

Avocado Branch Canker (formerly Dothiorella Canker)

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Introduction:

One type of canker on California avocado trees can occur on twigs, branches (Fig 1) or trunks and is caused by a complex of fungal pathogens which include many species in the Botryosphaeria, Diaporthe and Colletotrichum. Canker pathogens can enter and initiate infection through wounds on the bark surface (Fig 3). Pruning wounds and sunburn from summer heats are a typical point of entry of fungal spores, as well as wounds due to mechanical injury and frost damage. These fungi have a worldwide distribution and cause cankers and stem-end rot on a wide variety of woody hosts.

Symptoms:

Symptoms of avocado cankers include exudation of a reddish sap that dries to a brown and white powder. Bark may be cracked, darkly discolored, or slightly sunken. With older cankers, bark may be friable and easily removed from the damaged area. Under the canker, inner bark and wood is red-brown to brown, instead of the normal pale color (Fig 2). When the branch is cut, a characteristic wedge-shaped canker extending deep into the xylem may be visible (Fig 3). If much of the xylem becomes infected, limbs may collapse and leaves quickly turn brown but remain attached. They also show leaf scorch.

Disease Management:

The chemical treatment of any open wounds on the tree would be the primary means of protecting against spores of Botryosphaeria, Diaporthe and Colletotrichum entering and initiating infection

Cultural Practices:

- Remove dead shoots caused by summer heats
- Avoid pruning during or immediately after precipitation
- Prune out dead limbs and twigs where the pathogen pycnidia (spore forming structure)
- Dispose dead wood and old fruit away from avocado trees
- Pruning wounds should be protected

Equipment Disinfecting:

- 1-Sanitation of equipment between each tree during pruning will reduce the spread of fungal pathogens.
- 2- Prior to cutting/pruning, remove organic debris off equipment (hand and power tools used for cutting (e.g. pruning shear, chainsaws), then spray or wipe with either Lysol® or 70% ethanol. Clorox® bleach diluted to 5% may be used.
- 3- Never use disinfectants on pruning wounds, as they could be phytotoxic.

References:

- McDonald, V., Lynch, S.C., Eskalen, A., 2009 First Report *Neofusicoccum australe*, *N. luteum*, and *N. parvum* associated with avocado branch canker in California. *Plant Disease*, 93 (9) 967.
- Adesemoye, A.O., Mayorquin, J.S., Wang, D.H., Twizeyimana, M., Lynch, S.C., Eskalen, A., 2013. Identification of species of *Botryosphaeriaceae* causing cankers in citrus in California. *Plant Disease*, 98:1, 55-61.
- Twizeyimana, M., McDonald, V., Mayorquin, J.S., Wang, D.H., Na, F., Akgul, D.S., Eskalen, A. 2013. Effect of Fungicide Applications on the Management of Avocado Branch Canker (Formerly Dothiorella Canker) in California. *Plant Disease*. 97:7, 897-902.



Fig 1. Avocado branch dieback



Fig 2. Perennial canker on the branch



Fig 3. Wedge-shaped canker