



Figure 1. Black spot of papaya disease, lower surface of papaya leaf.

Black Spot of Papaya Disease

Asperisporium caricae (Speg.) Maulbl.

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Introduction. In February 2001, samples of papaya leaves and fruit with unusual dark spots were obtained from a residence in Haiku, Maui, and forwarded to the University of Hawaii's Agricultural Diagnostic Service Center (ADSC) in Honolulu. The spots were identified as a plant-infecting fungus, *Asperisporium caricae* (Speg.) Maulbl. by Dr. J. Uchida, Plant Pathologist, U.H. Plant Environmental Protection Sciences. This fungus causes "black spot of papaya" disease previously not known to occur in the State.

Distribution. Black spot of papaya is a widespread fungus disease found in the USA (Texas), Brazil, South Africa and other countries. In Hawaii, *A. caricae* has been found on the islands of Maui, Hawaii and Oahu. On Maui, although the disease was initially found at Haiku, subsequent surveys by the Cooperative Extension Service and the Hawaii Department of Agriculture revealed additional infected papaya in Makawao and Ulupalakua. On the Big Island, symptoms of black spot disease were found at fairly high levels at Opihikao on both Rainbow and Kapoho Solo cultivars (S. Ferreira 2001 personal communication). In May 2001, papaya foliage with a heavy infection of black spot disease symptoms was found at Kipapa on Oahu.

Hosts. The only known host of *Asperisporium caricae* is papaya.

Symptoms. Symptoms of this disease are irregular dark brown to black fungal spots measuring typically 1/16" to 1/4" on the lower leaf surface of older papaya leaves (Fig. 1). On the upper leaf surface, the infection causes slightly sunken tan spots to occur (Fig. 2). Black spots have also been observed on the surface of fruits, though not nearly as heavy as that found on the foliage. In the affected areas on Maui and the Big Island, fruit damage has mainly been cosmetic and there have been no indications of reduction in fruit quality by



Fig. 2. Black spot of papaya disease, upper surface of papaya leaf

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the disease. It's expected that foliar damage by the black spot fungus will be minimal, but a heavy infection combined with other diseases (powdery mildew) and arthropods (papaya leaf edgeroller mites) will cause the lower leaves to curl up and dry.

Black spot disease of papaya caused by *A. caricae* is not to be confused with "black spot of papaya" caused by *Cercospora papayae*. Leaf spots of *C. papayae* are grayish white (Nishijima 1993) compared to the dark brown to black spots of *A. caricae*.

Control. Although no significant fruit damage by black spot disease has been observed in Hawaii, papaya growers should be aware of its potential effects. Periods of wet weather may increase the development of the disease on both papaya foliage and fruits which may necessitate the need for fungicides. In Brazil, fungicides are used to control this disease for all papaya produced commercially (Ferreira 1999).

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