

# Storage and Market Diseases of Fruit. VII

By

E. G. Hall

Division of Food Preservation, CSIRO

## BLUE MOULD OF APPLES AND PEARS

Blue mould, caused by the parasitic fungus *Penicillium expansum*, is the most common and destructive rot of apples and pears which occurs during storage and marketing. It starts as a light-coloured soft spot which soon

spreads on the surface and deeply into the flesh with the decayed portion sharply separated from the healthy tissue. It develops rapidly at higher temperatures, the fruit soon becoming a soft watery mass and having a characteristic musty smell. Blue mould develops slowly at cool storage temperatures and may cause considerable losses under favourable conditions.

The fungal growth which soon develops on the surface of infected fruit under warm moist conditions is at first white and later pale blue as the spore masses develop. The rot finally becomes blue-green and powdery, often with the spore masses in separate clumps (Fig. 25). In dry cold air there is generally no or little surface mould growth but it does develop slowly in cool storage where the air next to the fruit is moist. Blue mould is a wound infection but it can readily spread to adjacent fruit by contact, resulting in the development of 'nests' of mouldy fruit (Fig. 26).

Susceptibility to mould attack increases with maturity. Over-mature fruit, or fruit weakened by over-long storage, particularly if temperatures are too high, is easily invaded through the lenticels as well as through any breaks in the skin. Under these conditions multiple infections such as 'spot waste' (Fig. 27) are common. Mould development is favoured by high humidities and blue mould is therefore more of a problem on fruit stored or shipped in plastic film liners.

Control measures are:

- Careful handling to avoid skin injuries;
- Sanitation to reduce contamination;
- Use of fungicides to prevent infection;
- Prompt cooling to minimize development.



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When water dumping is used to remove fruit from bulk bins, when fruit is dipped or sprayed for control of storage scald, or when it is washed, an effective and safe fungicide such as benomyl or thiabendazole should be added to the water. Where blue mould is a problem, copperized tissue wraps should be used to prevent spreading by contact. All varieties of apples and pears can be infected and blue mould spores are almost universally present.

*Further reading*

Rose, D. H., McColloch, L. P., and Fisher, D. F. (1951).—Market diseases of fruits and vegetables: apples, pears, quinces. Misc. Publs U.S. Dep. Agric. No. 168.

### BLACK SPOT OF APPLES AND PEARS

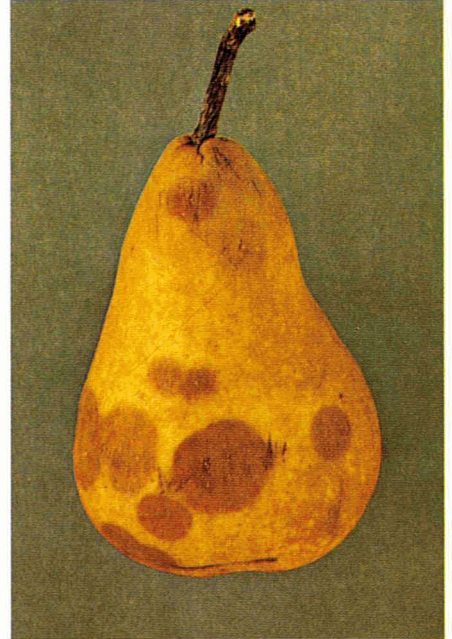
The orchard diseases black spot of apples caused by the fungus *Venturia inaequalis* and black spot of pears caused by the fungus *Venturia pyrina* can develop on the fruit in cool storage as a result of late infections on the tree.

The superficial black spots that develop under the moist conditions in cool storage are up to  $\frac{1}{4}$  in. in diameter, usually circular, and produce a more obvious dark grey to black fungal mycelium on the surface than develops on the fruit on the tree (Fig. 28).

Control is by orchard sprays to prevent the late infections. Treatment after harvest with benomyl or thiabendazole is useful.

*Further reading*

New South Wales Department of Agriculture (1964).—Black spot of apple and pear. 4th Ed. Leaflet. Dep. Agric. N.S.W. No. 9.



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