



## Fungal Diseases of Grapes and Flour Countermeasures

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**Abstract:** *In this article Adersin 25% s.c. (0.8 l/ha) highlights the results of fungicide studies. In our studies, the incidence was 8.7%, the progression of the disease was 3.6%. Biological efficiency was 88.3%. In studies conducted the following year, the prevalence of the disease was 10.0%, and the development of the disease was noted in 3.6%. It was found that the biological efficiency was 90.3%.*

**Keywords:** *disease, fungus, pathogen, fungicide, damage, disease development, biological efficiency.*

**Introduction.** Grapes are a valuable subtropical plant. Its fruits are the most necessary product for the human body in terms of its diet and nutrition. Ripe grapes, especially raisin varieties, contain up to 28-30% sugars, glucose, fructose and sucrose, which are quickly absorbed by the body. Fructose is quickly digested without the participation of the pancreas. Because of this, it is important to prevent diabetes. Also, freshly harvested grapes contain malic, citric, succinic, lactic, formic and a number of other organic acids necessary for human health, mineral salts such as potassium, calcium, phosphorus, sodium, coloring substances (pigments) in the fruit peel, tannins. [1].

Grapes are rich in vitamins A, C, P, PP, B1, B2, B6, B12. The amount of vitamins and amino acids of group V depends on the ripening period of the grape variety, the presence of seeded or seedless clusters, the vigor of the grape bush, weather conditions, and care methods. According to scientists, B vitamins, amino acids and trace elements are more concentrated in late grape varieties [3].

Grape juice is an invaluable food item, especially for young children and the elderly. It has such properties as improving the metabolism in the body, dilating blood vessels, improving liver function, nourishing the heart muscle, cleansing and increasing blood. The capacity of 1 liter of fresh grape juice is comparable to 1.7 liters, cow's milk 650 g, beef 1 kg, fish 300 g, eggplant 500 g, bread 3-5 eggs 1.2 g. kg potatoes, 3.5 kg tomatoes, 1 .5 kg of apples, pears or peaches [2].

Today, the protection of this plant from dangerous pests and diseases is of great importance in obtaining a high and high-quality harvest from the vine. Only in the vineyards of our republic such pests as grape mite, grape mealybug, mealybug, grape and zoster cicada, grape cicada, brinnik, as well as an epiphytotic threat in the collection of diseases - powdery mildew (*Plasmopara viticola* Berl. et Toni), anthracnose (*Gloeosporium ampelophagum*) and oidium (*Uncinula necator* Burrill.) [4, 8, 9, 10].

Vine oidium is the most common disease, if it is not dealt with or prevented in time, it kills 50-80% of the grape harvest. Oidium is such a disease and damages all above-ground organs of



grapes: leaves, young branches, flowers and grape heads. Plant organs affected by the disease are covered with gray spots and powdery coating [5, 6].

When infected, the grape heads stop developing, dry out and fall off. The liana bush becomes very weak and over time the leaves fall off and dry out. The main effect of oidium is manifested on immature grape heads, gray spots appear on infected clusters, the skin of the berries cracks, and bones are visible. Vine branches infected with oidium weaken and stop growing; when the vine is deepened for the winter, the infected branches rot underground and die. The disease develops mainly in spring and early summer with a large amount of precipitation, waterlogging of grapes and low air temperature during the growing season [6, 7].

**Research methods.** Research on the study of moniliosis of quince orchards was carried out on the basis of generally accepted methods of mycology and agricultural phytopathology. Species composition, bioecology of pathogenic fungi N. M. Pidoplichko, M. K. Khokhryakov; infection with diseases and development of diseases K. M. Stepanov, A. E. Chumakov, I. I. Minkevich (1974); the use of fungicides against diseases, the determination of biological and economic efficiency was carried out using the methodological manuals of Sh.T. Khodzhaev (2004).

**Research results.** The biological effectiveness of fungicides against fungal diseases in vineyards was tested. Against grape disease oidium in 2021-2022 Fungicide Adersin 25% s/c was studied at a consumption rate of 0.8 l/ha. As a variant of the model, Kvadris 25% s.c. (0.8/ha) fungicide (table).

According to the results of pilot tests conducted in 2021, Adersin 25% s.c. when applying the fungicide, damage to leaves up to 8.7%, branches up to 4.0% and vines up to 4.3% was observed. The development of diseases was also up to 3.6% in leaves, 1.3% in branches and 2.2% in vines, respectively, while the highest biological efficiency showed up to 87.3%.

As a variant of the template against grape oidium Kvadris 25% s.c. subcutaneously (0.8 l/ha) with fungicide application leaf damage It was up to 6.3%, on the branches up to 3.0%, on the vine up to 4.7%. Biological efficiency was 90.8%.

Also, according to the results of pilot tests conducted in 2022, Adersin 25% d.s. when applying the fungicide, damage to the leaves was observed up to 9.0%, branches 6.7%, vines up to 10.0%. The development of diseases was also up to 3.4% in leaves, 2.4% in branches and 3.2% in vines, respectively, and the highest biological efficiency was up to 90.3%.

**Table. Adersin 25% s.c. is applied subcutaneously against oidium grapes. biological effectiveness of the fungicide**

*Field experience, Tashkent region, Research Institute of Horticulture, Viticulture and Winemaking named after. Academician M. Mirzaev.*

Options	Application rate, l/ha	Damaged plant parts	2021			2022		
			Damage, %	disease progression, %	biological efficiency, %	Damage, %	disease progression, %	biological efficiency, %
Control (not processed)	-	leaves	46,0	26,0	-	55,3	31,2	-
		branches	20,3	10,9	-	47,3	24,7	-
		grape heads	36,0	17,3	-	56,7	28,8	-
<i>Qvadris 25%</i>	0,8	leaves	6,3	2,4	90,8	8,0	3,1	90,2



<i>s.c. (template)</i>		<i>branches</i>	3,0	1,2	89,0	5,3	1,9	92,2
		<i>grape heads</i>	4,7	1,9	88,8	8,3	3,0	89,6
<i>Adersin 25% s.c.</i>	0,8	<i>leaves</i>	8,7	3,6	86,2	9,0	3,4	89,1
		<i>branches</i>	4,0	1,3	88,3	6,7	2,4	90,3
		<i>grape heads</i>	4,3	2,2	87,3	10,0	3,2	88,9

As a variant of the template against grape oidium Qvadrin 25% subcutaneously (0.8 l/ha) with fungicide application leaf damage It was up to 8.0%, on the branches up to 5.3%, on the vine up to 8.3%. Biological efficiency was 92.2%.

**Conclusions.** In conclusion, Adersin 25% subcutaneously against oidium grapes. the biological effectiveness of the fungicide was determined. In early studies, incidence was 8.7% and disease progression was 3.6%. A biological efficacy of 88.3% was observed. In studies conducted the following year, the incidence of the disease was up to 10.0%, and the development of the disease was observed up to 3.6%. A biological efficacy of 90.3% was observed. It is also recommended to apply chemical protection measures 4 times during the growing season: during the budding of trees, during flowering, after flowering, 3 times after 14 days of chemical treatment, 1000 l / ha of the working solution per 1 ha in the morning or evening cool time.

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