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Melon's Beneficial Properties And Pest Control

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Abstract. Today, cultivation of melons and their protection against perts, diseases and alien species is a major issue in the field of crop cultivation. In particular, the fight against quarantine pest Myiopardalis pardalina Bezzihelps to reduce the melanoma production by 80–85%. It also describes the preservation of the article, and the measures it takes against it to clarify all the research findings.

Key words: melon, melon fly, bioeology, development, control measures.

If you want to preserve melon for the winter, the following tips will come in handy: the first method is to divide the melon into wedges, place them in the freezer, and freeze them. Then remove the frozen wedges from the freezer, place them in a plastic bag, and place them back in the freezer. The second method is to make jam. However, this method loses the melon's nutritional properties, while preserving its flavor [1].

Melon, like other agricultural plants, has been reported to be infested with specific pests. These include: the melon beetle or epilyachna *(Epilachna chrysomelina)*; aphid *(Aphis gossypii)*; acacia aphid *(Aphis craccivora)*; fall armyworm *(Agrotis segetum)* and cutworm *(Agrotis exlamationis)*; melon fly *(Carpomoya pardalina Bigot)*; tobacco thrips *(Thrips tabaci Lind)*; root tumor nematode *(Hemerodera marionu)*; and rot nematode *(Aphelenchus owenae)* [4]

Our research was conducted in the Fergana region. It focused on improving plant protection systems based on predicting the development of the melon fly, studying the development dynamics of the melon fly, which currently causes significant damage to melon crops, and measures to eradicate this pest.

Myipardalis pardalina Bezzi, the melon fly, is a member of the Diptera group and belongs to the family of winged spotted insects. It overwinters as a pupal form at a depth of 10–20 cm in the soil. Emerging from hibernation, the flies emerge in the second half of May during melon flowering and fruit set.

After feeding on aphids, the flies pierce the egg cell membrane in the rind of new melons or melons, laying 20 or more eggs under the rind [4].

Egg-laying begins when the fruit reaches 3-5 cm in diameter. One female fly lays 98-130 eggs per season. The eggs undergo embryonic development for 2-8 days, and larvae hatch. These larvae immediately migrate to the fruit, feed on the fruit, and reach the seeds, where they feed. After 10-18 days of development, they emerge through the fruit skin and penetrate the soil to a depth of 5-15 cm, transforming into pupae. After 10-18 days, second-generation flies emerge from the pupae, and the females begin laying eggs again. The lifespan of one generation is 30 days. Several generations can occur in a single season; for example, 3-4 generations have been observed in Afghanistan, 2-3 generations in Karakalpakstan, and 2-3 generations in other regions of Uzbekistan [2].

The research was conducted in the fields of the Sayyora Yerlari, Madinabonu, Balikchi, Ulugnor, and Baghdad melon farms in the Andijan and Fergana regions, which specialize in growing melons. The experiments were conducted using a comprehensive control system against the melon fly. The research results were compiled based on observations conducted during the 2024-25 season. In 2025, agronomic measures to combat the melon fly were carried out according to the scheduled dates. The following measures were implemented: crop rotation, deep plowed soil, and winter soil irrigation. Given that the melon fly overwinters at a depth of 10-20 cm in the pupal stage, certain rules must be followed. Failure to implement timely agronomic control measures and implement agronomic measures will cause significant damage to plants [1].

Melons should not be planted continuously in the same area for 3-4 years, and melon fields should not be located close to each other, as the melon fly has a significant impact not only on melons but also on other melons, including watermelons and pumpkins. It has been found that the greatest damage is caused to

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melons planted in open areas during their first flowering period. It has also been found that after 1-2 years of flowering, melons planted under plastic film produce unripe melons that are not affected by pests, but after 3 flowerings, unripe melons are susceptible to pests [2].

A reduction in pest numbers was also achieved through physical and mechanical pest control. During experiments, water was poured into empty beverage containers, a candle was placed in the center, and the candle was lit after sunset. It is known that many insects fly primarily at night, including the melon fly. Therefore, this method was used. Two to three butterflies were captured in one night. We have reports of naturally occurring entomophages, in addition to the melon fly, being trapped. When melon fruit infested with the melon fly reaches 3–5 cm in size, mechanical control is used, i.e., they are collected by hand. When the melon fly eggs reach 3–5 cm in size, the butterflies insert their eggs into the fruit and lay up to 20, sometimes more, eggs. Collecting the infected eggs prevents the melon fly from increasing in numbers and spreading. Harvested infected melon tubers are burned or collected in double-layered plastic bags and buried at a depth of 3–4 meters. For biological control, the use of Trigramma edulis, an egg-eating parasite against spider mites and melon aphids, and against white-winged encarsia parasites is recommended [5].

However, in the Baghdad and Yazyavan districts, entomophages are not currently used for biological control of the melon fly. Chemical treatments using Espada sus.c., 0.25-0.3 l/ha, Defentox 2.5 em.c., 0.25-0.5 l/ha, and Fufanon 57% em.c., 0.2-0.3 l/ha, resulted in pest resistance. The observed effect of these chemicals was only 25-30%. [3].

The sulfur preparation is a light yellow powder with a particle diameter of 4-200 microns and a liquefaction temperature of 112.8°C. It contains 90-95% pure sulfur. It is known that staggered placement of this preparation and fumigation can effectively prevent the melon fly from migrating to other uninfested fields. It is known that 90-95% of the effectiveness in pest control comes from applying 70%-72% n-kuk anthracline per 1 ha/150-200 g. Finally, we can conclude that a single control method is not sufficient to combat the melon fly. We can create favorable conditions for increasing the yield of cultivated melon crops by 80-85% by adding a melon fly control system.

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