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STUDYING THE EFFECT OF FUNGICIDES IN FIELD CONDITIONS ON DISEASE OF FRUITS OF TOMATOES

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ИЗУЧЕНИЕ ДЕЙСТВИЯ ФУНГИЦИДОВ В ПОЛЕВЫХ УСЛОВИЯХ НА ЗАБОЛЕВАНИЕ ПЛОДОВ ТОМАТОВ

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Abstract. Tomato is one of the most important food crops. In recent years, tomatoes have been found to be susceptible to various diseases that damage the crop. One of these diseases is black mold of tomato fruits (alternariosis). Leaves, stems and fruits of the plant are damaged. Dark brown or black lesions develop on tomato fruits. The resulting tissue damage is more common where the fruit is attached to the twig.

Аннотация. Томат — одна из важнейших продовольственных культур. В последние годы было обнаружено, что помидоры подвержены различным заболеваниям, что наносит ущерб урожаю. Одно из таких заболеваний — черная плесень плодов томатов (альтернариоз). Повреждаются листья, стебли и плоды растения. На плодах томатов развиваются повреждения темно-коричневого или черного цвета. Развивающееся в результате поражение тканей чаще встречается в тех местах, где плод прикреплен к веточке.

Keywords: microorganisms, fungi, vegetation, fungicides, alternariosis, vegetable crops, tomatoes.

Ключевые слова: микроорганизмы, грибы, растительность, фунгициды, альтернариоз, овощные культуры, томаты.

Introduction. In Uzbekistan, it has been reported that *Alternaria solani*, a fungus caused by the fungus *Alternaria solani*, has been detected in greenhouses and has affected 70-80% of crops, but according to the author, the disease is most likely caused by the fungus *A. alternata*. The most important of the conditions necessary for the strong development of the disease — the presence of high humidity for a long time. By removing the lower leaves of the tomato and ensuring that the humidity is 70-80% by heating and ventilating the greenhouse, the crop will not be severely damaged. In order to prevent the accumulation of infection, damaged plant debris should be removed from the greenhouse and disposed of. If there is a strong risk of disease development, it is recommended to spray the crop fungicide. If fungicides are used regularly against the pathogen, it is necessary to develop a carefully prepared program of application of the fungicide, taking into account the possibility that the pathogen will also develop resistance to them [7, 10].

In order to increase the yield and quality of vegetable crops grown in the country, the use of modern technology in their cultivation, the introduction of productive and local varieties, as well as

a number of factors play a special role in the effective protection of vegetables from various diseases [1, 2, 4].

Research results

The fight against the disease in the fields is carried out on the basis of complex agrotechnical, biological, chemical, and other measures. The importance of chemical control measures in the protection of the plant and its crop is high. The chemical method has several drawbacks and pollutes the environment. But their effects are fast and highly effective. In the research of S.Ya. Popov and others can find information about anti-disease drugs and the history of their use. Sulfur preparations have been used as fungicides for many years and are still widely used in agriculture [3].

The chemical method has several drawbacks and pollutes the environment. But their effects are fast and highly effective. Proper use of fungicides is important in protecting crops and increasing yields.

The list of pesticides and agrochemicals allowed in the territory of the Republic of Uzbekistan (list, 2016) includes 124 fungicides and 69 seeds. Of such a wide range of drugs, 12 have been recommended for alternations of vegetable plants [8, 11].

According to Khojaev, the correct use of chemicals is important in protecting crops and increasing productivity.

Insufficient research on the effectiveness of fungicides against diseases of vegetable crops, as well as the use of fungicides against fungal diseases, prompted the implementation of these studies [5, 6, 9].

During the study, the biological efficacy of Folicur 25% em. k. against tomato alternations was studied, the results obtained are presented in Table 1. If we pay attention to the data in the table, the consumption of Folicur 25% em. k drug from 0.5 l/ha to 1.0 l/ha - when used in moderation, the disease is 65.0% to 2.0% compared to control, 0.5 l/ha. Expenditures were reduced from 65.0% to 5.0%.

Table 1
 BIOLOGICAL EFFECTIVENESS OF FOLICUR 25% EM. K FUNGICIDE AGAINST ALTERNATIONS DURING THE GROWING SEASON OF TOMATOES, % (Tashkent region, Tashkent district)

Experiment options	Preparation of use, kg/ha	Damage %			Preparation Biologically effective, %			
		Until processing Disease development, %	day			day		
			15 days	30 days	45 days	15 days	30 days	45 days
Folicur	0,5	65,0	5,0	12,0	35,0	69,4	66,2	45,3
Folicur	1,0	65,0	2,0	14,0	35,0	73,4	63,7	45,3
Unprocessed control	-	65,0	76,0	81,0	86,0	-	-	-
EKF ₀₅ =						2,3		

Folicure 25% em.k drug at a dose of 0.5 l / ha to 1.0 l / ha - its effectiveness was observed to be high, ie from 69.4% to 73.4%, increasing the dose leads to a decrease in the effectiveness of the drug arrival was noted. So, Folicure 25% em.k. Consumption of the drug at around 1.0 l / ha is a good norm in the fight against the disease. Based on the results obtained, we can conclude that the follicle is 25% em. k. application of the drug against alternariosis of tomatoes is highly effective.

The most effective rate of application of follicular preparations for alternariosis in vegetable crops is 1.0 l / ha. So Folicure 25% em. k. the drug gives a good effect against alternariosis, we now plan to try drugs for alternariosis in vegetable crops that have not been used before.

Two field experiments were conducted to test new drugs against alternariosis during the growing season of plants. In our first experiment, Ridomil Gold MTs was found to be 68% s. d. g. preparations were obtained. For comparison, Fundazol 50% n.kuk. fungicide was applied. During the experiment, 77% of the plant leaf damage was noted. Less damage to the fruit was observed (Table 2).

Table 2
INFECTION OF TOMATOES WITH ALTERNARIOSIS DURING THE GROWING SEASON, %
(Temir Kadam farm, Qibray district, Tashkent region, 2015)

<i>Experience variaty</i>	<i>consumption rate, kg/ha, l/ha</i>	<i>until processed</i>	<i>15 days</i>	<i>30 days</i>	<i>45 days</i>
Ridomil Gold MTs	1,5	74,0	5,0	13,0	35,0
68% s.d.g.	2,5	74,0	2,0	10,0	32,0
Fundazol	1,5	77,0	9,0	19,0	39,0
50% n.kuk. (default)	2,5	77,0	6,0	27,0	44,0
Unprocessed control	—	77,0	87,0	90,0	97,0
EKF ₀₅ =			0,9	1,4	2,4

Ridomil Gold MTs, when used at a dose of 1.5-2.5 kg/ha, is effective and protects the plant from disease throughout the growing season. Based on their experiments, we can conclude that both drugs are highly effective in tomato alternariosis during the growing season of the plant.

Conclusion

Alternariosis fungal disease is very dangerous for tomatoes, and if no measures are taken to control it, the quantity and quality of the crop will fall sharply. The most effective rate of application of folicul 25% emk drugs for alternariosis in vegetable crops is 1.0 l / ha. Folicur 25% em.k. When applied at a consumption rate of 0.5 to 1.0 l/ha, plant damage decreased from 65.0% to 2.0%. When Fundazol 50% n.kuk was used at a consumption rate of 2.5 kg/ha, plant damage decreased from 77.0% before treatment to 2.0% after 15 days.

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