

Avocado Branch Canker (formerly Dothiorella Canker)

Fact Sheet (January 2023)

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Background

Avocado Branch Canker (ABC) is caused by a complex of fungal pathogens which include many *Botryosphaeria*, *Diaporthe* and *Colletotrichum* species [1,2,5]. These fungal species cause cankers and stem-end rot on variety of woody hosts with a worldwide distribution [1,2,3]. ABC is known to occur throughout South Africa.

Symptoms

These cankers can occur on twigs, branches or trunks. ABC symptoms include exudation of a reddish sap from cankers that dries to a brown and white powder, branch/twig dieback and marginal leaf necrosis (Fig. A, B and C). Bark may be cracked or slightly sunken with darker discolouration [4,5] (Fig. B and C). Bark may crumble easily from the damaged area in older cankers [4]. When the bark is removed, red-brown to brown discolouration can be found on the inner bark and wood. A cross-section of the branch may reveal the characteristic wedge-shaped canker extending deep into the xylem (Fig. D) [4,5]. Once infection spreads extensively into the xylem, dieback may occur and leaves may wilt but remain attached [4,5]. Leaf scorch and fruit rot may also occur. Infection in younger trees may cause cankers at the graft union, characterised by a brown discolouration at or near the graft union with wilting of the scion.

Biology

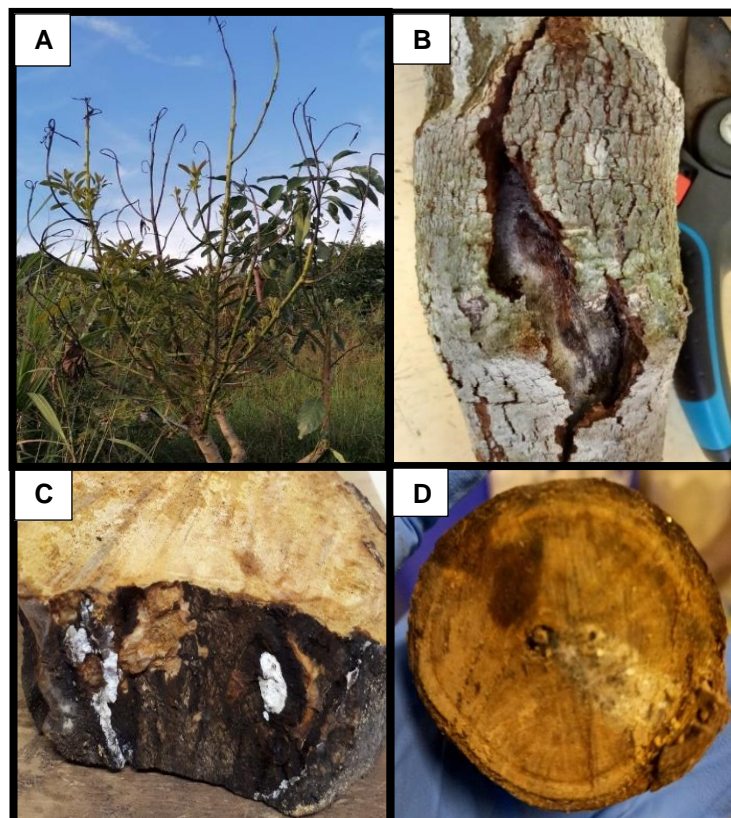
Spores of these fungal species are spread through rain, wind and on pruning tools [3]. They enter and initiate infection through wounds on the bark surface from pruning, sunburn, mechanical injury, or frost damage [3,4,5]. These fungi can also exist in nursery trees as latent pathogens and attack mature trees years later especially when the trees are stressed (e.g., from low soil pH, drought, sunburn, nutrient deficiency, waterlogging, other diseases) [3,5].

Known Hosts

These pathogenic fungi are widely distributed and cause disease on many economically important hosts including avocado, apple, oak, apricot, peach, pistachio, almond and grapevine [1,6-9].

Control

The most effective control measures are based on hygiene and proper sanitation. Environmental and nutritional stresses should be avoided [10, 11]. All vegetative debris and dead shoots should be removed from the orchard and immediate surroundings [10]. Pruning should not be done in wet conditions [10]. Dead wood, branches and twigs and old fruit should be pruned and disposed of away from trees [11]. Pruning equipment should be disinfected between each tree by removing organic debris off equipment and then spraying or wiping with disinfectant (70% ethanol or bleach solution diluted to 5%) [10]. Disinfectants should not be used directly on pruning wounds. Wounds should be protected using copper-based fungicides and chemicals such as thiophanate-methyl and azoxystrobin + propiconazole, which have shown some promising results on almond and avocado trees [12, 13].



Pictures provided by South African avocado growers and Jesse Hartley.

What to do?

1. Monitor your trees for exudates, cankers and branch dieback.
2. Fill out a FABI diagnostic clinic form, available at app.informationhub.io/form/cl3cy217x00674ts66dcfz1nl or send an email to diagnostic.clinic@fabi.up.ac.za.
3. Collect samples from the twigs/trunk/branches (cankers), package separately in brown paper bags with a wet paper towel in each, place in a crate/polystyrene box and send to the FABI diagnostic clinic.

Contact Address

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