



FUNGAL DISEASE OF VINE AND CHEMICAL AGAINST IT EFFECTIVE WAYS TO FIGHT WITH SUBSTANCES

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ABSTRACT

To prevent the fight against this disease, it is necessary to carry out agrotechnical measures - planting healthy seedlings, raising the vine bushes to the sori, giving phosphorus and potassium fertilizers to the vineyards, carrying out the first (before flowering) and second (after flowering) pruning of the vine in time.

Mildew spread to Europe from America and was first detected in France in 1976. this disease is widespread in America, Europe, and regions beyond the Caucasus, Seryogin spread to the vineyards of our republic in 2009-2010 and caused great economic damage to viticulture. Mildew disease is spread by Plasmopore Viticola, a microscopic fungus, and during the growth period of the vine, it damages all the blue organs - branches, leaves, inflorescences, grape clusters, even buds [Fig. 1].



fig-1

In early spring, when it rains chronically and the temperature rises above 8°C, oospores that have overwintered on last year's leaves grow, develop macroconidia, spread with wind or raindrops, enter new leaves from the underside through their mouths, and produce a white powder. A yellow shiny oily spot appears on the surface of infected vine leaves, which later turns brown and dries up, sometimes severely infected leaves fall off and vine branches become leafless.

On infected blue branches, elongated reddish spots appear, covered with white powder in moist air. In most cases, the branches dry out from the infected areas and fall off from the joints. There are white dusts on the florets, dark gray dusts on the hollows, and deep bluish spots on the fruit bunches.

As a result, they dry up and fall out, if fungal conidia fall on the water-filled clusters, then (in August) blue pitted spots appear on the cluster bands and the places where they join with the fruit, and as a result, the water-filled clusters turn brown and fall out. Mildew is spread by conidia through wind, rain, dew, and insects [Figure 2].



Fig-2

Conidia develop even on water droplets, so the disease develops rapidly during rain, dew and fog.

In autumn, oospores, surrounded by thick brown skin, develop in infected organs (mostly on leaves), and they rot.

Overwintering oospores in the spring at 95-100% air humidity +7-9°C.

At a temperature of 61°C, macroconidia appear. According to K. Muller, the incubation period of oospores is 4-5 days at air humidity of 95-100% and air temperature at 21-27°C. That is why vineyards suddenly get sick during drought and hot weather.

Mildew disease reduces the yield of vines to 60-90% in better years.

Diseased grapes are unfit for consumption and drying, and the wine made from them is also of poor quality.

Experimental part

To prevent the fight against this disease, it is necessary to carry out agrotechnical measures -

planting healthy seedlings, raising the vine bushes to the sori, giving phosphorus and potassium fertilizers to the vineyards, carrying out the first (before flowering) and second (after flowering) pruning of the vine in time.

In our experiments, it was proved that the use of chemicals is the most effective method in the fight against mildew.

When 4-5 new leaves appear on the branches of the vine, chemical treatment is carried out for the first time when the air temperature is not lower than 110°C.

When spraying chemicals (especially copper-containing chemicals), it is necessary to wet the undersides of the leaves, because the initial damage of the vine by the fungus starts from the lower parts of the leaf plate. In our research conducted with the students of Tashkent State Agrarian University, chemicals such as 1% bordeaux liquid, crude, kurzat, rhidomine were tested in the fight against vine mildew.

Curzat once (2.5kg/ha), twice when vine branches are 15-20 cm

Ridomin (3.0 kg/ha) before flowering, ridomil (3.0 kg/ha) 5 days after flowering three times, as a result of spraying fungicides, the yield of grapes was 100% preserved. When spraying chemical substances, it is necessary to take into account that copper-preserving chemicals - have a touch effect, have a ridomil-systemic effect. For this reason, copper-preserving chemicals were sprayed at the rate of 900-1000 l/ha, systemic fungicides at the rate of 400-500 l/ha, at the expense of liquid. Copper-preserving cruzat fungicide has both topical and systemic properties.

This fungicide is sprayed at the rate of 900-1000 liters of liquid per hectare of vineyard is recommended. It is forbidden to spray chemical substances during the flowering period.

Microscopic analysis

To enhance the sporulation of the pathogen, the affected material is placed in a moist chamber for several hours. The drug is prepared by the recorded drop method and analyzed in the field of view of a light microscope. Zoosporangiophores are visible in the studied preparation. They have short horns that branch at right angles and have denticles at the tips. Zoosporangia are lemon-shaped, their sizes are 15-30, 10-15 microns.

Conclusion

It is necessary to prevent the fight against this disease and to carry out agrotechnical measures - planting healthy seedlings, raising the vine bushes to the sori, giving phosphorus and potassium fertilizers to the vineyards, carrying out the first (before flowering) and second (after flowering) pruning of the vine in time.

In our experiments, it was proven that the use of chemicals is the most effective method in the fight against mildew.

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