

# Fact sheet

## Mummy berry

### What is mummy berry?

Mummy berry (*Monilinia vaccinii-corymbosi*) is a fungal disease of wild and cultivated blueberry. It originated in North America, as did the blueberry, and causes a wide range of symptoms including mummified berries and flower, leaf and shoot blight. Mummy berry may be dispersed by insect vectors, air borne spores rain splash or in soil at different stages of its lifecycle. Control is difficult due to its complex lifecycle and losses can reach 80 per cent without treatment.

### What does it look like?

Mummy berry causes wilting in shoots and young leaves, and tissue death (necrosis) along leaf veins. Advanced leaf necrosis has a distinctive oak-leaf pattern along the mid-vein. Entire shoots often curl and die, resembling a shepherd's crook. Grey to tan powdery spores appear at the base of leaves, along the mid-veins and infected flower pedicels during humid weather. Infected flowers are often asymptomatic, however, death of buds and flowers can occur (flower strike).

Young infected berries are usually asymptomatic, however, when they are split open the white fungal growth can be seen replacing the ovaries. As infected berries mature they soften and turn from waxy green to pink or light brown with a wrinkled appearance. As berries mature they harden, shrivel and become pink or pale purple in colour. Infected berries at this stage are known as mummies (or pseudosclerotia) and generally drop off the bush before harvest. Mummies often turn black as the skin wears off and are a pumpkin shape. Mummies left on the soil surface will germinate in spring, forming small cupped mushroom structures known as apothecia. Spores are released from apothecia starting the infection process again.



Leaf blight caused by mummy berry (note the grey spore mass along the infected leaf stalks)

University of Georgia Plant Pathology - University of Georgia, Bugwood.org



Mummified fruit germinate, forming small cupped mushroom structures (apothecia) that produce airborne spores

University of Georgia Plant Pathology - University of Georgia, Bugwood.org



Apothecia protruding above the soil surface

Caleb Stenmons, National Ecological Observatory Network, Bugwood.org



Flower strike and veinal leaf necrosis (tissue death) caused by mummy berry

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



Advanced pumpkin shaped mummy berry (left) and developing mummy berry (right)

Gerald Holmes, California Polytechnic State University at San Luis Obispo, Bugwood.org



Mummy berry infected blueberries showing pale purple discoloration and wrinkling (red arrow)

Catalab Stiemmons, National Ecological Observatory Network, Bugwood.org

## What can it be confused with?

Mummy berry flower strike can be confused with botrytis blight (*Botrytis cinerea*) and with phomopsis blight (*Diaporthe vaccini*) overseas. The layer of grey to tan powdery spores along the pedicel distinguishes mummy berry from these two pathogens. Unlike phomopsis blight, mummy berry does not cause stem cankers. Boron deficiency can also resemble mummy berry. The two can be distinguished as mummy berry causes an oak leaf pattern of necrosis and grey to tan powdery spores appear at the base of leaves along the mid-veins in high humidity. Mummy berry can also be mistaken for frost injury but when berries are split open they appear rotten and hollow inside. Frost injured berries are rarely white in colour.

## What should I look for?

Mummified fruit is the most obvious sign of infection by mummy berry. Mummified fruit are generally pumpkin shaped, drop off the bush before harvest and are pink, pale purple or black in colour. Other fruit symptoms include wrinkling and discolouration of immature fruit. Check underneath leaf litter and in soil for mummified fruit which germinate in spring, forming apothecia. Any signs of shoot or flower blight should be investigated further. Grey to tan powdery spores on flower pedicels or along leaf stalks can indicate mummy berry. Necrosis along the mid and lateral leaf veins, particularly in an oak leaf shaped pattern, is also indicative of mummy berry.

## How does it spread?

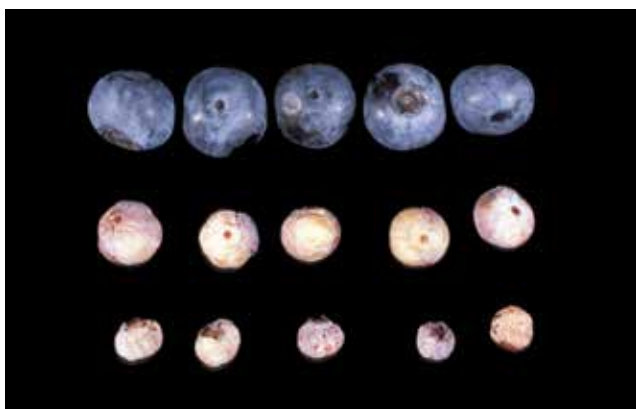
Mummy berry is spread in different ways at different stages of its lifecycle. The spores (ascospores) responsible for infection of shoots and buds (from apothecia) are airborne, whereas the spores (conidia) responsible for blossom infection are spread via wind, rain splash and on pollinators. Mummy berry can also be spread in soil as it overwinters in mummified berries on the soil surface. Long distance spread is usually through the movement of infected planting material.





Leaf blight caused by mummy berry

Edward Beasley, University of Georgia, Bugwood.org



Healthy berries (top row), mummies from infected plant (middle row) and mummies from the ground (bottom row)

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

### Where is it now?

Mummy berry is native to North America. It is also found in South America and was reported in Europe for the first time in 2003.

### How can I protect my farm from mummy berry?

Check your crop frequently for the presence of new pests and unusual symptoms. In particular, check your crop for shoot death, flower strike and mummified, wrinkled or discoloured fruit. Also check the soil surface for mummified fruit. Make sure you are familiar with common blueberry pests so when monitoring your crops for pests you will be alert to the possible presence of exotic pests.

**If you see anything unusual, call the Exotic Plant Pest Hotline**

**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.