

Guide to identify common cherry rot pathogens



Department of
Primary Industries



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AGRICULTURE

Horticulture
Innovation
Australia

Getting started

The fungal pathogens that cause cherry fruit to rot are not easy to identify, but with some practice you can get familiar with the main species. There is a **glossary** with terms at the end of this guide. You can tell which fungus is which by looking at the colour, texture and spores of the fungus.

To examine the spores you have two options:



For rotten fruit with
VISIBLE fungal threads and
spores, you can look
directly at the sample
fresh.



For rotten fruit with no
visible evidence of fungi yet,
put it in a plastic bag (room
temperature) for a day or
two, then look at the spores
that grow.

Once you have a fruit sample with mycelium and spores, you can first examine it with either:

- a hand lens (Figure 1-1)
- bench top low power microscope (Figure 1-2)
- microscope fitted to a camera (e.g. iphone) (Figure 1-3)

If you wish to examine the structures more closely you need to use a high powered microscope (Figure 1.4). Fungal material needs to be removed from the surface of the fruit and placed on a glass slide, before staining (preferably lactoglycerol blue).

If you are new to identification of rot pathogens, it is essential to have your identification confirmed by sending some representative samples to your local diagnostic service provider (see Appendix).



(1)



(2)



(3)



(4)

Figure 1. Helpful tools to examine rotten fruit

***Botrytis cinerea* (grey mould)**

Rotten fruit develops a grey-brown colour mould when the fungus starts to grow and the spores give it a “sandy” texture when it is not wet. The older mould on rotten fruit can become flattened and tan in colour.



Cherry pip on orchard floor covered in Botrytis spores



How it looks with a hand lens or low power microscope. The strands of the fungus are black (mycelium) and the spores are white/grey. The strands are branched and the spores form in clumps on the end. (Photo: John Deacon)



How it looks when prepared on a glass slide and viewed with a high power microscope. (Photo: APS net)

Monilinia laxa* and *Monilinia fructicola **(brown rot)**

These photos will help you determine if you have *Monilinia*, but not which species. It is only possible to determine whether it is *M. laxa* or *M. fructicola* for certain by laboratory testing.



Aborted fruit with
dense sporulation



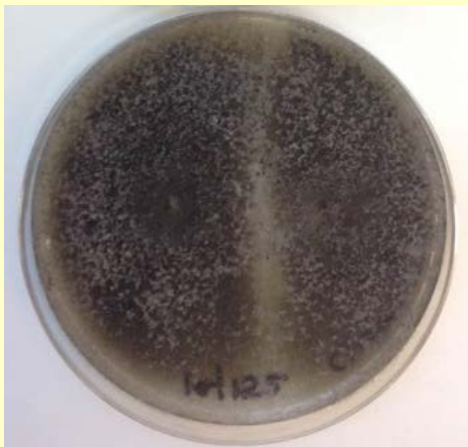
How it looks with a hand
lens or low power
microscope. (Photo: José
Luis, *M. laxa*)



How it looks on a glass slide
and viewed with a high
power microscope. These
are chains of spores. The
material has been stained
with a blue dye.

Alternaria alternata

This fungal pathogen causes sunken spots that turn dark and dull in appearance. Fungal growth covers the lesions.



How it looks when grown on an agar plate. Growth looks white at first and then turns dark.



How it looks on a glass slide and viewed with a high power microscope. The spores are large, multi-celled and very distinctive. These spores have not been stained.

(Photo: Eric McKenzie)

Photos: Len Tesoriero and Kevin Dodds, except where mentioned

Photo reference of other common disease and damage symptoms



Frost damage
(Kevin Dodds)



Earwig damage
(Kevin Dodds)



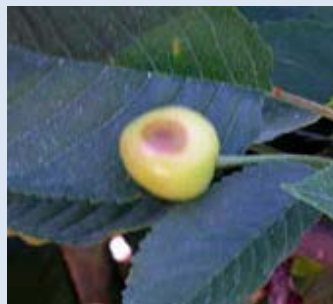
Thrips damage
(Kevin Dodds)



Russet (wind, cold injury)
(Kevin Dodds)



Sclerotinia white rot
(Len Tesoriero)



Bacterial canker spot
(George Sundin)



Bitter rot
(unknown)

Appendix

Diagnostic services

Queensland

Queensland department of Agriculture and Fisheries also have several locations see below.

<https://www.daf.qld.gov.au/plants/health-pests-diseases/plant-pest-diagnostic-services>

Tasmania

Plant Biosecurity and Diagnostics Branch
Biosecurity Tasmania
Dept of Primary Industries, Parks, Water & Environment

New Town Laboratories

13 St John's Avenue

NEW TOWN

TAS 7008

AUSTRALIA

Ph: 03 6165 3252

<http://dpiwte.tas.gov.au/biosecurity/plant-biosecurity/plant-health-laboratories/plant-pathology-laboratory>

Western Australia

AGWEST Plant Laboratories

Department of Agriculture and Food

Reply Paid 83377

3 Baron-Hay Court

South Perth WA 6151

+61 (0)8 9368 3721

agwestplantlabs@agric.wa.gov.au

<https://www.agric.wa.gov.au/agwest-plant-laboratories>

South Australia

Delivering samples

Courier:

SARDI, Plant and Soil Health

Plant Research Centre

Gate 2B, Hartley Grove

Urrbrae SA 5064

Postal:

SARDI, Plant and Soil Health

Locked Bag 100

Glen Osmond SA 5064

Phone: (08) 8303 9585 or (08) 8303 9358

Fax: (08) 8303 9393

Email: sue.pederick@sa.gov.au

<http://www.pir.sa.gov.au/research/services/crop-diagnostics/seed-and-crop-testing>

NSW

NSW department of Primary Industries have 2 laboratory sites, Menangle and Orange (see below for contact details).

<http://www.dpi.nsw.gov.au/aboutus/services/das/plant-pests-diseases#Available-services>

Victoria

Crop Health Services

Telephone: (03) 9032 7515

Fax: (03) 9032 7604

AgriBio Specimen Reception

Main Loading Dock, 5 Ring Road,

La Trobe University, Bundoora VIC 3083

<http://agriculture.vic.gov.au/agriculture/pests-diseases-and-weeds/diagnostic-services>

Glossary of terms

Mycelium – The long network of individual threads/strands (hyphae) that make up the vegetative body of a fungus

Hyphae – Individual fungal threads/strands

Spores – The reproductive unit of fungi (it is similar to the seed of a plant – but much smaller)

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