

# Blueberry Anthracnose

## Current status

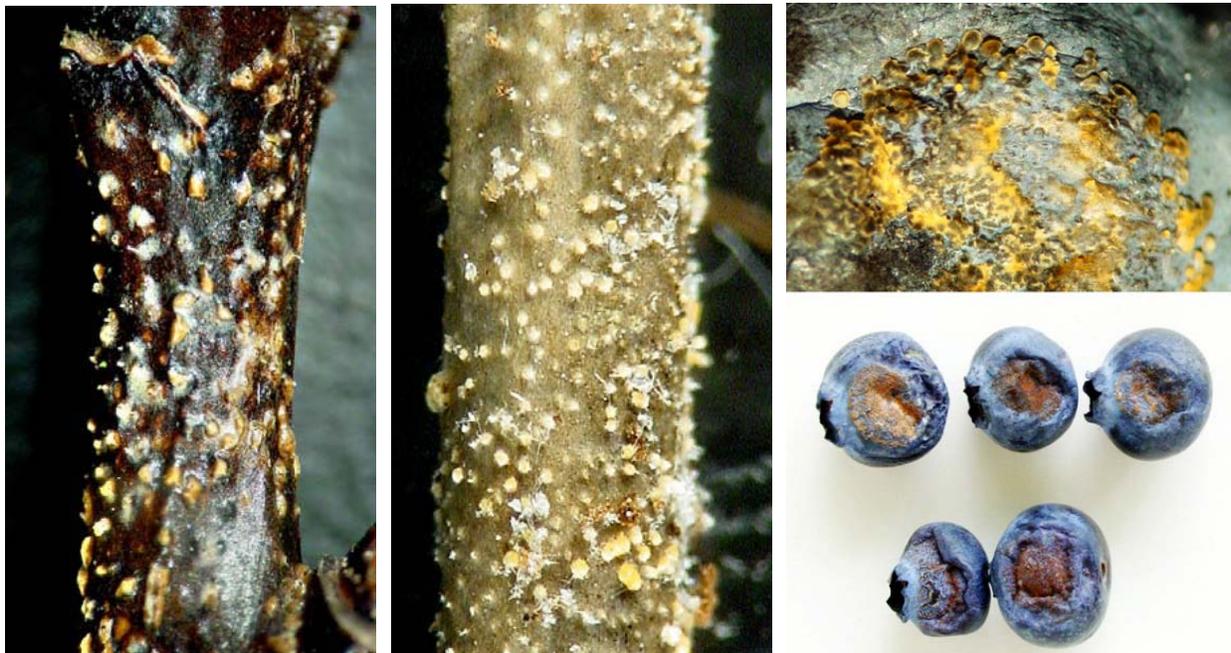
Between 2007 and 2010 Tasmania maintained an interim ban on the importation of blueberry plants and fruit after Quarantine Tasmania intercepted a consignment of fruit from New South Wales infected with blueberry anthracnose. In 2008, DPIPWE surveyed Tasmanian blueberry farms and established they were free of the fungi that cause blueberry anthracnose.

However, recent DNA studies indicate the fungi that cause the disease are not restricted to blueberry. In addition, conditions in Tasmania may not be as suitable to the establishment of blueberry anthracnose as first thought. As a result, the interim import ban has been lifted.

Nonetheless, blueberry growers and home gardeners are encouraged to apply basic hygiene strategies to avoid blueberry anthracnose, and to contact DPIPWE if they see signs and symptoms consistent with this disease.

## What is blueberry anthracnose?

Blueberry anthracnose fruit rot is caused by either of the fungi *Colletotrichum acutatum* and *C.gloeosporioides*. It reduces yield and post-harvest fruit quality in blueberry industries world-wide. The pathogen primarily affects fruits, but can also attack all other aboveground parts. Symptoms develop on leaves, twigs, canes and fruits (figs 1-4).



**Fig. 1:** Infected cane bearing spore masses of *C. acutatum*; **Fig.2:** Infected twig showing orange-coloured spore masses; **Fig. 3-4:** Infected fruits with sunken lesions covered with jelly-like spore masses. (For an example of the symptom on leaves, check at: <http://plp3002.ifas.ufl.edu/pdfs/slides/colletotrichum5.pdf> p.10)

## How it spreads

The fungal pathogens overwinter as mycelium in and on blighted twigs or in symptomless tissues. In spring, spores are produced and released from blighted twigs throughout the growing season. *C. gloeosporioides* infection requires 12h of continuous leaf wetness with concurrent temperature of 15 °C or higher. Optimum growth for this species occurs in moist conditions between 20-27 °C and it is

relatively inactive below 15 °C. *C. acutatum* requires a minimum of 10h of leaf wetness at 11 °C for fruit infection.

Local spread of the pathogens is mainly via spores produced on the surfaces of infected plants by rain splash, dewdrop, irrigation water, or via human, insect or bird contact, or shared use of contaminated implements. Longer distance dispersal is achieved by movement of contaminated harvesting equipment (eg. machinery, packing cases and trays), infected fruit and plants, as well as movement of vehicles and humans (eg. berry pickers) between farms.

### **Recommended biosecurity practice for blueberry farms or nursery areas in Tasmania**

- Spray cuttings or seedlings on arrival with fungicides registered in Tasmania for blueberry anthracnose, such as tolylfluanid;
- Use healthy, disease free plants for new planting;
- Spray pruning tools with commercial chlorine based disinfectants (with 4-5% active ingredient of chlorine) or alcohol in the form of methylated spirits to reduce cross contamination;
- Follow appropriate pruning techniques to allow good air circulation within the orchard;
- Burning or deep burial of diseased branches or twigs and leaves from pruning operations to reduce inoculum sources;
- Remove and destroy (burn or bury) dead plants or seedlings/cuttings to reduce accumulation of inoculum;
- Prune biennially by field burning which destroys stems and scorches leaf litter and fallen berries (a control practice used in USA low-bush blueberry orchards for anthracnose);
- Wear clean overalls and wash footwear, vehicle or machinery before entering a new work site (farm or planting) from a site where the disease is believed to occur;
- Always carry out mechanical harvesting and other management operations in the least affected site first;
- A drip irrigation, rather overhead irrigation, is recommended to avoid the spread of spores;
- Spray harvesting equipment, e.g. packing cases, trays with chlorine based disinfectant, or alcohol in the form of methylated spirits, as above.

### **What you should do if you see the signs of blueberry anthracnose**

Anyone seeing signs of the disease, should contact DPIPWE on 1300 368 550.

### **Further information**

For more information about blueberry anthracnose, please phone DPIPWE's Biosecurity and Plant Health Branch on 6421 7630 or email [Biosecurity.planthealth@dpiwwe.tas.gov.au](mailto:Biosecurity.planthealth@dpiwwe.tas.gov.au)