

Papaya brown spot (300)

Common Name

Papaya brown spot, papaya shot-hole, *Corynespora* leaf spot

Scientific Name

Corynespora cassiicola

Distribution

Asia, Africa, North, South and Central America, the Caribbean, Europe, Oceania. It is recorded on papaya from American Samoa, Australia, Cook Islands, Federated States of Micronesia, Fiji, French Polynesia, Marshall Islands, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, and Vanuatu.

Hosts

Wide; it is a secondary or a minor pathogen on a number of hosts (*Alocasia*, avocado, breadfruit, cassava, cover crop and edible legumes (e.g., cowpea, sea bean, siratro, soybean, yard long bean), eggplant, kapok, lettuce, and ornamentals. It is a major pathogen of cucumber (**see Fact Sheet no. 189**) and tomato (**see Fact Sheet no. 163**).

Symptoms & Life Cycle

Occasionally, an important disease of papaya. It begins on the lower leaves, gradually moving upwards. Small, 2 mm diameter, angular brown spots, often with white centres that fall out (Photo 1). In Fiji, it is described as a shot-hole disease. The spots have a characteristic well-defined yellow halos, seen clearly from below (Photo 2). Oval, dark brown spots also occur on the leaf stalks.

However, in wet conditions, the spots grow much larger, join together, and develop into spots that are zoned, or have target-like rings.

Spots on fruits are not common, but occasionally occur as dark, sunken spots on the fruits.

Spread is by spores that develop on the underside of the leaves carried by wind and rain.

Impact

In Fiji and most Pacific islands this is not an important disease on papaya. In Australia, brown spot is said to be a serious disease in hot, wet areas, causing extensive loss of leaves and reduced yields and fruit quality.

The impact of the disease is that it provides spores to infect tomato (Photo 3) and cucumber (Photo 4), and on both these hosts the fungus causes very severe diseases (**see Fact Sheets nos. 163 and 189, respectively**).

Detection & inspection

Look for the small brown spots on the lower leaves, and sometimes leaf stalks, with wide yellow haloes, and centres becoming white and often falling out to give a shot-hole effect.



Photo 1. Brown spot, *Corynespora cassiicola*, on papaya.



Photo 2. Brown spot, *Corynespora cassiicola*, on papaya, from below.



Photo 3. Target spot, *Corynespora cassiicola*, on tomato.



Photo 4. Leaf spot (or target spot), *Corynespora cassiicola*, on cucumber.

Management

CULTURAL CONTROL

There are no measures that are appropriate for the control of this disease. Mostly, it is not sufficiently serious on papaya to warrant any.

It is important to realise that spores from papaya with brown spot will infect tomato and cucumber, and most varieties of both are susceptible to infection. This being the case, it is best to either plant these crops at distance from papaya or to remove papaya trees from the vicinity of these crops.

CHEMICAL CONTROL

If conditions are such that extensive leaf decay occurs, use sprays of chlorothalonil, copper, or mancozeb. Treatment should start when the first spots are seen and continue at 10-14-day intervals until 3-4 weeks before last harvest. It is important to spray both sides of the leaves. In Australia, tebuconazole is registered for use against papaya black spot (**see Fact Sheet no. 158**). Alternate sprays of this systemic fungicide with one of the three protectants mentioned above.

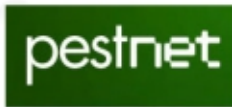
When using a pesticide, always wear protective clothing and follow the instructions on the product label, such as dosage, timing of application, and pre-harvest interval. Recommendations will vary with the crop and system of cultivation. Expert advice on the most appropriate pesticide to use should always 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. Photo 2 Mike Furlong, University of Queensland, Brisbane; and from Liberato JR, McTaggart AR (2006) *Corynespora Brown Spot of Papaya (Corynespora cassiicola)*: PaDIL - <http://www.padil.gov.au>. Photo 3 Gerald Holmes, California Polytechnic State University at San Luis Obispo, Bugwood.org.

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