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## Tobacco Bulletin In Reproduced Massage And Measures To Combat It

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### Abstract

*Currently, the control of annual and perennial cereal weeds, as well as some annual and biennial weeds that negatively affect the growth and development of polydora plants, is relevant. This article provides information on determining the biological efficacy of Escudo 50% w/v on tomato plants.*

**Keywords:** *Tomato, annual and perennial cereal weeds, control measures.*

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In the world today, a number of large-scale measures have been implemented in countries such as China, India, Korea, Russia, and several others to meet the demand for yields from mung bean crops. Mung beans are primarily plants that are sown repeatedly over large areas, and developing methods to combat their pests in accordance with modern technologies is one of the urgent tasks of today. Currently, the cultivation of mung beans has been organized as a repeated crop in fields previously planted with other crops.

Research Materials and Methods. The research results on the identification and systematic analysis of harmful organisms encountered in the mung bean fields sown repeatedly throughout 2024 in the experimental fields of the Scientific Research Institute of Grain and Leguminous Crops in the Andijan district of Andijan region are presented.

In this study, it has been reported that more than 27 species of pests (Table 1) and over 10 species of natural enemies have been identified in the agrobiocenosis of the mung bean sown repeatedly.

Systematic analysis of pests and their species in the agrobiocenosis of mung beans sown repeatedly, as well as the assessment of the distribution of dominant species and the damage they cause, was conducted using the methodologies of G.Ya. Bey-Biyenko, S.M. Volkov et al., I.Ya. Polyakov et al., K.Ye. Voronin, S.G. Boinskaya, B.P. Adashkevich, E.S. Shiyko, G.S. Pospanov, Tanskiy et al., and L.M. Kopaneva [4-6].

**Research Results and Discussion.** According to the results of the conducted research, both major and specialized pests are present in mung beans sown repeatedly, including the aphid, autumn moth, leaf beetle, plant bugs, and sap-sucking pests such as melon aphid, bed bug or acacia aphid, large leaf aphid, greenhouse whitefly, as well as specialized pests that cause damage during the storage of these crops, such as grain bruchids. A total of 27 species of pests were observed in mung beans sown repeatedly [5].

*Bemisia tabaci*, commonly known as the tobacco whitefly, is a pest insect that is found in many regions around the world. It is considered one of the main pests of various plants belonging to the Solanaceae and Cucurbitaceae families, including tomato, pepper, cucumber, bean, mung bean, lettuce, tobacco, watermelon, melon, begonia, and many other flowering plants.

Controlling the tobacco whitefly is very challenging and has required extensive research over a long period. The difficulties in control stem from the unique biological characteristics of this pest. It can protect itself from unfavorable external environmental conditions and has the ability to multiply rapidly and disperse over large distances. In greenhouses, when partially controlled, light intensity, temperature, and humidity facilitate the development and mass emergence of the whitefly, allowing this pest to thrive continuously throughout the year. It produces numerous generations within a single year [1-2].

During the spring-autumn period, the whitefly can reproduce 7-8 times, and in greenhouses during the autumn-spring months, it can reproduce 4-5 times, resulting in a total of 11-13 generations throughout the year. The fecundity of the females is quite high, as they can lay

between 100 to 200 eggs during their lifetime, and in some cases, up to 500 eggs can be laid on the underside of the leaves. In the spring, when unfavorable conditions arise in greenhouses, the females fly out to feed on various nearby plants and lay their eggs. The small, oval-shaped eggs are attached to a short stalk. After 5-8 days, the eggs darken, and larvae emerge from them. In the initial stage, the mobile larvae settle in a suitable place, become immobile, and feed in one spot, molting twice before transforming into nymphs. They undergo the stages of egg, three larval stages, nymph, and adult (imago). The whitefly is an insect that undergoes incomplete development.

Under optimal conditions, at a temperature of 21-24 °C, the complete development of one generation takes more than three weeks. The whitefly causes damage primarily during its larval stage. The larvae possess a specialized digestive structure typical of insects in the order Hemiptera, allowing them to digest only a portion of their food, while the undigested part is excreted. Subsequently, the leaves of the infested plants are covered with honeydew, which darkens and becomes moldy over time, leading to a decline in plant quality and a reduction in yield by 13-18% [3].

In the 2024 experiments, field trials were conducted in four variants and four repetitions at the scientific experimental field of the "Institute of Grain and Leguminous Crops" in the Andijan district of Andijan region to determine the biological effectiveness of the Desis 10% emulsion preparation (0.2 l/ha) against the first generation of the cotton leafworm.

The experiment was carried out during the mass development period of the whitefly on the Durдона variety of mung bean. Assessments were made before and after treatment on 100 plants using a chessboard method at 3, 7, and 14 days. Biological effectiveness was calculated using the Abbott formula.

**The arrangement of the experimental variants is as follows:**

- Control: No treatment was applied to the pest.
- As a standard, the Raudo 50% suspension preparation was applied at a rate of 0.1 liters per hectare.
- The Desis 10% emulsion preparation was applied at a rate of 0.2 liters per hectare.
- The Ximidor 60% suspension was applied at a rate of 0.135 liters per hectare.

During the days of the field trials, the average air temperature ranged from 23 to 25°C, and the average relative humidity of the air was 53-50%.

In August-September 2024, the weather created favorable conditions for the development of the whitefly in many regions. The whitefly began to lay eggs in the experimental field on August 15. The mass laying and the emergence of first-instar larvae started between August 21-24. On August 27, assessments were conducted, and in the evening, with the presence of small larvae, a working solution was applied to the mung bean crop using a spray apparatus at a rate of 300 liters per hectare.

The biological effectiveness of the Decis 10% emulsion (0.2 l/ha) and Ximidor 60% suspension (0.135 l/ha) against the whitefly on mung bean was studied in field trials conducted in the scientific experimental field of the "Institute of Grain and Leguminous Crops" in Andijan region during August-September 2024.

**Biological effectiveness of insecticides against tobacco whitefly**

№	Options	Drug consumption rate is liter, kg/ha	Average number of tobacco buds per leaf in 10 plants, pcs.				Efficiency in % compared to control		
			Number of worms in days after spraying				3	7	14
			Pest count before treatment	3	7	14			
1.	Control (without processing)	-	12	13	14	16	-	-	-
2.	Chemical 60% sus.k	0,135 h/ga	11	4	3	2	63,6	72,7	81,8
3.	Raudo 50% sus.k. (template)	0.1 l/ha	12	4	3	2	66,7	75	83,3
4.	Decis 10% em.k. (in	0.2 l/ha	12	3	2	1	75,0	83,3	91,7

	<i>practice)</i>								
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The results obtained from the experimental field of the Institute of Grain and Leguminous Crops indicated that the Desis 10% emulsion preparation applied at a rate of 0.2 l/ha, with a working solution of 300 liters per hectare, achieved biological effectiveness of -75.0% on the 3rd day, -83.3% on the 7th day, and -91.7% on the 14th day.

As a standard, the chemical preparation Raudo 50% suspension applied at a rate of 0.1 l/ha yielded effectiveness of 63.6%, 72.7%, and 81.8% on the 3rd, 7th, and 14th days, respectively. In the control variant, the number of whiteflies increased from 12 to 18 individuals.

Conclusion: The sucking pest, the tobacco whitefly, causes damage to the mung bean plants planted in the repeated cropping system in Andijan region. The whitefly primarily inflicts damage during its larval stage. The larvae, which belong to the order Hemiptera, possess a unique digestive structure that allows them to excrete a portion of the consumed food undigested. Subsequently, the leaves of the infested plants become covered with honeydew, which over time becomes dark and moldy, leading to a decline in the quality of the plants. As a result, the yield can decrease by 13-18%.

#### **List of used literature.**

1. Алимджанов Р.А. Дуккакли ва дуккакли дон экинларини зараркунанда хашаротлар томонидан зарарланиши. Ўз.Фан. Акад.нашриёти. 1968. -34-38 б.
2. Еременко А.П. - Ўзбекистонда мош зараркунандалари ва уларга қарш кураш Диссерт. автореф. - Тошкент, -1976. -8-12 б.
3. Холлиев А.Т. Дуккакли дон экинлари (нўхат, мош, ловия) зараркунандаларига қарши кураш чораларини ишлаб чиқиш. Монография.–Тошкент, - Наврўз нашриёти ИСБН:978-9943-568-13, 2019 йил. -165 б.
4. Холлиев А.Т. Дон дуккакли экинларда зараркунандаларга қарши уйғунлашган ҳимоя тизими //Агро кимё ҳимоя ва ўсимликлар карантини журнали. - Тошкент, 2024. Махсус сон. - 5-6 б.
5. Холлиев А.Т. Дуккакли дон экинларининг асосий зараркунандалари ва уларга қарши кураш чоралари. Тошкент

давлат аграр университети. Тавсиянома. – Тошкент, -ТошДАУ  
Таҳририяти, 2020, -24 б.