

# The Backyard Orchard – Citrus Diseases— Module 5.1 Citrus Canker



LSU AgCenter Backyard Orchard  
Certificate Course

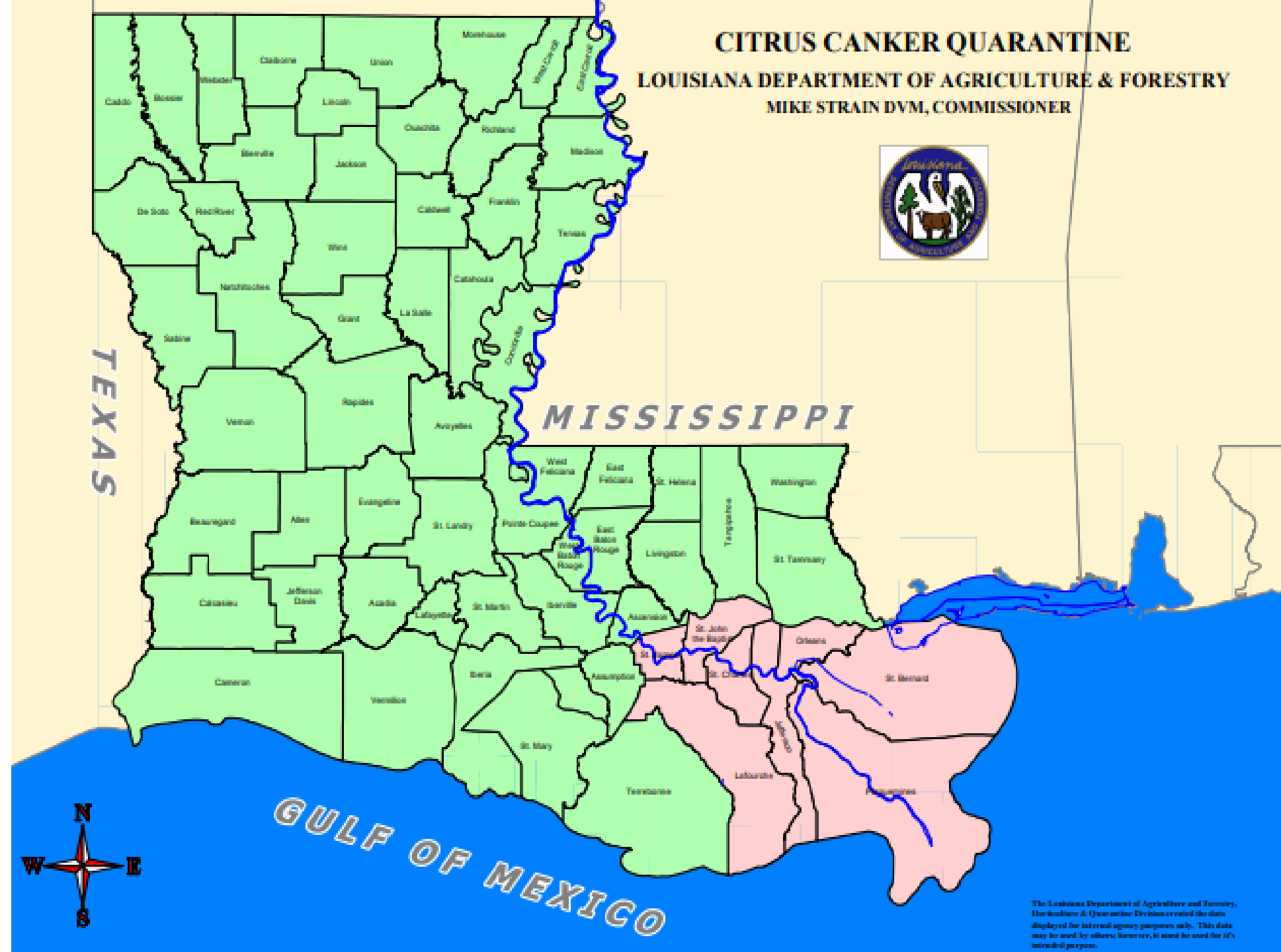
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# Citrus canker

- Bacterial disease caused by *Xanthomonas axonopodis* pv. *citri*.
- First detected in Florida in 1910.
- By 1914, the disease spread to AL, GA, LA, MS, SC and TX.
- In Louisiana canker was last seen in 1940.
- Citrus canker detected for second time in June 2013.
- Currently citrus canker is detected from East Baton Rouge, Jefferson, Lafourche, Livingston, Orleans, Plaquemines, St. Bernard, St. Charles, St. James, St. John, and St. Martin parishes.
- All citrus varieties and hybrids are susceptible to citrus canker.
- Citrus canker is not vectored by insects or other organisms, however citrus leafminer facilitates spread of disease by creating injury on citrus tissue.

# Citrus canker distribution

- Citrus canker has also been detected from following parishes in addition to quarantined parishes shown in the map.
  - EBR
  - Livingston
  - St. Martin



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# Citrus canker symptoms

- Symptoms on leaves and fruits start as tiny raised blisters that expand and become tan to brown as the disease develops.
- Lesions are visible on both sides of the leaves with water-soaked margins surrounded by yellow halo.
- The pathogen forms raised corky craterlike lesions on the fruits. Those fruit lesions often also have water-soaked margins surrounded by yellow halo.
- Similar lesions are present on the twigs and leaf petioles, except the water-soaked margins may be reduced and the yellow halos are absent.
- As the disease intensifies, defoliation and twig dieback occur, and severely blemished fruit drop prematurely.



# Citrus canker symptoms on leaves





# Citrus canker symptoms on fruit



Sweet orange



Meyer lemon



# Citrus canker symptoms on petioles and twigs



Leaf petiole



Twig



# Citrus canker & citrus leafminer association



Citrus canker lesions highly concentrated in areas with citrus leafminer injury. Remember, citrus canker is not vectored by citrus leafminer.



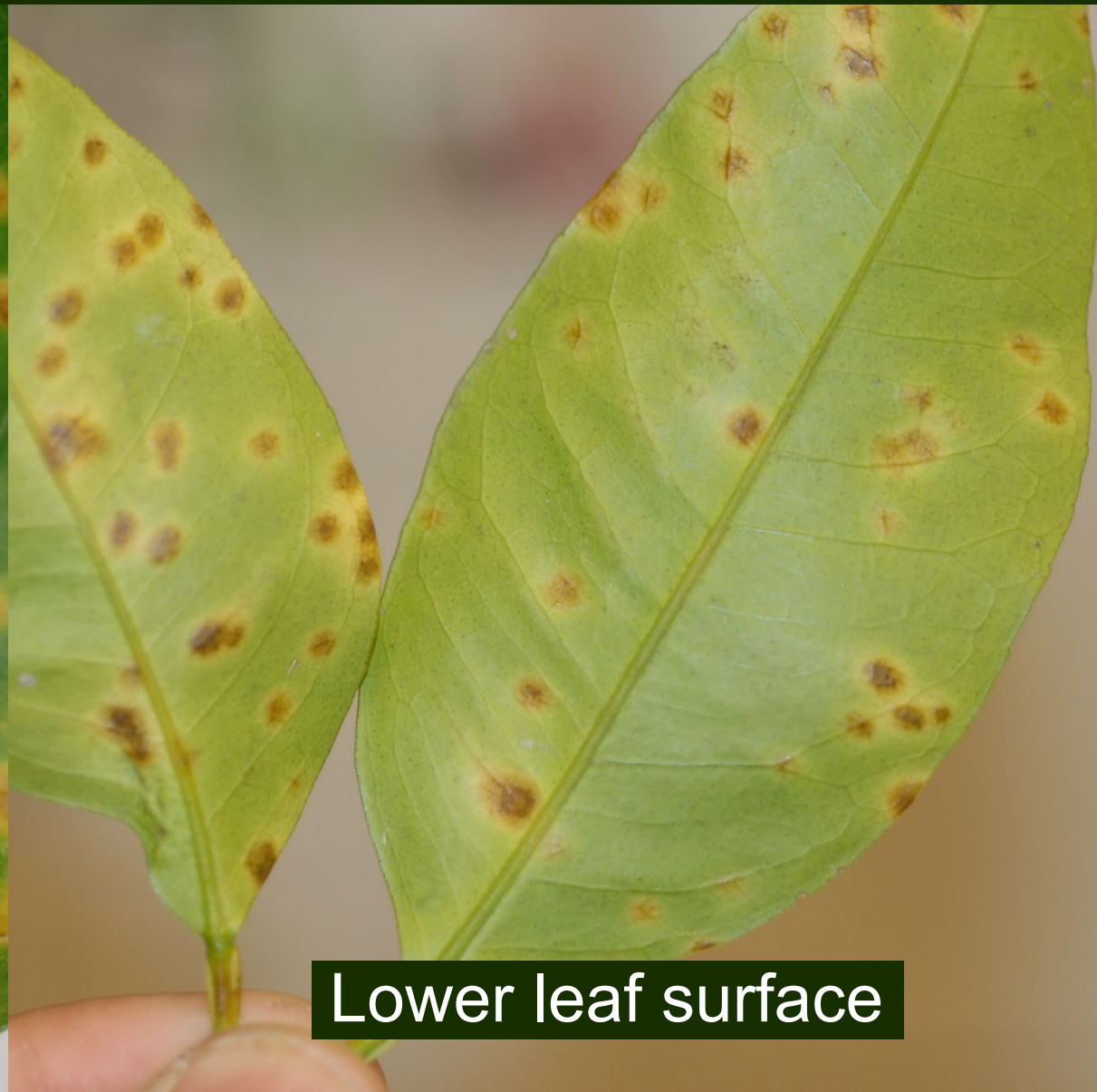
# Citrus canker epidemiology

- The pathogen prefers a temperature range from 68-86 degree Fahrenheit but is active over a wide temperature range.
- Lesions appear at about 10 days to two weeks after infection.
- Natural infection requires free water on the leaf surface to permit bacterial access through stomates or wounds.
- Bacteria survive in old cankers.
- Under wet and warm environmental conditions, bacteria exude from canker lesions and disperse short-distance via wind-borne rain, lawnmowers, other landscaping equipment and people carrying the infection on their hands, clothing or equipment.
- Long-distance dispersal of citrus canker generally is attributed to human movement of infected or exposed citrus material and storm events like hurricanes and tornadoes.

Citrus canker can easily be confused with greasy leaf spot (fungal disease)



Upper leaf surface



Lower leaf surface



# Citrus canker management

- There is no cure of citrus canker.
- Copper fungicides may be applied for suppression of citrus canker.
- Avoid spraying copper fungicides during bloom periods.
- Coppers fungicides can be used for organic gardening. Do not mix copper with liquid fertilizers. Do not use copper in spray solutions with a pH of less than 6.5. Copper may cause staining of masonry, concrete, etc.
- Do not move any infected citrus plant material within or out of the state.
- Homeowners must buy citrus trees from certified nurseries only.
- If you believe that your citrus trees citrus canker, contact USDA at 225-298-5410 or the Horticulture and Quarantine Division of the LDAF at 225-952-8100.



Please post all your questions and results to the message board that was emailed to you.

