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Основни вредители в ранно-пролетния период при лозата

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Excoriation of the vine

Bacterial crown gall of the vine

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Vine soft scale

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Excoriation of the vine

Causal agent: Phomopsis viticola – fungus

Symptoms:

Dark brown to black necrotic spots with an elongated shape, light centre and cork-like structure on the lowest internodes of the shoots;

Necrotic spots with a chlorotic halo on the leaf blade, which becomes deformed and torn;

Infected inflorescences dry up before flowering;

Dark spots develop on ripening berries;

At the end of the vegetation period, the bark at the sites of the spots turns white, cracks and tears. This makes the shoots brittle and they break easily. Their growth may be

stunted when they develop from infected buds. On the affected tissues the fruiting bodies of the pathogen can be seen as black dots.

Life cycle

The causal agent survives as mycelium in infected buds and as pycnidia on the shoots. Infections are caused by the formed pycnidiospores. Excoriation develops best in moderately warm and humid weather, at 98–100% relative humidity and in the presence of free water droplets on the plants. Vines are most susceptible to infection from bud swelling to the growth stage of the shoots with 3rd–4th leaf.

Control:

Pruning of infected shoots, which are a source of infection;

Maintaining a high level of agrotechnics, regular hoeing, balanced fertilization;

High-quality plant protection measures with registered fungicides, which start at the “cotton bud” stage.

Bacterial crown gall of the vine

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Causal agent: Agrobacterium vitis – bacterium

Symptoms:

Rough swellings (tumours) with a granular structure, found on woody parts near the soil surface. Initially the tumours are pale yellow and soft, gradually darken, harden and begin to disintegrate. Their size ranges from 0.5 to 10 cm and more;

Tumours may also develop immediately below the soil surface or at a height of up to 1 m above it. Infected plants form weaker shoots and the parts formed above the sites with tumours may die.

Life cycle

The bacterium survives in plant residues in the soil and in infected plants. It penetrates mainly through wounds caused by frost or hail. Old and abandoned vineyards are a major source of infection. The disease is particularly harmful in nurseries and young vineyards. Vines are also infected when strong winter frosts cause cracking of the bark. Infected planting material may also be a source of infection.

Control:

Use of healthy planting material;

Establishment of vine nurseries on well-drained sites;

Shallow soil cultivation, earthing up of young vines and application of potassium fertilizers in autumn;

In fruit-bearing vineyards with established disease, pruning should be carried out before the start of sap flow, cutting the healthy plants first and then the diseased ones;

Burning of infected parts;

Disinfection of tools after cutting each vine with a 5% Formalin solution or a 10% bleach solution;

Uprooting and destruction of vines when infected plants are detected during the first 3 years after planting the vineyard.

Esca (white wood rot) of the vine

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Causal agent: Fungi of the genus Phaeoacremonium and mainly the species Ph. chlamydospora; Ph. aleophilum

Symptoms:

Reduced shoot growth, leaf size reduction, deformation or deep serration of the leaves, accompanied by severe yellowing and necrosis. These manifestations intensify and end with the death of the whole plants;

The disease may also manifest itself as a sudden wilting followed by drying of the plants;

The wood of affected vines is soft, crumbly, coloured whitish or yellowish;

Leaves turn yellowish from the periphery towards the middle in cultivars with green and yellow-green berry skin, and reddish in cultivars with red and bluish-red berry skin;

Tissues become necrotic and the leaves fall prematurely, exposing the shoots as early as the end of July and the beginning of August;

Symptoms of the disease start from the basal leaves of the shoots;

After prolonged drought followed by heavy rains, the vines suddenly dry out partially or completely. The infected parts are brownish-grey in colour, the leaves fall within a few days and the wood cracks longitudinally and on one side.

Life cycle

The causal agents of esca develop saprophytically in the soil and infect the small roots, and subsequently the thick roots, destroying the tissues. The disease develops in ageing vineyards or in young vineyards planted on heavy, acidic soils with poor agrotechnical practices.

Control:

When producing planting material, scions should be taken only from completely healthy vines;

During the vegetation period, young vines in the nursery should be inspected regularly and all those with symptoms of the disease should be marked and burned;

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Dead vines are uprooted and burned early in spring;

Affected fruiting canes, fruiting units or trunks are cut out and burned, and a new trunk is formed from the shoots emerging from the base of the vine;

Where possible, affected parts of the vine should be cut out and destroyed already in summer and autumn;

In spring, pruning is carried out first on completely healthy vines;

Pruning tools are disinfected with a 5% copper sulphate solution or with other disinfectants.

Anthracnose of the vine

Causal agent: Gleosporium ampelophagum – fungus

Symptoms:

Dark brown and irregularly rounded spots on shoots and lateral shoots;

Gradual enlargement of the spots, the tissues in their central part sink and tear, resulting in deep lesions;

In cases of severe infestation, shoot growth stops, the tips blacken, bend and dry out. Inflorescences and young berries may also dry up.

Life cycle

The causal agent overwinters in damaged shoots and in mummified fruits as mycelium and sclerotia. Mass infections are caused by sclerotia. Cool and rainy weather, dense planting, unbalanced nitrogen fertilization and cordon pruning are favourable conditions for disease development. Infestation in vineyards occurs in patches.

Control:

During pruning all shoots showing symptoms of the disease must

be removed;

Carrying out winter spraying with a 2% Bordeaux mixture.

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Vine soft scale – Pulvinaria vitis

Damage:

Larvae and adults suck sap from all aboveground parts of the vine, but prefer clusters, shoots, leaves and berries;

They transmit three types of viruses causing diseases in the vine;

Severely damaged vines are weakened, produce low and poor-quality grape yields and often dry out.

The species develops one generation per year and overwinters as a second-instar larva on the trunk, spurs and fruiting canes of the vine;

Overwintered larvae develop until the second half of May and begin to lay eggs in a white ovisac several times larger than the scale of the insect. One scale insect lays from 1500 to 3000 eggs.

Control:

To control the overwintering form, in the second half of March, at the beginning of bud swelling, at a density of 1 larva per 1 linear metre of fruiting cane, treatment with preparations based on paraffin oil should be carried out;

In the second half of June, spraying with registered insecti