

Bitter rot on apple and pear

Fungi in the *Colletotrichum* genus, specifically those species in the *C. acutatum* and *C. gleosporioides*

Pathogen: The predominant species *Glomerella cingulata* (sexual stage of *C. gleosporioides*)

Can also cause fruit rot and often is associated with a leaf spot disease.



Symptom

The disease is noticed first as a small, light brown, circular spot.

Later change to a dark brown sunken, forming a saucer-shaped .

Pink fruiting bodies of the fungus develop in the center of the rotten area in wet weather conditions.

Later, they ooze a gelatinous, salmon-pink mass of spores, washed by rains to other fruit.

One of the few rot that can penetrates deeply into the unbroken skin.



Environmental conditions

The optimal conditions for the disease to develop are;

- Rainfall, relative humidity of 80 to 100 percent, and
- A temperature of 27 to 32°C.
- Frequent rain events, which lead to extensive wetness hours, during bloom have yielded significant bitter rot outbreaks.

Overwinter

Bitter rot spores are suspected to overwinter in buds, mummified fruit, cracks and gaps in the bark, and cankers produced by either the bitter rot fungus or other diseases.

Disease management

- Cultivars vary in their susceptibility
- Sanitation is important for any kind of fruit rot management: removal of old fire blight cankers, dead wood, mummified fruit.
- Warm temperatures and frequent wetting events, which cause prolonged wetness hours, during bloom will need to be monitored closely.
- Fungicides application; mancozeb, captan.

Alternaria rot

Pathogen : *Alternaria alternata*

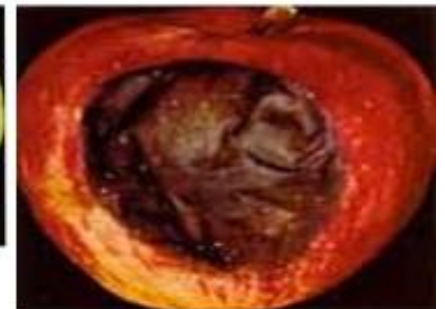
Crops Affected: Apples, Cherries, Peaches, Pears



Is a common fungus found on stone and pome fruit.
The disease can occur during preharvest and postharvest.

Symptoms:

- Typical rot symptoms of this disease are nearly round, brown to black lesions, often centred around a skin break or weakened tissue.
- The spots are firm, dry and shallow.
- The surface of spots becomes dark brown to black and in the advanced stages, the rotted tissues become spongy and the affected flesh turns black.





Survival

pathogen that lives on dead and weakened tree tissues and attacks apple and pear fruits before or after harvest.

The fungus attacks and infects fruits from weak or damaged tissue pathways as a result of mechanical or chemical damage, physiological aging and sunburn.

Management:

- Practice orchard sanitation and “soft handling” of fruit.
- Harvest fruit at proper maturity.
- Careful handling during picking, washing, and packing
- Transportation and storage box of fruit should be disinfected before use.
- Store fruits at temperatures of 0° to 4 °C.
- The strobilurin class of fungicides (FRAC Group Code 11) are most effective for managing Alternaria rot on both pome and stone fruit.

Brown rot: *Sclerotinia frunctigena*

Brown rot is a **fungal disease** that can cause real trouble on **apples, pears, apricots, cherries, nectarines, peaches** and **plums**, when fruit is ripening, as well as during blossom time.

It is caused by three different fungi: *Monilinia fructigena*, *Monilinia laxa* and *Sclerotinia fructigena*.

It also infects **blossoms** of fruit trees, which become brown in appearance.

It may even affect young shoots.



Symptoms

- Circular brown spots will appear at the beginning of infections
- Produce tufts of white mould on the skin, as concentric circles around the point of infection
- As the disease progress, the skin of apples turn shiny and black produces grey-brown spores (conidia)



Importance

- Widespread whenever the apples are grown.
- Cause serious diseases of apple and pear fruits.



Warm and humid days suit the fungus best.



Brown rot *Sclerotinia fructigena*

Management

The principal methods of treating brown rot are **preventive measures** and orchard hygiene.

1. Choose **varieties resistant to brown rot** if possible
2. Plant trees in **full sunshine**, and ensure that **soil drainage** is good.
3. Summer prune the trees to ensure that the canopy remains open to light and with a good circulation of air.
4. **Irrigate underneath** the tree, and try not to wet blossom, foliage and fruit.
5. Always **remove all fruit** from the tree after harvest, and remove all fruit and twigs that have fallen to the ground. Burn or dispose of safely and definitively.
6. **Remove affected branches, fruit and shoots**. Disinfect secateurs before, during and after the process.
7. **Cover** any large cuts and wounds. 8.
8. **Sprays** applied 2-3 weeks before harvest to protect **injured fruits** from brown rot infection.

T. A.