

## Coconut leaf spots (090)

### Common Name

Brown leaf spot and grey leaf spot

### Scientific Name

*Pseudoepicoccum cocos* (brown leaf spot); *Pestalotiopsis palmarum* (grey leaf spot).

### Distribution

Asia, Africa, the Caribbean, Oceania. *Pseudoepicoccum cocos* is recorded from American Samoa, Australia, Cook Islands, Federated States of Micronesia, Fiji, French Polynesia, Kiribati, Marshall Islands, Niue, Palau, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, Vanuatu, and Wallis & Futuna. *Pestalotiopsis palmarum* is reported from American Samoa, Cook Islands, Federated States of Micronesia, Fiji, French Polynesia, Kiribati, Marshall Islands, New Caledonia, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu.

### Hosts

Coconut, other palms, including betel nut and oil palm.

### Symptoms & Life Cycle

**Brown leaf spot** (Photos 1&2): Oval spots develop on the upper surface of older leaves, up to 10 mm long and 4 mm wide, with grey centres surrounded by relatively wide dark brown margins. On the lower surface, the margins of the spots are less distinct, but it is here that black powdery spore masses develop. The spores are very small and round, and can only be seen with a microscope.

**Grey leaf spot** (Photo 3): The spots are up to 15 mm long, slightly larger than those of brown leaf spot, grey with a thin dark brown border. Sometimes, the spots join together and are surrounded by yellow haloes. Fungal fruiting structures are visible as tiny black dots within the spots, especially on the upper surface of the leaves.

Rain and wind spread the spores of both these leaf spot fungi, so the diseases are more common during wet weather.

### Impact

Both these fungal diseases are more severe on older leaves. Neither disease is likely to affect yields of nuts, although neither has been studied to any extent in Pacific island countries.

**Brown leaf spot:** The disease affects all varieties of coconuts, usually on the older leaves. Young plants of Malayan Dwarfs and its hybrids are said to be more affected than other varieties (in Samoa), especially when these are grown in high rainfall areas.

**Grey leaf spot:** This disease causes a blight of coconuts and related palms. When older leaves are severely blighted this indicates unfavourable growing conditions.

### Detection & inspection

Look for the numerous oval leaf spots 10-15 mm long on older leaves. Distinguish between the two diseases by looking for spots with small grey centres and wide brown borders (brown leaf spot), and large grey spots and thin brown borders (grey leaf spot). Look for the spore masses on the underside of leaves with brown leaf spot, and fruiting bodies in spots on the upper surface of leaves with grey leaf spot.



Photo 1. Oval spots with small grey centres and dark brown margins of *Pseudoepicoccum cocos*.



Photo 2. Oval spots, of *Pseudoepicoccum cocos*, reddish-brown, with a pale centre, with powdery black spore masses on underside.



Photo 3. Spots of grey leaf spot, *Pestalotiopsis palmarum*.

## Management

### CULTURAL CONTROL

The diseases occur on older leaves and are unlikely to reduce yields. Occasionally, they can be severe during long periods of wet weather, and/or where palms are growing in nutritionally poor soil. If control measures are warranted, improve nutrition and growing conditions. If spots occur in nurseries, and these are under shade, decrease shade levels.

### RESISTANT VARIETIES

Malayan Dwarf and its hybrids may be more susceptible to brown leaf spot, but no studies have been carried out in Pacific island countries.

### CHEMICAL CONTROL

Fungicides are unlikely to have any impact on these diseases given the minor damage they cause, the difficulty in applying them, their cost and their use is not recommended.

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Information from McKenzie E (2013) *Pseudoeopieococcum cocos*: PaDIL - <http://www.padil.gov.au>. Photos 2&3 Kohler F, et al. (1997) *Diseases of cultivated crops in Pacific Island countries*. South Pacific Commission. Pirie Printers Pty Limited, Canberra, Australia.

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