation of mature breeds of the pest that fell into pheromone traps. Monitoring and evaluation work continued until 6 June.

1st table: Pheromonitoring on the study of the distribution and density of tomato moth (Tuta absoluta)

options	retur ns	number of butterflies caught for a single trap sample, in days															Total observati on days
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
		06.0 5	08.0 5	10.0 5	12.0 5	14.0 5	16.0 5	18.0 5	20.0 5	22.0 5	24.0 5	26.0 5	28.0 5	30.0 5	02.0 6	04.0 6	
Models																	
"Sigmaita ly" tomato moth:	1	1	0	0	1	1	1	0	0	1	1	0	0	0	0	0	6
	2	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	3
	3	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	3
Total		1	1	0	1	1	3	2	0	1	2	0	0	0	0	0	12
averages for per handle:		1	1	0	1	1	1	1	0	1	1	0	0	0	0	0	8
Experiment:																	
Ideal Agro Himoya	1	6	5	5	0	9	6	8	4	5	1	2	2	5	0	1	59
	2	3	2	5	3	4	5	4	5	6	2		2	1	1	0	46
	3	7	5	6	5	8	7	7	7	5	3	4	3	4	1	0	72
Total		16	12	16	8	21	18	19	16	16	6	9	7	10	2	1	177
averages for per handle:		5	4	5	2	7	6	6	5	5	2	3	2	3	1	1	59

2nd table: Pheromonitoring on the study of the distribution and density of tomato moth (Phthorimaea opercolella)

options	retur ns	number of butterflies caught for a single trap sample, in days															total observati on days
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
		06.0 5	08.0 5	10.0 5	12.0 5	14.0 5	16.0 5	18.0 5	20.0 5	22.0 5	24.0 5	26.0 5	28.0 5	30.0 5	02.0 6	04.0 6	
Models																	
"Sigmaita ly" tomato moth:	1	1	1	2	0	0	1	2	0	0	2	1	0	0	0	0	10
	2	1	1	3	1	0	2	1	0	0	1	1	0	0	0	0	11
	3	3	2	3	1	1	0	0	2	0	1	0	0	0	0	0	13
Total		5	4	8	2	1	3	3	2	0	4	2	0	0	0	0	33
averages for per handle:			1	2	1	1	1	1	1	0	1	1	0	0	0	0	11
Experiment:																	
Ideal Agro Himoya	1	5	7	4	5	0	3	3	4	2	1	2	0	0	0	0	36
	2	6	3	5	5	2	4	3	2	0	1	2	0	1	0	0	34
	3	4	3	2	1	2	3	0	1	2	1	0	0	1	0	0	20
Total		15	13	11	11	4	10	3	7	4	3	2	0	2	0	0	90
averages for per handle:			4	3	3	1	3	2	2	1	1	1	0	1	0	0	27

The experimental system consists of 2 options and 3 returns, as an experiment, the first option was studied the effectiveness of feramon handles, which were produced from IDEAL AGRO HIMOYA MCHJ pheromone handles for tomato moth (Tuta absoluta) as well as potato moth (Phthorimaea opercolella). As a default option, the second option studied the effectiveness of pheromone handles produced by "Sigmaitaly" MCHJ for tomato moth (Tuta absoluta) as well as potato moth (Phthorimaea opercolella).

The result of the pheromones used to combat the tomato moth led to the following conclusions in experiments. According to the results of observations experiment 1 in our option experiment, the total number of butterflies falling on return 1 during the observation days was 59, the total number of butterflies falling on Return 2 was 46, and the total number of mature breeds falling on return 3 was 72. According to the results of observations Experiment 2 in our option template, the total

number of fallen butterflies in return 1 during the observation days was 26, the total number of fallen butterflies in return 2 was 18, and the total number of fallen mature breeds in return 3 was 19. Even in the pheromones used for the potato moth, the above laws were repeated and observations were made as follows. According to the results of observations experiment 1 in our option experiment, the total number of butterflies dropped in return 1 during the observation days was 36 in return 2 the total number of butterflies fell 34 in return 3 and the total number of mature breeds dropped in return 3 was 20. According to the results of observations Experiment 2 in our option template, the number of total fallen butterflies in return 1 during observation days was 10 in return 2 the total number of fallen butterflies in return 2 was 11 in return 3 and the total number of mature breeds in return 3 was 13.

Conclusions. From the results of the experiment put forward, we can conclude that the efficiency of the pheromone handles of the IDEAL AGRO HIMOYA MCHJ was found to be high in determining the density of the resulting cartilage as well as preventing its proliferation.

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