Pacific Pests, Pathogens and Weeds - Online edition

Banana Deightoniella leaf & fruit spot (309)

Common Name

Banana Deightoniella leaf & fruit spot, banana leaf blotch.

Scientific Name

Deightoniella torulosa. Previously known as *Brachysporium torulosum*.

Distribution

Asia, Africa, South and Central America, Oceania. It is recorded from Australia, Cook Islands, Federated states of Micronesia, French Polynesia, Kiribati, Marshall Islands, New Zealand, Palau, Papua New Guinea, Tokelau, Tuvalu, Samoa, and Solomon Islands.

Photo 1. Spots of Deightoniella leaf spot, *Deightoniella torulosa*.

Hosts

Banana, and relatives in the banana family (Musaceae), e.g., *Musa textilis*, *Ensete ventricosum*, and *Heliconia*, *Strelitzia*, and *Costus* species.

Symptoms & Life Cycle

Reported as a leaf blotch, and on the fruit spots and a tip rot. On the leaves, it causes oval, tan spots with a black border, usually on the older leaves (Photo 1). On the fruit, sunken dark brown or black spots, 2-4 mm wide, surrounded by a dark green halo. Spotting of the fruit is greatest towards the tips of the fingers. The fungus does not produce spores on the fruit.

In the Philippines, the fungus causes a rot of the pseudostem on manila hemp (*Musa textilis*).

Spread is by spores produced in large numbers on dead leaves during rains and released into the air. The fungus also attacks the flower parts and these are a source of spores, too.

Impact

A minor disease, on older leave, unlikely to cause their premature death and reduce fruit yield in a well-managed plantation where other, more serious diseases, are under control.

Detection & inspection

Look for the oval tan spots on the older leaves and sunken dark spots on the fruit, 2-4 mm wide.

Management

CULTURAL CONTROL

During growth:

- Remove dead or dying leaves from the plantation at frequent intervals, 14-28 days.
- The disease is worse under poor growing conditions, so ensure that plants are given adequate nutrition (fertilizer or manures), there is adequate mulch, but not banana leaves, and that suckers are controlled.

CHEMICAL CONTROL
It is unlikely that specific control measures will be necessary for Deightoniella leaf & fruit leaf spot in a well-management commercial plantation. The fungicides used to control black Sigatoka will reduce the disease. The following are used routinely:

(i) Protectant fungicides (these stay on the surface of plants) -

- Mancozeb.
- Copper hydroxide.
- Chlorothalonil.
- Banana misting oil.

Mancozeb can be used together with oil or an oil/water emulsion; chlorothalonil is used in water. If black Sigatoka was not present, these would be sufficient to control speckle diseases. If black Sigatoka was present, then systemic fungicides might be used (**see Fact Sheet no. 002**):

(ii) Systemic fungicides (these move inside the plants) -

- Triazoles (e.g, propiconazole, fenbuconazole and tebuconazole).
- Strobilurins (e.g., azoxystrobin).

If systemic fungicides are use, it is important to rotate the fungicides in the different groups to prevent the build-up of resistant strains of the fungus. No more than two applications of the same systemic fungicide should be made before changing to another group. In drier times, mancozeb can be used alone. Note, it is important to add a sticker to any of the fungicides.

When using a pesticide, always wear protective clothing and follow the instructions on the product label, such as dosage, timing of application, and pre-harvest interval. **Recommendations will vary with the crop and system of cultivation. Expert advice on the most appropriate pesticides to use should always be sought from local agricultural authorities.**

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Information from *Diseases of fruit crops in Australia* (2009). Editors, Tony Cooke, *et al.* CSIRO Publishing; and (including Photo 1) McKenzie E (2013) *Deightoniella torulosa*: PaDIL - http://www.padil.gov.au; and from Meredith DS (1961) Fruit-spot ('speckle') of Jamaican bananas caused by *Deightoniella torulosa* (Syd.) Ellis: I. Symptoms of disease and studies on pathogenicity. Transaction of the British Mycological Society 44: 95-104. (https://www.sciencedirect.com/science/article/abs/pii/S0007153661800120).

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