ISSN NO: 2771-8840
Date of Publication: 30-09-2023

Application Of Fungicide Vi Star stop 32.5% K.S. Against Mildew and Oidium on The Grapevine

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Abstract: The article discusses the problem of the defeat of the grapevine by a widespread disease - an mildew and oidium disease/ as measures to combat this disease, the use of fungicide vi starstop 32.5% c.c. is recommended with a flow rate of 0.5 l/ha. Before the experiment, the leaves were affected by an average of 9.6-9.8%. the biological efficacy of suppressing the disease on leaves on day 88.8-87.8%, on day 88.2-89.5%, then on day 45 decreased to 88.4-88.9%.

Key words: grapevine, disease, mildew and oidium, effectiveness, fungicide, research, results, biological effectiveness

Introduction. The role of horticulture and viticulture is increasingly increasing in the economy of the Republic of Uzbekistan. In 2009, the area of gardens and vineyards was expanded by reducing cotton crops by 50 thousand hectares. Thanks to the climate, characterized by an abundance of sunny days and a relatively long growing season, the gifts of gardens and vineyards in Uzbekistan are particularly sweet and filling, which makes the products quite competitive on the world market. The products are in great demand in the republics of the commonwealth, and with further development there are large reserves for entering non-CIS countries.

In turn, this poses significant problems, especially with regard to the protection of fruit crops and grapes from pests and diseases. Unlike other branches of crop production, orchards and vineyards are a long-term habitat for various species of arthropods, birds, mammals and other classes of animals and microorganisms, so it is very difficult to create integrated protection against pests and diseases using natural bioagents. Crop rotations are also excluded here as one of the control methods. Constantly changing weather from year to year also brings with it changes in the development of pests and diseases; in the rainy season, outbreaks of some are observed, in the dry season - of others, this brings with it the need to introduce a correlation in the plant protection system. It is mandatory to use agrotechnical practices in gardens, which can significantly reduce the number of pests and prevent infection with various diseases. Preventive measures must be taken to destroy wintering stages of pests and foci of microorganism infections.

Summarizing all the problems facing us, improving the protection system for orchards and vineyards does not lose its importance. Against the backdrop of increasing efficiency of the methods used, it is necessary to take into account the harmful impact on the environment, and it should be minimal. The preservation of natural bioagents is also a pressing issue in improving the protection system. All this is necessary for the successful sale of horticultural and viticulture products at the global level, where the requirements for the environmental purity of these products are increasingly increasing.

Literature Review. The most widespread and harmful vineyard diseases in Uzbekistan are powdery mildew (oidium), anthracnose and downy mildew.

The causative agent of oidium (powdery mildew) is an obligate parasite from the class Ascomycetes Uncinulanecator, its anamorph is Oidiumtuckeri. This mushroom is native to North America. As in other Central Asian countries, along with anthracnose and downy mildew, oidium is one of the three most dangerous vineyard diseases in Uzbekistan. Oidium is found everywhere in our country and because of it, vineyard yields are often reduced by 20-50%, and in some regions the entire berry harvest may be lost in some seasons.

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Vineyard varieties vary in the degree of resistance to oidium. Varieties with colored and more acidic berries are more affected than varieties with white and sweeter fruits. In the conditions of Uzbekistan, the vineyard varieties Soyaki and Muscat pink show high tolerance to oidium.

Effective methods of combating oidium include agrotechnical measures - pruning shoots, plowing between rows of bushes, and a chemical method - dusting or spraying vineyards with fungicides. It is recommended to prune the bushes several times during the growing season, and plow them at least twice (in spring and autumn). Many different fungicides are used against oidium in Uzbekistan. Of these, ground sulfur is most often used for pollination and colloidal sulfur for spraying bushes. However, with a strong spread and development of oidium, more effective fungicides with systemic action are used (Pearson, 1994; Khamroev et al., 1995; Khuzhaev, Mirzaeva, 2007; Rakhmatov, Marupov, 2006-c; Rakhmatov, 2008-a, b; Khasanov and al., 2010).

Downy mildew or grape mildew is a very common and highly harmful disease. All above-ground parts of plants are affected, with the exception of the woody part.

Leaves are affected throughout the growing season. In spring, pale green or yellowish spots first appear on top of young leaves, which then become oily and turn brown. A white fluffy coating forms on the underside of the leaves in places where there are spots - asexual sporulation of the pathogen. As a result of the development of the disease, the leaves dry out and fall off.

Brownish, slightly depressed spots are visible on green shoots. With severe development of the disease, the shoots dry out. Flowers and buds turn brown and die.

Despite the fact that mildew was first recorded on the territory of Uzbekistan relatively recently, in 1992, the disease is now found everywhere (Kamilov, Mostovoy, 1995).

Bearing in mind that the number of fungicides registered against vineyard diseases is very limited, and that some fungicides effective against one disease are often not effective against another disease (or diseases), new fungicides need to be evaluated against all major pathogenic fungi, found in vineyards.

Location And Methods Of Research.

Production testing of the drug Vi Starstop 32.5% quality. was held in Tashkent region, Parkent district, farm named after. “Muhammad Jamol” Treatments were carried out on May 8 before flowering, May 22 after flowering. Spraying was carried out with a manual motor sprayer in the evening, at a temperature of about 21 °C and a gusty wind speed of 1-3 m/sec, using a motorized backpack sprayer, liquid consumption 600 l/ha. The experiment was carried out in triplicate.

Testing of the drug, recording and processing of digital material were carried out in accordance with the “Methodological Instructions”. To determine the infestation of leaves and shoots of oidium, we used the scale recommended for taking into account the development of oidium on vineyard leaves according to A.E. Chumakov, I.I. Minkevich, T.I. Zakharova, 1973 (Zakharenko, Chenkin, 1985).

Test Results.

With an increase in the application rate of the fungicide Vi Starstop 32.5% k.s. up to 0.5 l/ha, the reduction in signs of oidium disease on grapevine leaves was 88.8%, on shoots – 88.2% and on fruits – 88.4%. These data are approximately on the same level as the reference version, where a fungicide with a similar active ingredient Quadrio tilt 25% dry matter was used. at a consumption rate of 0.8 l/ha, here the reduction in disease incidence on leaves was 83.9%, on shoots – 85.3% and on fruits – 87.1%. Thus, the fungicide Vi Starstop 32.5% quality. when treated at a consumption rate of 0.5 l/ha with four treatments, it provides a high degree of protection of vineyards from mildew. (Table 1)

Table 2. with an increase in the application rate of the fungicide Vi Starstop 32.5% k.s. up to 0.5 l/ha, the reduction in signs of mildew disease on grapevine leaves was 87.8%, on shoots – 89.5% and on fruits – 88.9%. These data are approximately on the same level as the reference version, where a fungicide with a similar active ingredient Quadrio tilt 25% dry matter was used. at a consumption rate of 0.8 l/ha, here the reduction in disease incidence on leaves was 84.4%, on shoots – 85.8% and on fruits – 86.7%. Thus, the fungicide Vi Starstop 32.5% quality. when treated at a consumption rate of 0.5 l/ha with four treatments, it provides a high degree of protection of vineyards from mildew

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Table 1

Biological effectiveness of the fungicide Vi Starstop 32.5% of quality. against vineyard oidium (Production experience 2022, Tashkent region, Parkent district of the farm named after "Muhammad Jamol").

№	Options	Consumption rate of the drug kg, l/ha	Leaves			Escapes			Fruit		
			susceptibility, %	disease development, %	biological effectiveness, %	susceptibility, %	disease development, %	biological effectiveness, %	susceptibility, %	disease development, %	biological effectiveness, %
1.	Control (without processing)	-	43,1	14,3	-	31,2	10,2	-	42,3	21,6	-
2.	Quadrio tilt 25% sus.k. (reference)	0,8	9,9	2,3	83,9	4,8	1,5	85,3	7,3	2,8	87,0
3.	Vi Starstop 32.5% price	0,5	9,6	1,6	88,8	4,4	1,2	88,2	6,9	2,5	88,4

Table 2

Biological effectiveness of the fungicide Vi Starstop 32.5% of quality. against vineyard mildew (Production experience 2022, Tashkent region, Parkent district of the farm named after "Muhammad Jamol").

№	Options	Consumption rate of the drug kg, l/ha	Leaves			Escapes			Fruit		
			susceptibility, %	disease development, %	biological effectiveness, %	susceptibility, %	disease development, %	biological effectiveness, %	susceptibility, %	disease development, %	biological effectiveness, %
1.	Control (without processing)	-	43,5	14,7	-	32,4	10,7	-	43,5	22,7	-
2.	Quadrio tilt 25% sus.k. (reference)	0,8	10,2	2,2	84,4	4,9	1,7	85,8	7,6	2,9	86,7
3.	Vi Starstop 32.5% price	0,5	9,8	1,4	87,8	4,2	1,1	89,5	7,1	2,4	88,9

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