



## Brown-rot of stone fruits

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*The fungal organisms that cause brown-rot of stone fruits are **Monilinia fructicola** and **Monilinia laxa**.*

### Symptoms

The symptoms of brown-rot are blossom blight, twig blight, cankers, leaf shot-hole, quiescent infection, and brown-rot of the fruit.

- **Blossom blight.** This is a faint discolouration of the affected flower part. The fungus grows rapidly and the entire floral structure is soon brown and shrivelled and masses of spores are produced. A canker may develop at the base of the flower.
- **Twig blight.** If weather conditions are favourable for the fungus beyond the blossoming period, twig blight may follow flower infection. Small cankers at the base of dead flowers may extend until they girdle the twig, which will wilt and die.
- **Cankers** may continue to extend towards a larger branch and may affect two-year-old and three-year old wood. Gumming from cankers occurs.
- **Leaf shot-hole.** Young leaves become infected and a shot-hole symptom develops.
- **Quiescent infection.** On green fruit, *M. fructicola* sometimes forms visible lesions which remain dormant until the fruit approaches maturity. These lesions may become active and cause rotting of the fruit before or after harvest.
- **Brown-rot of fruit.** Infection of the fruit usually occurs as the fruit approaches full ripeness. A brown-rot lesion develops and the fungus produces masses of fawn-coloured spores. Infected fruit shrivel to a "mummy". If this remains in the tree it continues to produce spores.

### Economic importance

Brown rot can cause serious losses to stone fruit especially in seasons with very wet weather during flowering or immediately pre-harvest. Losses are mainly associated with blossom blight (which reduces fruit set and potential yield), and brown rot on maturing fruit close to harvest. The disease is widespread throughout Victoria.

### Life-cycle

The disease is carried over from season to season on mummified fruits and infected wood left on the tree. Fruit and wood which fall and remain on the ground are also significant sources of infection. Blossom blight occurs to a greater or lesser extent in most years, and infected

blossoms continue to produce spores up to and throughout the harvest period. Injuries caused by insect pests, hail or fruit splitting allow the establishment of infections and subsequent formation of spores. Fruits which fall to the ground in the pre-harvest period and during harvest are readily infected with brown rot and are considered to be of major importance in the starting of severe outbreaks.

### Control measures

- Orchard sanitation plays an important part in the control of brown-rot. During the winter all fruit mummies and wood showing cankers should be removed from the tree and from the ground and be burnt.
- For the control of blossom blight, apply a suitable fungicide at bud-swell. Further sprays registered for the control of brown-rot should be applied at early (20% to 30%) bloom and early petal-fall stages. During prolonged blossoming, particularly in showery weather, several sprays will be needed to give adequate protection against infection.
- To prevent infection of the ripening fruit, spray with a suitable fungicide a month before harvest. This spray should be repeated a fortnight later. Extra sprays may be needed if there are frequent rains within the month before harvest.
- To prevent development of fungicide resistant strains of the disease, do not use a complete spray program of any one particular fungicide.
- Control of insect pests that injure the fruit is essential for the control of brown-rot.
- Post-harvest treatments for brown-rot control must be applied as soon as possible after harvest.

**For effective pest and disease control, correct diagnosis is essential. A commercial diagnostic service is available at the DPI PIRVic Knoxfield Centre. For further information, contact the Diagnostic Service. ph: 03 9210-9222 or fax 03 9800 3521.**

*The previous version of this note was published in December 1999.*

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