

# Bacterial canker complex

EXOTIC PEST – CALL THE EXOTIC PLANT PEST HOTLINE IF SUSPECTED

## What is bacterial canker complex?

Bacterial canker complex is a disease affecting avocado trees, caused by the bacteria *Pseudomonas syringae* pv. *syringae*, *Pantoea agglomerans*, or *Xanthomonas campestris*. It is rarely a serious pest but can cause significant damage in affected regions. The disease is characterised by cankers on the bark, which can lead to poor growth and low yields in severe cases.

## What does it look like?

- Bacterial cankers are slightly sunken, dark areas on the bark with a necrotic, watery pocket underneath.
- Vary from 2 to 10 cm in diameter.
- Usually appear first at the base of the tree and spreads upwards in a straight line on one side of the trunk and branch.
- Under the bark can appear as decayed, reddish-brown necrotic pocket in the cortex, possibly containing liquid. Dark streaks in the wood radiate up to 30 cm above and below the center of branches or trunks.
- Bark around cankers may crack at the edge of the lesion, with fluid oozing and drying to leave a white powder.
- New branches may grow from buds below the affected part.
- The disease can become inactive and canker wounds may close, leaving a bark flap over the wound.
- The disease does not affect leaves or fruits.
- Boron deficiency or drought stress can exacerbate the disease.

## What damage does it do?

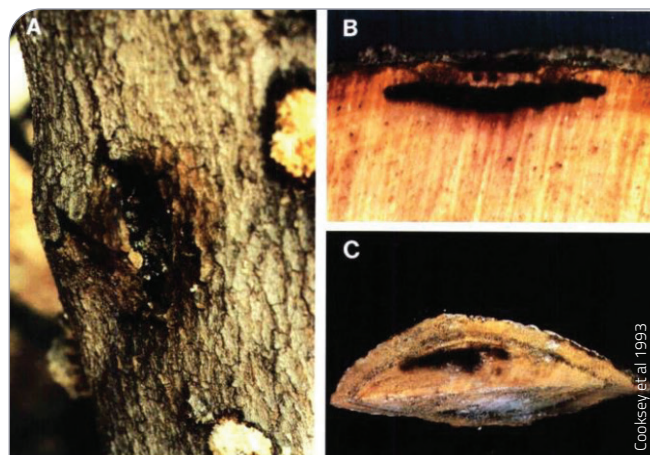
In severe cases can cause poor growth, pale, sparse foliage, and low yields on one branch or the entire tree (rare).

Newly planted trees may become stunted with many lesions.



Photo by David Rosen from Eskalen and Faber 2016

Avocado trunk with the reddish resin and whitish sugar exudate of bacterial canker, caused by *Xanthomonas campestris*.



Cooksey et al. 1993

Symptoms of bacterial canker (A) canker symptoms on an avocado tree trunk (B) cross-section of canker showing necrotic pocket beneath the bark of a canker (C) cross section above a canker showing necrotic streaks extending from the canker



### Where is it now?

Parts of California (caused by *X. campestris*) and most avocado-growing regions of South Africa (caused by *P. syringae*).

It is unclear if the pathogens causing bacterial canker are currently present in Australia.

### What are the risks materials and pathways it can move around on?

The primary risk pathway for the movement of bacterial canker causative agents is the movement of planting material and equipment (especially pruning tools).

Causative agents of bacterial canker can spread short distances by wind or in water droplets.

### On-farm biosecurity practices

Developing an on-farm biosecurity plan and making sure staff follow good biosecurity practices are functional ways to reduce the risk of pests and diseases entering your orchard. Suggested practices for bacterial canker complex include:

- Monitor regularly and maintain comprehensive records of pest and disease monitoring.
- Use planting material from accredited nurseries.
- Avoid sharing equipment.
- Disinfectant washes for footwear and vehicles.
- Have a visitor and staff register.
- Use farm zoning to control movement of soil and water



Dirty footwear can potentially act as a carrier of spores

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

**EXOTIC PLANT  
PEST HOTLINE  
1800 084 881**

Use trees from ANVAS accredited nurseries



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.