Agriculture Notes

Black spot of grapevines

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Black spot, or anthracnose, caused by the fungus Elsinoe ampelina, is a serious disease of grapevines. It has been recorded in all grape-growing districts in Victoria. The variety Sultana and some tablegrape varieties are highly susceptible to attack. Fortunately, many wine grapevarieties are relatively resistant.

Before the introduction of suitable fungicides in the mid-1950s, black spot was a major problem in many commercial vineyards. Since then, the incidence of the disease has been substantially reduced. Nevertheless, serious crop losses in the past are a grim reminder that growers should look out for the disease and maintain control in seasons with wet springs. Black spot is very persistent once established, so vineyards with a history of the problem should be treated regularly each year to prevent a build-up of disease.

Symptoms

Leaves

Small, brown-black spots, 1 – 3mm in diameter are the first signs of leaf infection. These spots quickly grow into circular grey-black patches with red-brown margins. These margins gradually darken and as the leaf spots merge, the centres tear away, giving leaves a tattered appearance.

Shoots

Small, brown-black spots with slightly sunken centres and raised edges are first signs of disease on shoot stems.

These spots gradually elongate and develop grey centres. Girdling often occurs when spots merge and death of stems may result. Stems may become twisted and distorted when shoots are infected early in their development.

Bunches

When bunches are infected before or during flowering, girdling may cause withering and shedding. Round, sunken brown spots develop first on berries. Later, in wet conditions, these may enlarge to form ‘birds-eye spots’ with grey centres and dark-red margins. Young immature berries tend to remain attached like dried mummies after they have been attacked. Spots on the skins of affected berries develop into hard crusts as the berries ripen.

Mature canes

Scars or cankers with pitted or cracked centres gradually form as infections on canes mature. These wounds are often deep enough to expose the inner wood of canes. The surrounding wood gradually becomes blackened and takes on a burnt appearance.

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Conditions favouring disease and crop loss

Black spot can attack all green parts of the vine. Young, succulent vine tissues are very susceptible to attack. Mature tissues are less susceptible. The cankers which produce the spores can last for 3 – 5 years.

Cool wet weather during spring and early summer particularly favours outbreaks of the disease, as surface moisture is essential for the spread of fungal spores and infection. Surface moisture also favours production of spores from cankers on canes or berries. The disease can develop quickly under such conditions. Hot, dry conditions however, tend to slow the spread of disease and favour dormancy of the fungus.

Black spot spreads more slowly in vineyards than does downy or powdery mildew, which are spread by windborne spores. With black spot, spores are splashed or carried in water by insects from cankers to young vine shoots. Consequently, the spread of black spot within each season is associated mainly with cankers from previous seasons.

Major crop losses occur when severe infections develop on young canes and flower clusters after a build-up of inoculum during a series of wet springs.

Monitoring

Survey vineyards every 1 – 2 weeks looking for the small black spots on the lower parts of the shoot. The symptoms are similar to phomopsis so careful identification is required to get the correct treatments (see Phomopsis note).

Control

Timing of key early-season sprays for control of back spot should be as follows - 50% budburst; about two weeks after bud-burst; and when shoots are 200 to 300 mm long (about three to four weeks after bud-burst). More sprays may be needed at intervals of two weeks if wet weather persists. Some fungicides are also effective against other diseases.

Chemicals registered to control black spot are available in the booklet “Agrochemicals registered for use in Australian Viticulture”, published each year by the Australian Wine Research Institute. A copy is also available at www.awri.com.au/agrochemicals/agrochemical_booklet/.

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