EduVision: Journal of Innovations in Pedagogy and Educational Advancements
Volume 01, Issue 03, March, 2025
brightmindpublishing.com
ISSN (E): 3061-6972

STUDY OF THE EFFECTIVENESS OF THE DRUG BELMAK 5% EM.K AGAINST MELON FLY (CARPOMYA PARDALINA BIGOT) IN THE CONDITIONS OF THE KHOREZM REGION

Sadullayev Sanjarbek Madiyarovich 1
Komilova Sohiba Qadamboy qizi 2
Dotsent 1.; Head of the “Fruit and Vegetable”
Department of Urganch State University.
Student 2 of Urganch State University

Abstract:
In this article, the degree of harm caused by the melon fly pest to melons is studied, and it is aimed to increase the effectiveness of agrotechnical measures to achieve high efficiency in the fight against it by using chemical preparations and to save the cultivated crop.

Keywords: Melon fly, mother, larva, phase, meat part, enzyme, drug.

Introduction

Melon fly is widespread in many countries of the world and is considered the most dangerous pest of melons, watermelons, squash, and cucumbers. The pest causes significant damage to melon crops in the Republic of Khorezm and Karakalpakstan (E.E. Turaniyazov, A. Zhandauletov Q.B.Dushamov, Q Eshchanov 2007 [5,4]. According to the data studied by scientists, the melon fly damages melons by 95-100%, watermelons by 5-25%, cucumbers by 3-5%, and pumpkins by 20-25%, according to the studies of D.Obidjonov, B. Dushamov, F. Matkarimova, it was found that the melon fly damages watermelons, squash, and other crops of this family by 20-25% [3]. The melon fly was first discovered in 2001 and has been widely distributed since 2002 [7]. A single female melon fly lays up to 60-110 eggs during her lifetime under favorable conditions. Control measures require taking into account the fact that adult flies are most abundant on melon plants during the flowering phase. The pest develops in 3-4 generations in the conditions of the Khorezm region [6]. The insect develops in the Khorezm region in 3 generations

EduVision: Journal of Innovations in Pedagogy and Educational Advancements
Volume 01, Issue 03, March, 2025
brightmindpublishing.com
ISSN (E): 3061-6972

[3]. The pest damages watermelons, pumpkins and other crops of this family by 20-25% [3].

Experiences gained During 2023-2024, monitoring was conducted on farms in the Khiva and Khanka districts to determine the level of damage to melons by the melon fly.

During the years of the study, it was found that 35-40% of melon fruits were infected with melon fly at the "Dashoqli Sobir Rakhimov" farm in Khiva district, 32-38% at the "Bobo Mulla" farm, and 35-42% at the "Hamdambek" farm.

The melon fly begins to fly in the second decade of May. The female flies mate and lay eggs 3-4 days after emerging from hibernation.

In the conditions of our republic, it develops in 3-4 generations. The melon fly lays eggs on the mother flower, nodes and fruits of melon crops during the growing season, and the larvae that hatch from the eggs penetrate the fruits and damage them, making the resulting crop unfit for consumption. It is difficult to determine whether melon fruits are damaged by the melon fly by their appearance.

The melon fly flies out of wintering grounds in the third decade of May and the first decade of June, when the soil temperature exceeds +20C, and begins to lay eggs during the flowering and fruiting phases of watermelons, and after 3-5 days, larvae hatch from the eggs and begin to damage them. When a mature female fly reaches a length of 3-5 cm, she lays up to 1-20 eggs on each fruit. An adult female fly lays up to 110-150 eggs during her lifetime. The larval period of the pest lasts 12-20 days inside the watermelon fruit, during which the larva forms paths inside the damaged fruit along which it moves. These paths are red, reddish, black, or brown in color.

1- picture

2- picture

EduVision: Journal of Innovations in Pedagogy and Educational Advancements
Volume 01, Issue 03, March, 2025
brightmindpublishing.com
ISSN (E): 3061-6972

1-picture. Appearance of the melon fly.

2- picture. Damage to the flesh of a melon affected by the larvae of the melon fly.

The flesh of the damaged fruit is spoiled and bitter due to the various enzymes, acids and other substances contained in the waste secreted by the pest larvae, as well as the disruption of physiological processes and metabolism in the fruit flesh. After the larvae finish feeding, they pierce the fruit skin and go to the fruit to form a fungus. Through the holes formed, air and saprophytic fungi enter the fruit flesh, accelerating the process of fruit spoilage, the fruit rots, emits an unpleasant odor and becomes completely unfit for consumption.

Results and Discussion

In our research conducted in some districts of the Khorezm region in 2023-2024, the level of damage to melon by the melon fly was studied. The experiments were conducted in 3 replicates, consisting of an experimental and control variant. The level of damage was determined the day before the application of the chemical preparation. The preparations were sprayed on melon plants between 5 and 8 am with motorized sprayers. Mathematical analyses were carried out based on the methodological instructions published in 2004 under the editorship of B.A. Dospekhov's "Methodology of field experiments" (1985) and by Sh.T. Khojayev [1,8].

The conducted studies revealed that the level of damage to melon varieties by the melon fly was 35-42% in 2022 and increased to 36-45.0% in 2023-2024, or an average of 1.4% and 1.7%, respectively, over the years. According to the results of monitoring and field experiments conducted in 2023-2024, the damage to melon fruits by the melon fly was 34.6-42.1%. The damage to melon fruits planted between cotton and other crops was 46.2-55.4%.

1-Table

Effectiveness of chemical preparations used on watermelon against melon fly. (2023-2024)

Options		Drug consumption rate l/ga	Biological efficacy %	Extra crop saved st/ga	Retained yield difference +-
1.	Control (untreated)	0	0	34.6	
2.	Belmak 5% em.k.	0.4	93.6-96.5	140	+101.4
3.	Detsis 2.5% em.k. (B)	0.5	82.9-96.4	128	+88.4
4.	Tsipi 25% em.k. (B)	0.5	88.5-90.2	135	+96.4

EduVision: Journal of Innovations in Pedagogy and Educational Advancements
Volume 01, Issue 03, March, 2025
brightmindpublishing.com
ISSN (E): 3061-6972

According to the results of the study (Table 1) conducted to determine the biological effectiveness of the chemical preparations used in the experiments, when Belmak 5% em.k. was used at a rate of 0.4 liters per hectare, the biological effectiveness was 93.6-96.5%, and the amount of saved yield was 140 centners, when Detsis 2.5% em.k. was used at a rate of 0.5 liters per hectare, the biological effectiveness was 82.9-96.4%, and the amount of saved yield was 128 centners, when Tsipi 25% em.k. was used at a rate of 0.5 liters per hectare, the biological effectiveness was 88.5-90.2%, and the amount of saved yield was 135 centners, and the amount of saved yield in the control variant was 34.6 centners per hectar. In the variants treated with the chemical preparation, an average yield of 135-140 quintals was preserved, and the highest efficiency was achieved in variant 2, which was treated with the 5% Belmak preparation.

Conclusions

1. Despite the fact that the damage caused by the melon fly to melons has increased from year to year, an ideal method of combating the fly has not been created, currently the chemical and combined methods are leading. Other methods have not been sufficiently effective. In the early stages, the level of damage to melons was 35-42%, but by 2024 it increased to 36-45.0%. The main reason for this is that the pest is adapting to environmental conditions, and in the subsequent period, the areas planted with melons are decreasing compared to watermelons.
2. It was found that the effectiveness of chemical preparations is higher in the period from 5 to 8 in the morning. Belmak 5% preparation was more effective than Detsis and Tsipi. In the future, the creation and improvement of winter varieties of melon with thick skin will increase the effectiveness of the fight against melon fly in melon.

References

1. Dospexov B.A. “Методика поливого опыта”(1985)-35/c.
2. B.Dushamov, K.Eshanov “Qovun pashshasi hisil kushandasi” O’zbekiston qishloq xo’jaligi №2 2004. 29 b.
3. D.Obidjonov, B.Dushamov, O.Matkarimova “O’simliklar himoyasi va karantini” №3 2016. 27-28b.

EduVision: Journal of Innovations in Pedagogy and Educational Advancements
Volume 01, Issue 03, March, 2025
brightmindpublishing.com
ISSN (E): 3061-6972

4. E.To'raniyozov, O.Abatov "Qovun pashshasi" O'zbekiston qishloq xo'jaligi №5 2003. 29 b.
5. Xakimboy o'g'li, B. O. (2023). Qovunning "OQ NOVVOT" va "ZARGULOBI" navlari xosildorligiga biostimulyatorlarning ta'siri. Gospodarka i Innowacje., 36, 171-173.
6. E.To'raniyozov, R.Yusupov, K.Shomurotov "Qovun pashshasi hosil kushandasi" O'zbekiston qishloq xo'jaligi №6 2021. 11 b.
7. Xo'jayev Sh.T. "O'simliklarni zararkunandalardan himoya qilishning zamonaviy usullari va vositalari" Tashkent-2015 y. 552 b.
8. Xodjaev Sh.T. Insektitsid, akaritsid, biologik faol moddalar va fungitsidlarni sinash bo'yicha uslubiy ko'rsatmalar (II nashr). – Toshkent, 2004. – 103 b.
9. Mirzamuratovna, M. S., & Samandarovich, A. T. (2023). Moyli kungaboqarning "DILBAR" va "OSIYO" navlarida o'g 'itlash meyorining hosildorligiga ta'siri. Barqarorlik va yetakchi tadqiqotlar onlayn ilmiy jurnaki, 3(5), 197-199.
10. Ramatov, B. Z., Matyaqubov, M. M., & Bekchanov, X. Y. (2023). Xorazm viloyati sharoitida qovoq urug'ini unuvchanligini o'rganish. Innovative developments and research in education, 2(19), 7-9.
11. Садуллаев, С., Абдуллаев, Д., & Салимов, Ш. (2021). Развитие продуктивнЫх и экспортно-браковЫх, первичнЫх посевов сортов дЫни. InterConf.