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ANTHRACNOSE OF ACACIA SPP.

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The genus Acacia Mill. (Leguminosae, subfamily Mimosoidae) is comprised of ca. 800 species of shrubs and small trees (5). A number of Acacia spp. are grown as ornamentals or street trees in southern Florida. In recent years, anthracnose or anthracnose-like infections have been reported on at least three Acacia spp. from seven south Florida counties-Brevard, Charlotte, Highlands, Lee, Martin, Orange, and Palm Beach. In addition, anthracnose infections have caused major losses of A. cyanophylla Lindl. seedlings in one south Florida nursery over the past 5-6 years (author - unpublished). A summary report (1) on anthracnose of acacia in Florida has been recently presented in which the Florida pathogen was identified as Glomerella cingulata (Stonem.) Spaulding and Schrenck [anamorph = Colletotrichum gloeosporioides (Penz.) Sacc.], apparently the same organism responsible for damage to Acacia spp. in Japan, Spain, New Guinea, and India (2,3,9).

SYMPTOMS OF THE DISEASE. Infections occur on young stems and phyllodes (Fig. 1). Lesions begin as dark brown, punctate, circular to irregular spots (1.5 mm dia.), often with distinctly gray centers. With time, lesions frequently coalesce, resulting in large irregular blotches of necrotic tissue on phyllodes. Infections frequently appear to originate at phyllode tips, after which they progress in a basipetal direction. Stem lesions often completely girdle and kill young stems (1,4,10).

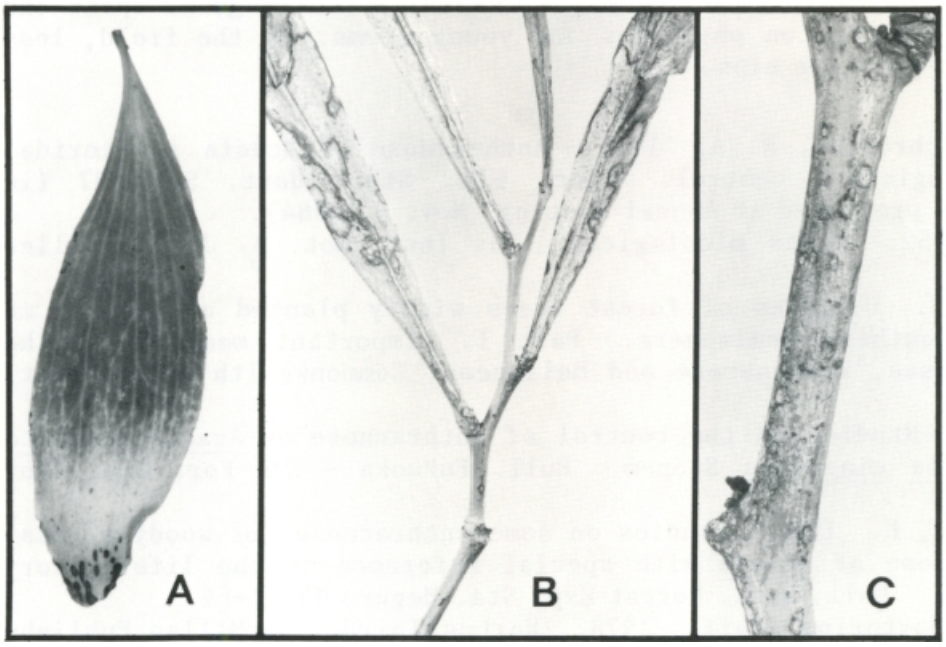

Fig. 1. Typical symptoms of anthracnose on Acacia spp. caused by Glomerella cingulata (anamorph = Colletotrichum gloeosporioides). A) Incipient lesions on tip of phyllode from A. auriculiformis. B) Advanced lesions on phyllodes of A. cyanophylla. C) Lesions on twig of A. cyanophylla.

PATHOGEN BIOLOGY. Glomerella cingulata is worldwide in its distribution, occurring on a wide variety of host plants. Its pathogenic capabilities are particularly enhanced by high temperatures and relative humidities. Under such conditions, conidial sporulation (Fig. 2), spore germination, and infection, as well as ascospore production and dissemination are enhanced (6). Both acervuli (sing. acervulus--asexual spore-bearing structures) and perithecia (sing. perithecium--sexual spore-bearing structures) are produced on infected plant tissue (4,10), but only acervuli have been observed in Florida to date. The pathogen is reported to over-winter in plant debris (7) and infected acacia seed (3,10). Infected seed has been

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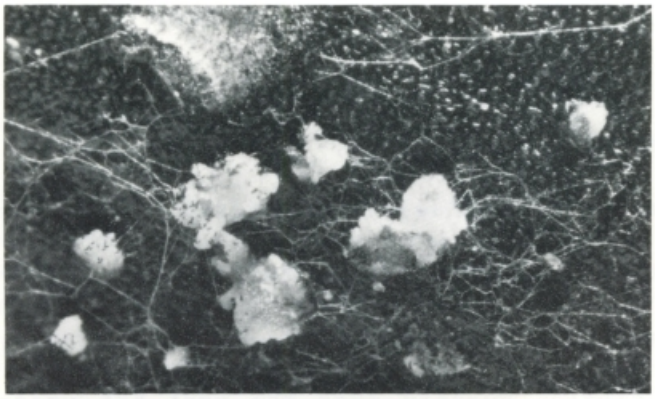

Fig. 2. Profuse conidial masses of Colletotrichum gloeosporioides produced on necrotic phyllodes of Acacia cyanophylla under conditions of high temperatures and relative humidity. (DPI Photo #702168-16)

considered the most important source of primary anthracnose infections in nursery crops (10), but limited isolations have failed to confirm a seed-borne aspect in Florida (author - unpublished).

CONTROL. Several fungicides have provided effective control of anthracnose infections on Acacia spp. (1,3,8). Any use of fungicides, however, must be in compliance with product labels as well as current local and federal regulations. Good cultural practices including 1) the use of clean soil (8), 2) various seed treatments if necessary (3,8), 3) sanitation, and 4) minimal overhead irrigation (6) are recommended. Also, avoid growing seedlings at close spacings and planting shade trees where air movement is restricted. Adequate foliage aeration will minimize infections.

SURVEY & DETECTION. Look for dark brown, punctate, circular to irregular spots and large irregular necrotic blotches on phyllodes and young stems. In the field, lesions may be concentrated at phyllode tips.

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