



# TECHNICAL NOTE

FOR IN-SERVICE USE



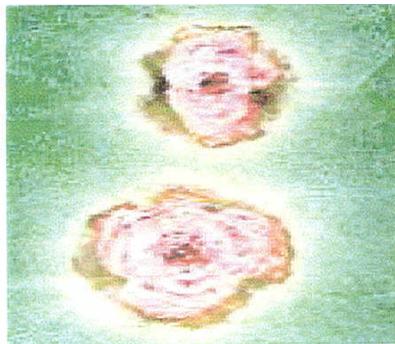
AGRONOMY FL - 46

May 30, 2001

## Citrus Canker and Use of Mulch

Citrus canker is perhaps the most devastating disease threatening citrus crops in Florida. This highly contagious disease is caused by the bacterium *Xanthomonas axonopodis* pathovar *citri*. An infestation of citrus canker can destroy entire crops.

Symptoms of citrus canker appear on the fruit, leaves, and twigs of infected plants. It consists of small, round, blisterlike formations called lesions, which appear 7 to 14 days after infection. As the lesions mature, the outer layer of tissue ruptures, producing a craterlike spot lined with tan colored tissue that is usually surrounded by an oily, water-soaked margin and a yellow ring that looks like a halo (See figures below). On leaves, old lesions sometimes fall out, leaving behind a scattering of round holes.



On fruit, the lesions appear scablike or corky.



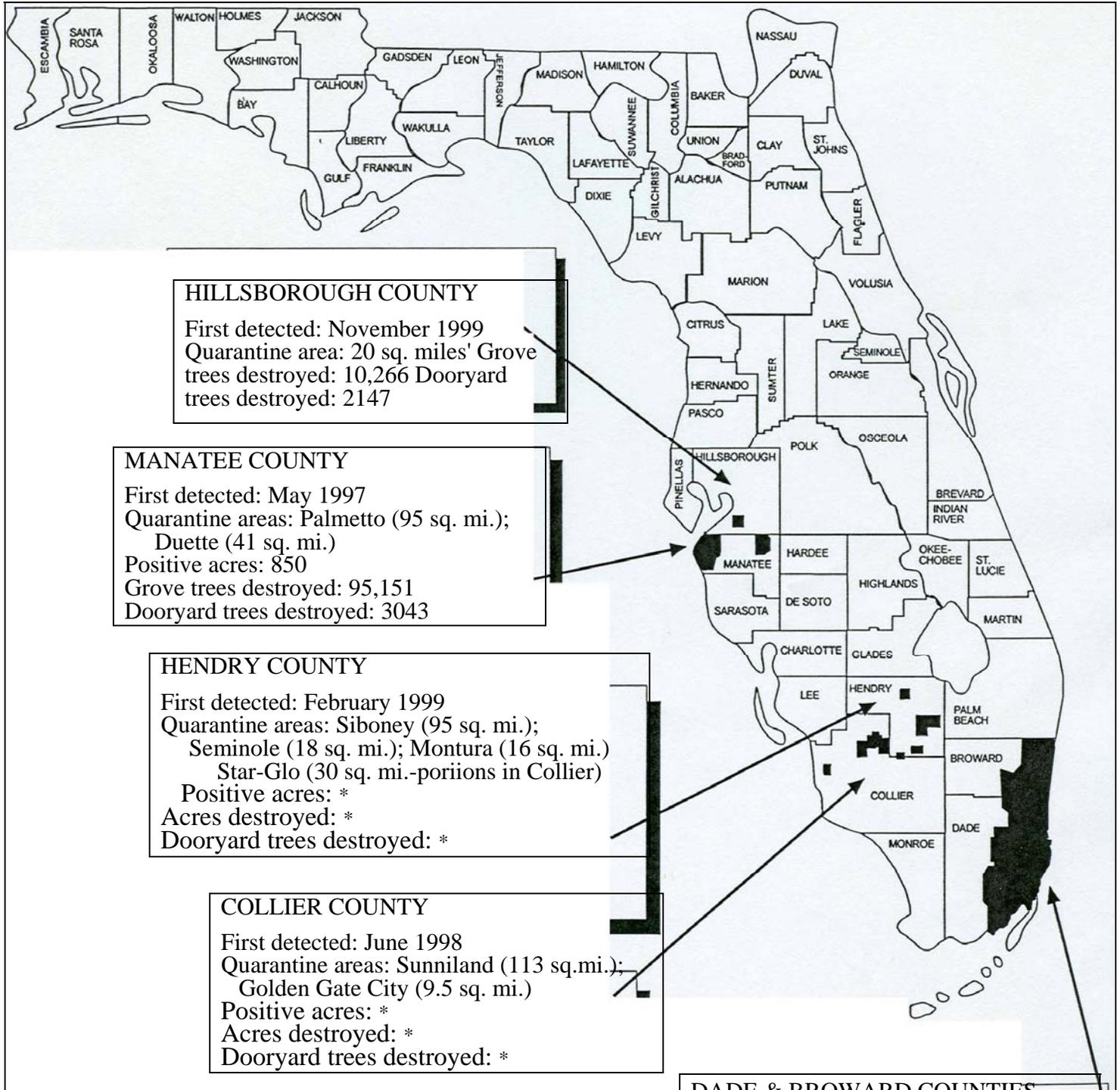
There are at least three distinct strains of citrus canker. The "A" strain affects most citrus species and hybrids, especially grapefruit, lime, sweet lime, and trifoliolate orange. The "B" strain affects lemons in Argentina, Uruguay, and Paraguay. The "B" strain can also infect Mexican or key lime, sour orange, Rangpur lime, sweet lime, citron, and occasionally sweet orange and mandarin orange. The "C" strain affects only Mexican lime growing in Brazil. The current and previous infestations in the U.S. have been caused by the "A" strain.

Citrus canker probably started in southeastern Asia, then spread to Japan, South Africa, Australia, the Pacific Islands, South America, and the United States. Citrus canker appeared in the United States in 1910, in the Gulf Coast States. It was declared eradicated in 1933 with more than \$6 million spent in Florida to destroy 258,000 grove trees and 3 million nursery trees. The only means of control is uprooting and then burning of infected trees. Between 1986 and 1992, it was found in 13 locations in 4 Florida counties. An eradication program destroyed 580 trees on 281 residential properties and 33,263 trees in 5 commercial groves. In the 2-year period from 1992 to 1994 no infectious plants were found, so citrus canker was again declared eradicated in Florida in 1994. In 1995 a new infestation was found in the Miami metropolitan area and in June 1997 there was an outbreak in commercial groves in Manatee County.

Currently, there are infestations in seven counties: Dade & Broward, Palm Beach, Manatee, Hillsborough, Collier, and Hendry (See map of Florida for quarantine areas). Spread of citrus canker can occur over short distances by wind-driven rain, flooding, air currents, insects, birds, and human movement within groves. Overhead irrigation may also spread the bacteria. Over larger distances the movement of infected plants, seedlings, propagative material, and fruit are the primary means of spreading. Contaminated clothing, tools, packing boxes, and other items associated with harvesting and postharvest handling of fruit are also potential sources of infection.

Use of vegetative mulch materials collected from within quarantine areas may also spread this disease. For use of vegetative mulch materials that have been collected from within citrus quarantine areas, personnel from the Citrus Canker Eradication Program recommend "aging" mulch materials for a minimum of 6 months. Only after vegetative mulches are allowed to go through this 6 month aging process may these materials be used as a mulching material. Once the mulch has been aged, these materials may be applied in citrus and non-citrus producing areas. When aged mulch is used in citrus producing areas, placement of mulch should be outside a safety zone of at least 100 feet from any citrus. Freshly chipped yard wastes originating from citrus canker quarantine areas should never be distributed or used for any agricultural purposes

# CITRUS CANCKER IN FLORIDA 2001



\*Data for Hendry & Collier counties cannot be broken out for this period. Combined totals are: 833,940 grove trees removed on app. 3350 acres, and 2713 residential trees cut to date.

**DADE & BROWARD COUNTIES**  
 First detected: October 1995  
 Quarantine area: app. 1000 sq. miles  
 Positive sections: 608 (236 in Broward)  
 Dooryard trees destroyed: 589, 584 (Palm Beach: 2434)  
 Grove trees destroyed: 304,068

23 February 2001