

# Black rot

## What is black rot?

Black rot (*Guignardia bidwellii*) is a fungal disease of grapevines that can infect all green tissues of the vine, including the fruit. Symptoms are most evident on leaves during spring, on leaves, stems and fruit during summer and on stems and fruit during autumn and winter. Black rot can result in complete crop losses in warm and humid grape growing regions.

## What does it look like?

On leaves, look for minute, round, reddish-brown spots which appear and then enlarge to a maximum diameter of 3-7 mm. As the spots enlarge, they develop black interveinal margins and greyish-tan to reddish-brown centres that are most apparent on the upper leaf surface. Pycnidia (spore bearing structures) develop in the centre of these necrotic spots and appear as small, blackish pimples.

On shoots, stalks and tendrils, look for lesions that are purple to black, sunken, and typically oval or elongated. Pycnidia are commonly observed throughout these lesions with numerous cankers resulting in blighting of the growing tips of shoots. As the canes grow, the bark tends to split along the length of the lesion.

On the fruit, look for brown spots that have a dark ring with a sunken centre which expands to involve the entire fruit. Individual fruit then rots and eventually shrivels into a black, wrinkled mummy. As with leaf spots and stem lesions, black rot mummies are covered with pycnidia.

## What can it be confused with?

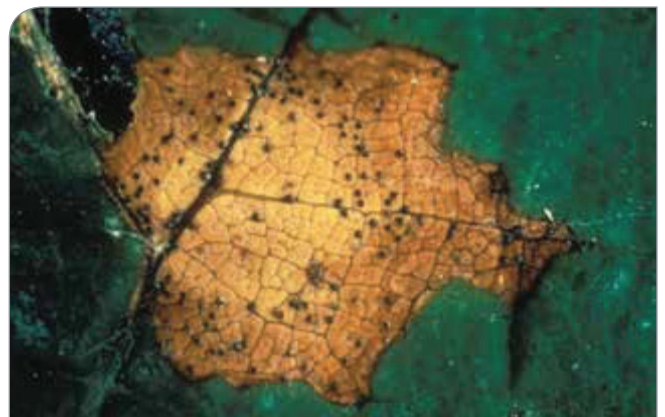
Black rot symptoms can be confused with black spot, caused by the fungus *Elsinoë ampelina*, which is present in Australia. Leaf lesions of both diseases look similar from a distance, but black spot lesions do not contain the small black spores (pycnidia) which are typically found in black rot spots and lesions.

Despite this, the range of symptoms caused by *G. bidwellii* is quite distinguishable from symptoms caused by other pests.



Black rot necrotic lesions on a grapevine leaf

*Matthew Zidek, Texas A&M Agrilife Extension Service, Bugwood.org*



Black rot necrotic lesion with pycnidia (appear as small dark spots)

*University of Georgia Plant Pathology Archive, University of Georgia, Bugwood.org*



Black rot lesions on stems appear sunken and are elliptical to elongated in shape

*University of Georgia Plant Pathology Archive, University of Georgia, Bugwood.org*

### How does it spread?

Black rot can be spread through water and airborne spores, as well as through infected propagation material and fruit. Spore production, dispersal, infection and continued disease development is favoured by warm and humid conditions, summer rainfall and persistent dew. Black rot can overwinter in canes, tendrils, leaves and fruit on the grapevine and on the ground for up to two years. This provides a source of inoculum for the following season.

### Where is it now?

Black rot is endemic to North America, but has spread to Africa, Asia, Central and South America, Europe, and Oceania via contaminated propagation material.

### How can I protect my vineyard from black rot?

Only source high health status (preferably certified) plant material from reliable and accredited suppliers. Check your vineyard frequently for the presence of new pests and investigate any sick grapevines for unusual symptoms. Make sure you are familiar with common grapevine pests so you can tell if you see something different. Keep records of anything unusual and ensure all staff and visitors adhere to on-farm biosecurity and hygiene practices.

If you see anything unusual, call the **Exotic Plant Pest Hotline** on **1800 084 881**.

**IF YOU SEE ANYTHING UNUSUAL,  
CALL THE EXOTIC PLANT PEST HOTLINE**

**1800 084 881**

DISCLAIMER: The material in this publication is for general information only and no person should act, or fail to act on the basis of this material without first obtaining professional advice. Plant Health Australia and all persons acting for Plant Health Australia expressly disclaim liability with respect to anything done in reliance on this publication.



Black rot necrotic lesions on leaves and stems

*M. Sosnowski, South Australian Research and Development Institute*



Early symptoms of black rot rings on a grape bunch (note lesions with a dark margin)

*M. Sosnowski, South Australian Research and Development Institute*



Black rot causes mummified grape bunches with pycnidia present on the berries

*M. Sosnowski, South Australian Research and Development Institute*