CITRUS CANKER

Current Situation, Management & Economic Impact In Florida 1995-2009

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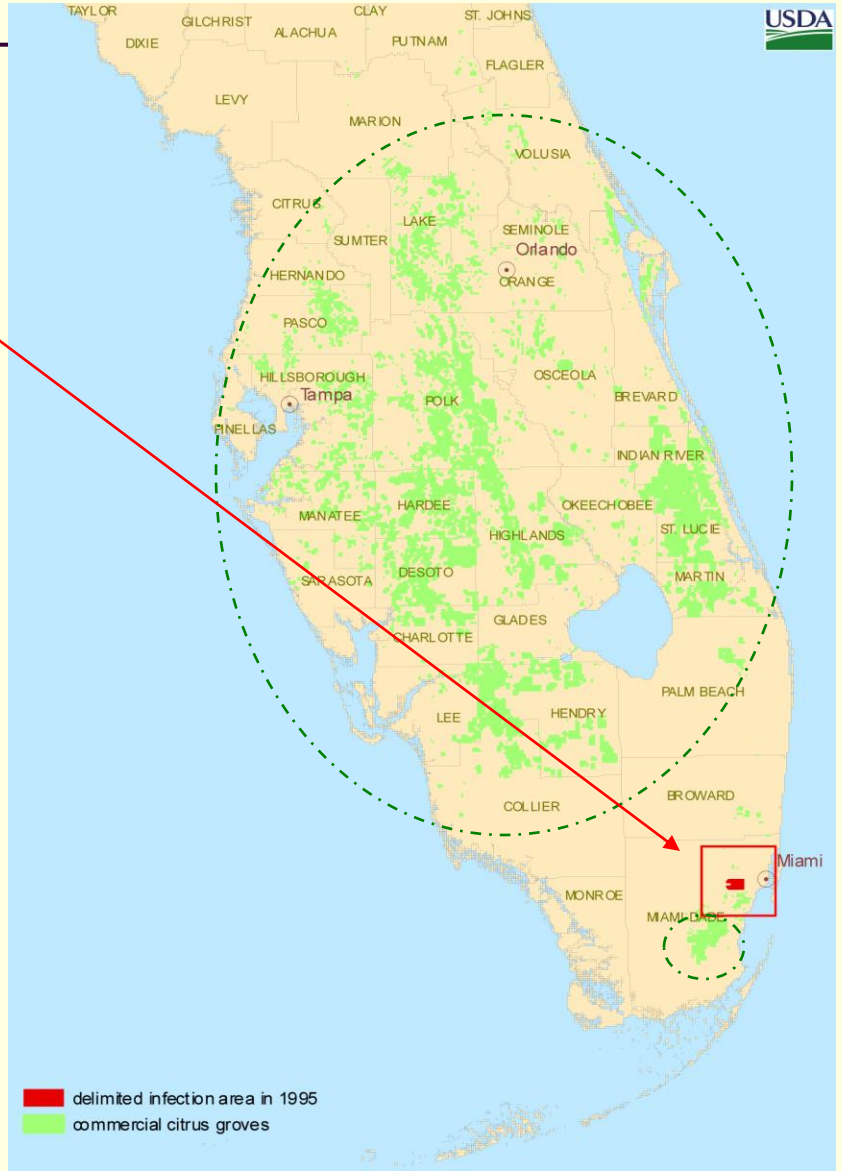
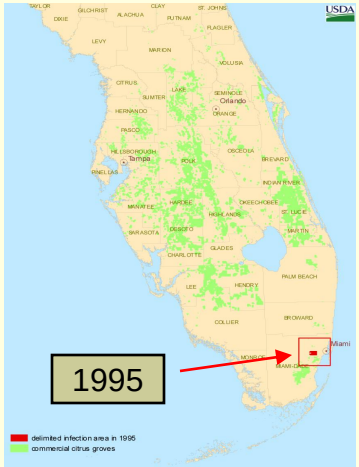
October 1995 – First Detection

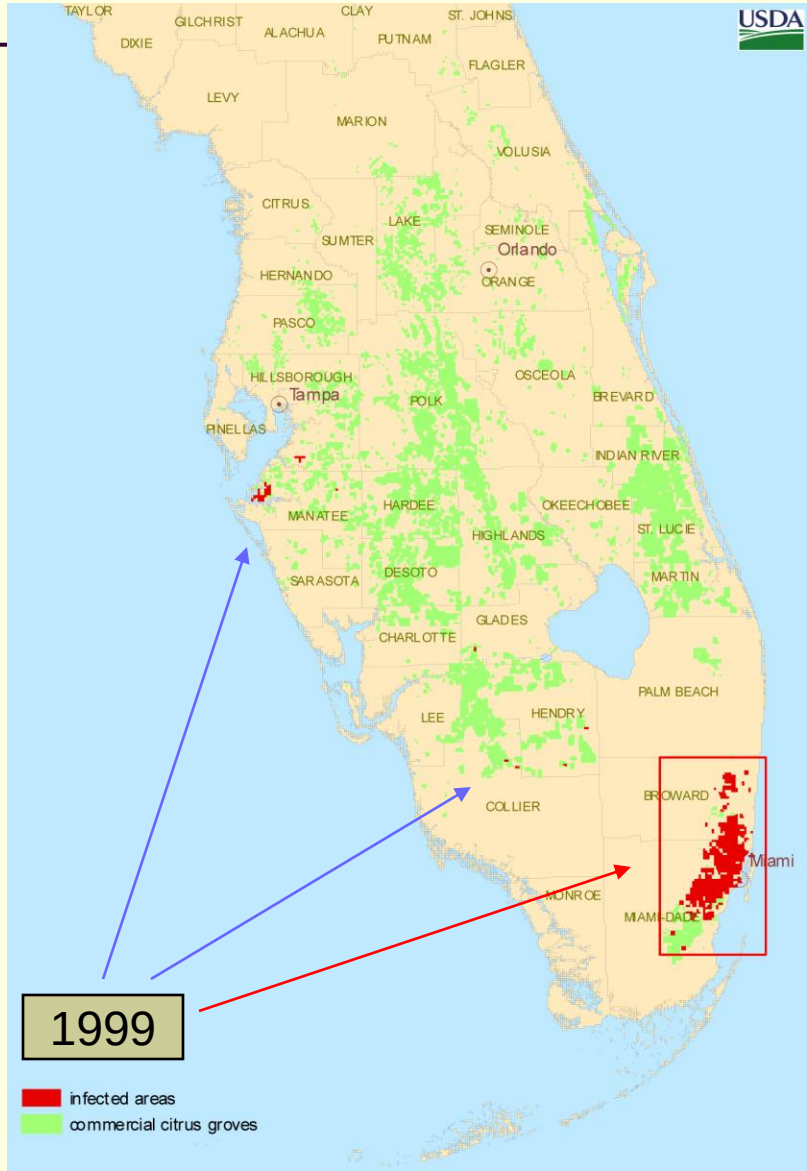
- Delimiting surveys results: 14-square miles (36 sq.km)
- Resources applied to:
  - Removal of infected trees
  - Removal of exposed trees within 125 feet radius (38m)
  - Repeated surveys
- Commercial citrus acreage hit a peak in 1996 at 857,687 acres (347,106 hectares)



Fast Forward to1999

- Growing residential problem in S. Florida
- From initial 14 square mile sections in 1995
- To 333 sections in 1999
- Obviously, the strategy of removing trees within a 125-foot radius was not working
- By 1999, there were also a few detections in commercial areas





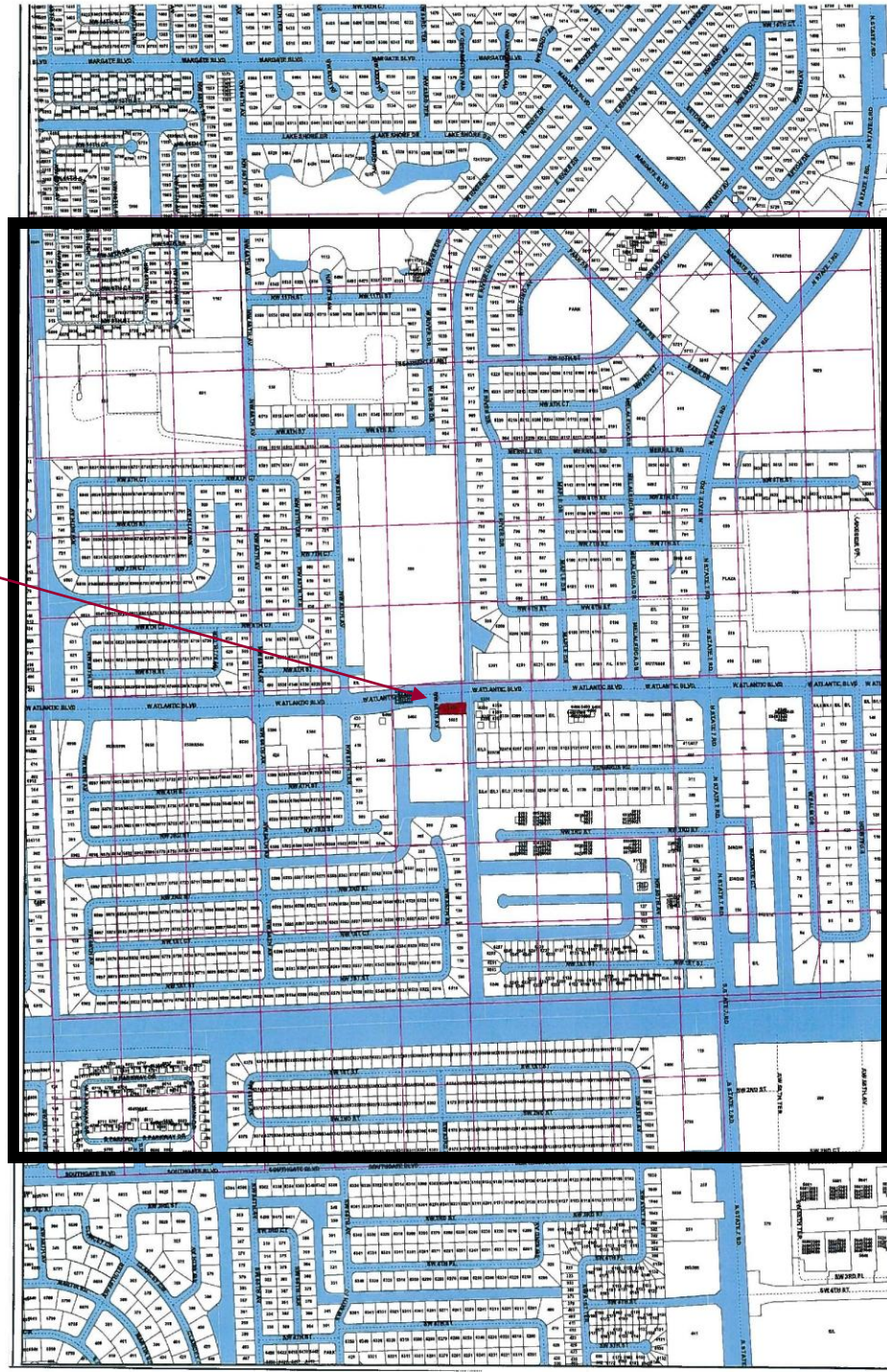
2000

- Change in strategy as a result of 1998 scientific study about the distance canker could spread as a result of normal weather events
- Program began to remove all citrus trees within a 1900’ radius (579m), rather than a 125’ radius (38m)
  - Quickly resulted in legal challenges that prevented removal of exposed trees
  - Continued in the courts for 4 years, while canker continued to spread

125 ft. vs. 1900 ft.

(38m vs. 579m)

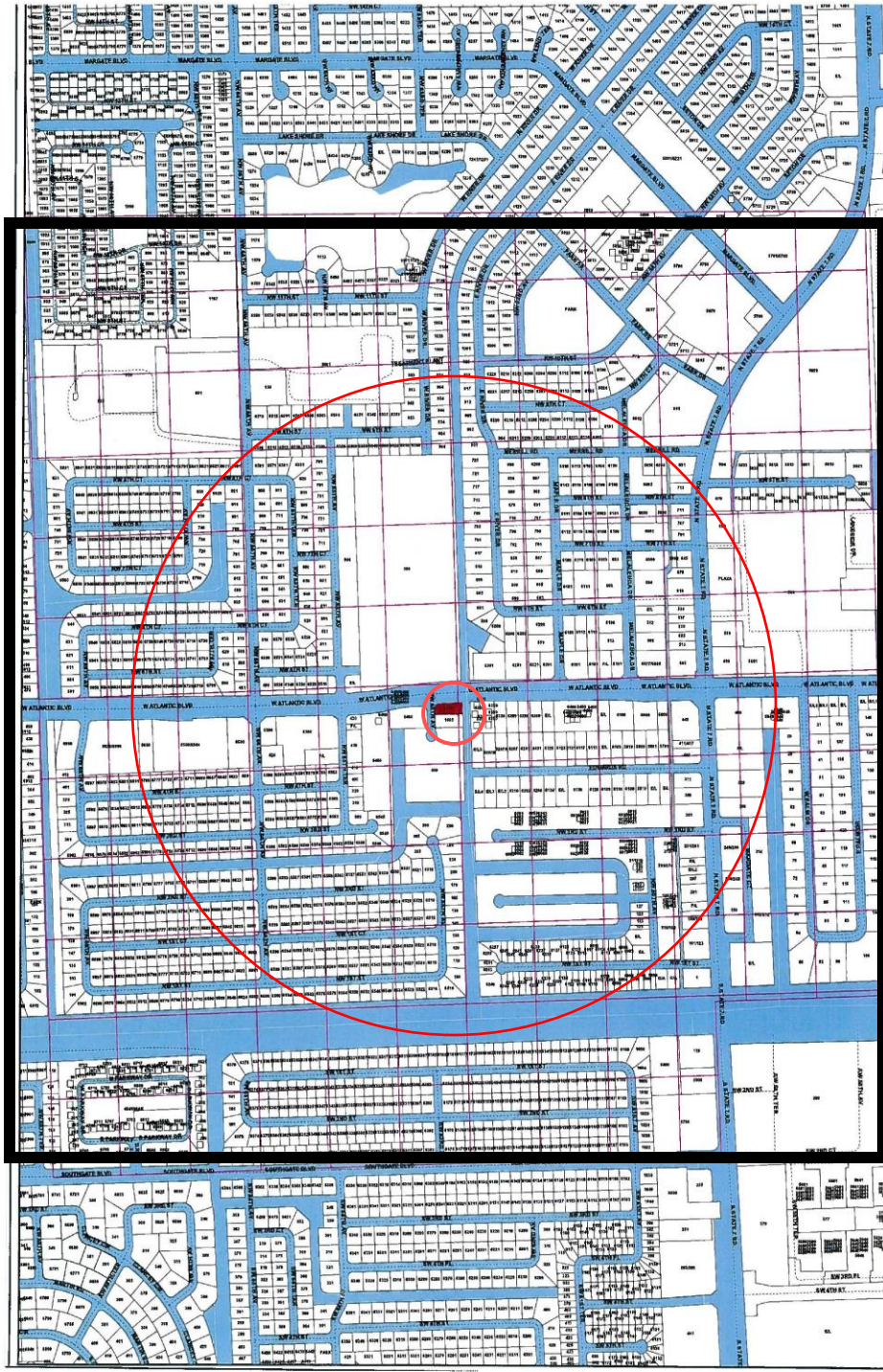
- Map of typical residential neighborhood
- Red colored property represents an infected property
- Black box represents 1 square mile (2.59 sq.km)
  - As many as 2500 properties in 1 square mile



125 ft. vs. 1900 ft.

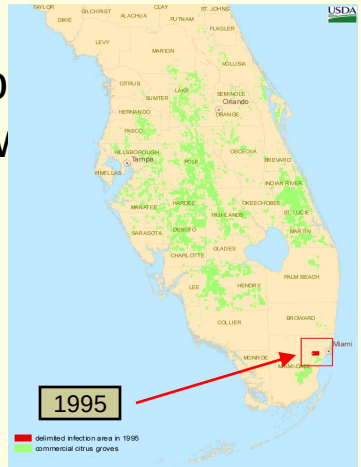
(38m vs. 579m)

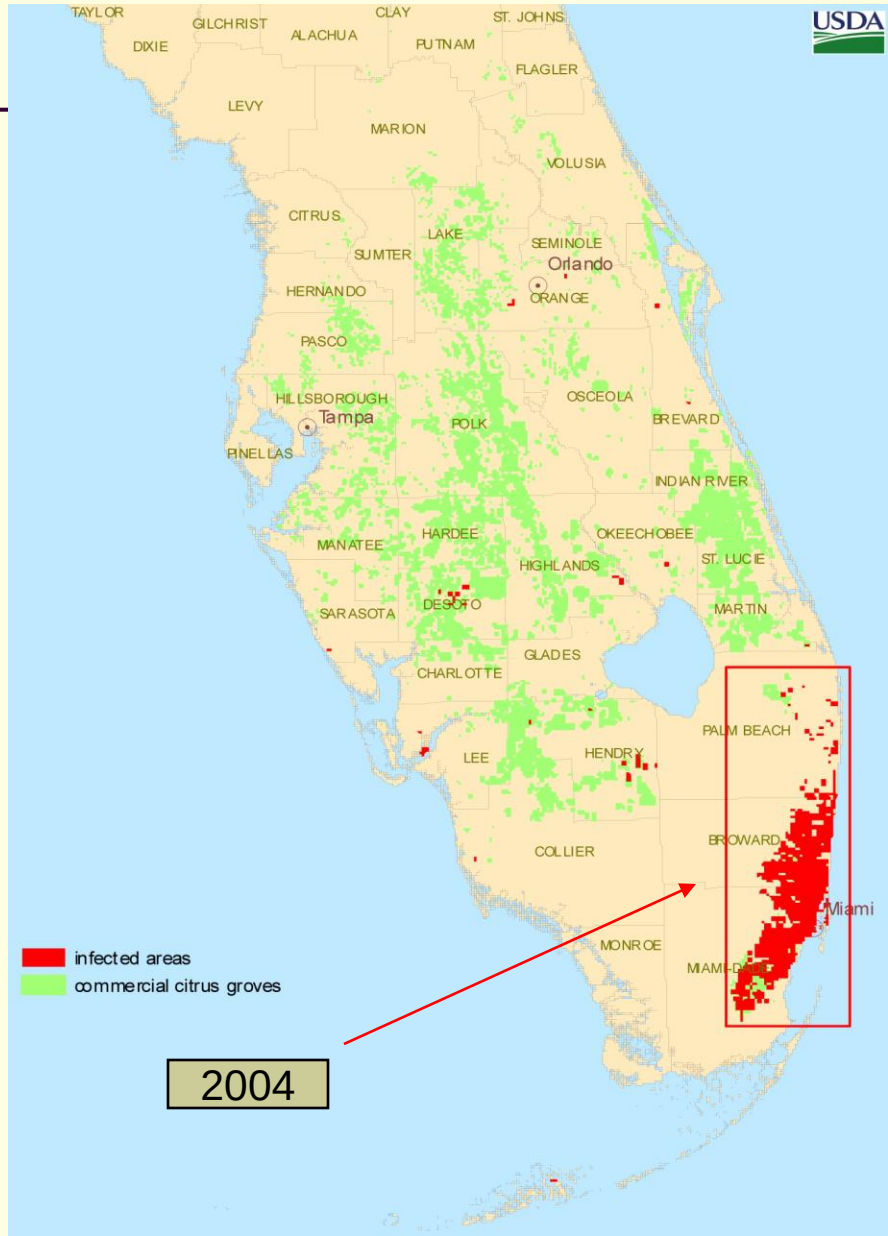
- Map of typical residential area
- Red colored property represents an infected property
- Black box represents 1 square mile
  - As many as 2500 properties in 1 square mile
- Small red circle represents 125-foot radius (affecting an average of 5 properties)
- Large circle represents 1900-foot radius: (affecting as many as 1200 properties)



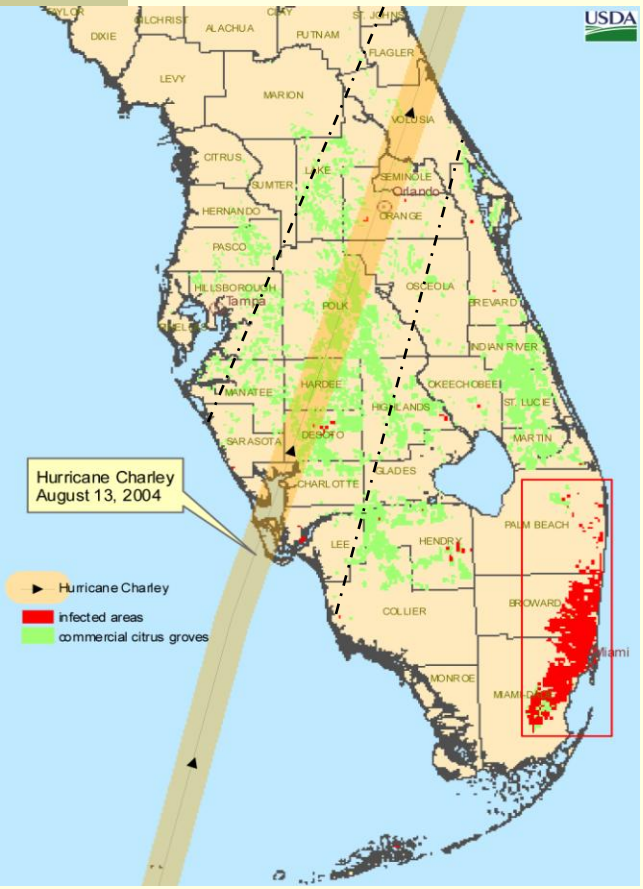
2004

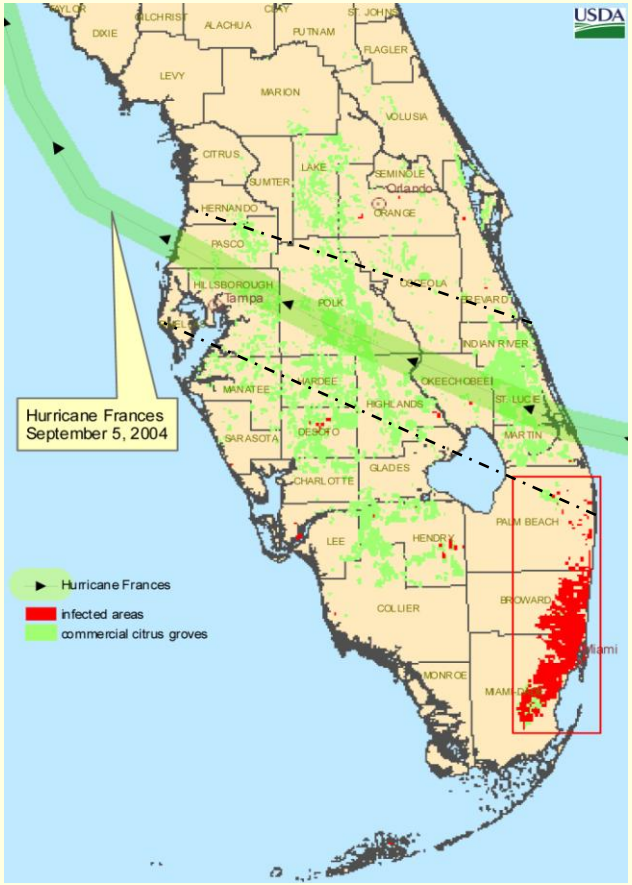
- Finally, after 4 years, legal victory in the Florida Supreme Court
- At the start of 2004, the positive sections totaled 838, including a few sections in commercial areas
  - From an initial 14 sections in 1995
- Eradication still thought to be achievable
- *However,* we co
  predicted what v

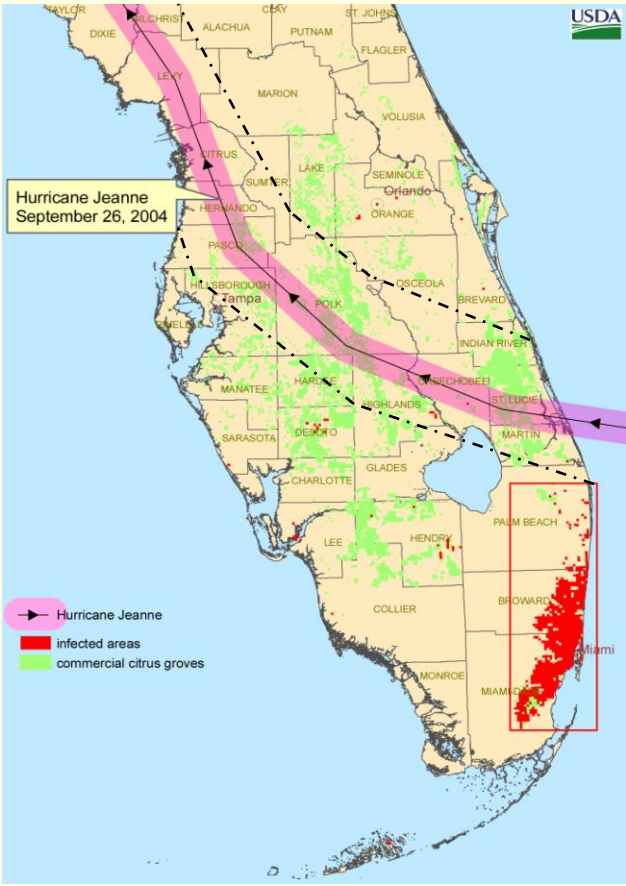




Record Hurricane Season in Florida in 2004

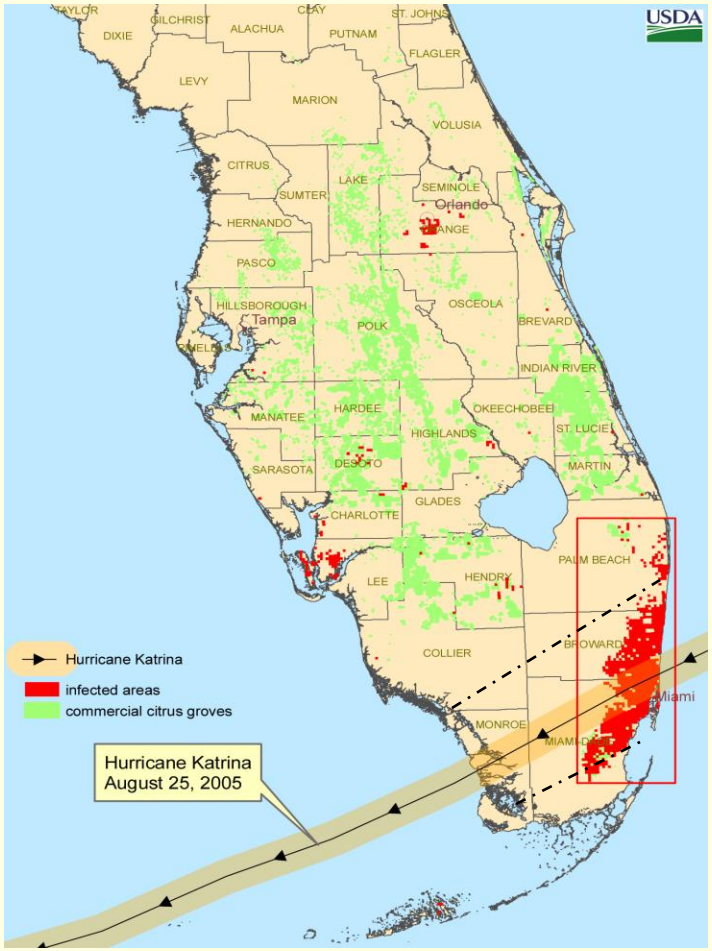


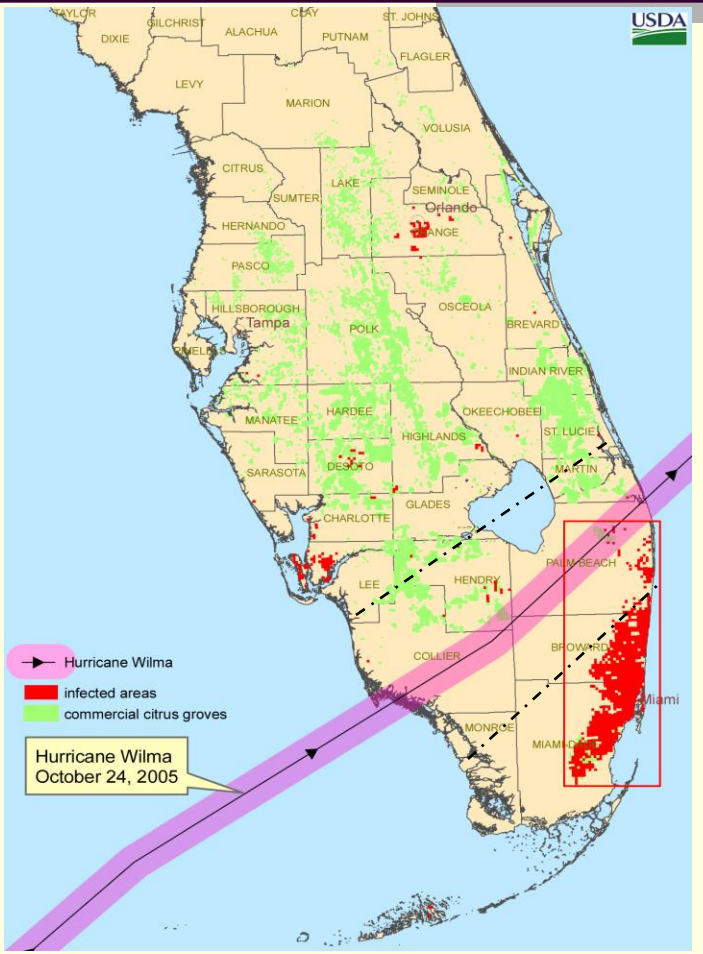




182 additional positive sections added in 2004, but that was just the beginning…

Then, two additional hurricanes in 2005



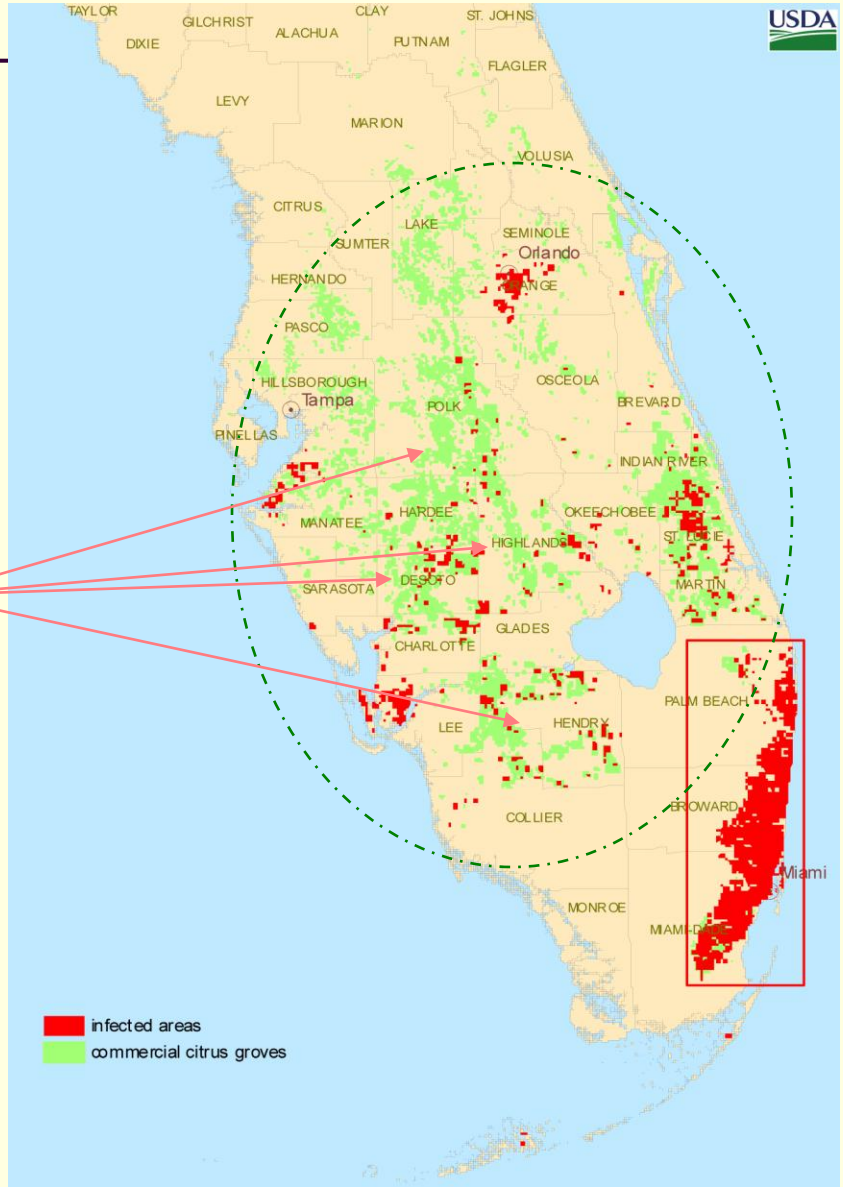


604 additional new sections in 2005

By the end of 2005

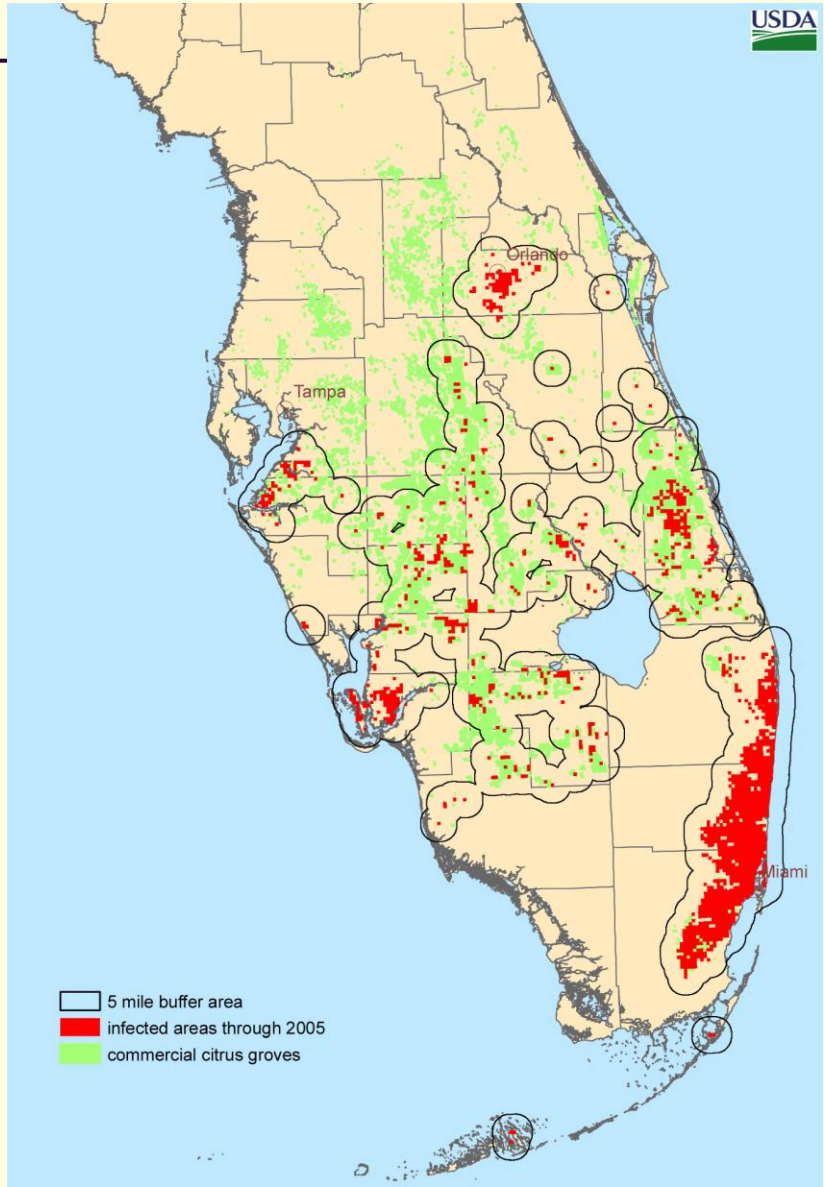
- After all surveys completed to determine the extent of spread due to hurricanes…
- Total of **1,624** square mile sections positive for citrus canker
- Including many detections throughout the commercial growing areas
- And, for the first time, canker was found in citrus production nurseries

- *(**Note:** 1st HLB detection in Florida in August 2005)*



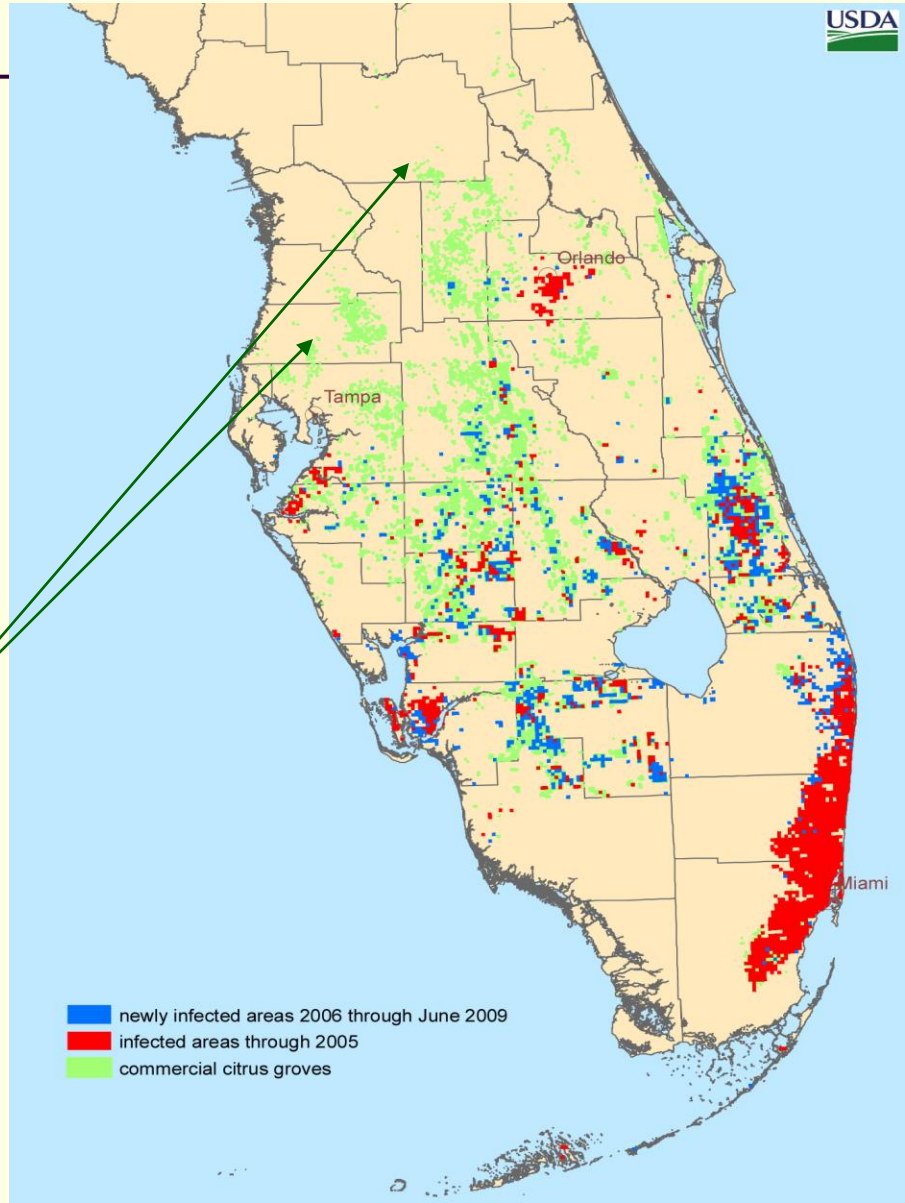
January 2006 – Eradication Effort Ends

- Post hurricane surveys had revealed that canker was so widespread that:
  - 75% of commercial citrus groves within 5 miles of a citrus canker detection
  - Cure became worse than the disease
- Quarantine was imposed on entire State of Florida



Current Situation in 2009

- Since 2006, even with fewer surveys, there have been 966 new positive sections through June 2009
- Today, 98% of citrus is grown in counties in which canker is known to be present
- Of the 23 counties with over 1000 acres of commercial citrus, only two remain free of any canker detections: Pasco & Marion Counties
- Acreage is down to the lowest level since records kept or 32% from peak
- Estimated 65,000 abandoned acres (26,305 hectares)



Citrus Canker Management

After eradication, disease management became largely a grower responsibility

Best Practices developed by UF Institute of Food & Agricultural Sciences:

- Grower self-surveys (scouting)
- Removal of trees – based on grower discretion
- Added copper sprays
- Control of leafminer
- Installing Windbreaks

Citrus Canker Management

- Grower compliance agreements
- New nursery regulations
- FDACS assists with:
  - Scouting surveys to help growers
  - Nursery environs surveys
  - Abandoned grove census
    - Hope to eventually have a legislative remedy to abandoned grove issue

Economic Impacts of Citrus Canker

Government Expenditures for Eradication:

$1.3 billion during 1995 to 2006 for:

- Surveys – residential & commercial
- Regulatory operations
- Control actions (removing trees)
- Commercial Compensation
  - Total of 87,000 acres pushed
  - 75,000 acres compensated

Government Expenditures – cont'd

- $90 million in Government costs over the next three years for Citrus Health Response Program
- Difficult to attribute to citrus canker vs. HLB
  - 2006-07 fruit shipping season ("Interim Rule")
    - Required negative pre-harvest surveys for fruit to move interstate
  - 2007-08 & 2008-09 seasons ("Asymptomatic Fruit Rule")
    - Required fruit inspections in packinghouses for fruit to move interstate
    - Pre-harvest surveys required for certain export markets

Economic Impact to Growers

Increased production costs:

- Added surveys for early detection
- Removal of trees when warranted
- Added cost of spraying (copper)
- Windbreaks

Difficult to separate some of the added costs due to canker vs. HLB

Economic Impact to Fruit Packers

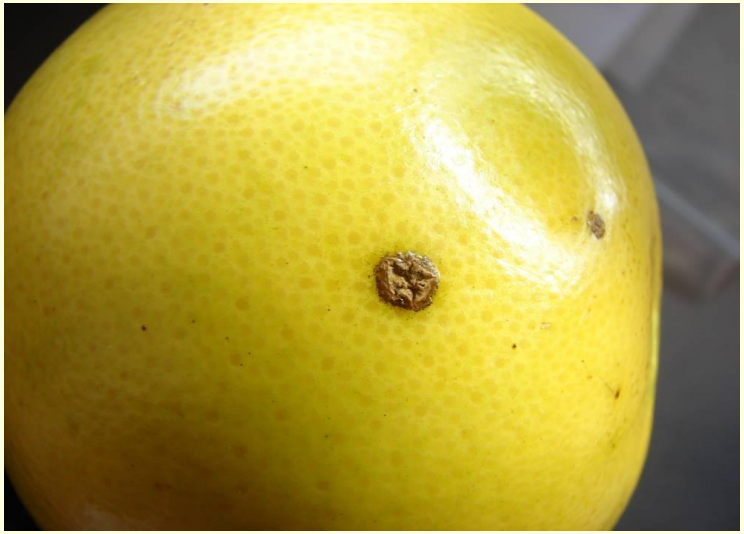
- Smaller lots
- Slowing down of packing line
- Added graders at packinghouses

Economic Impact to Packers

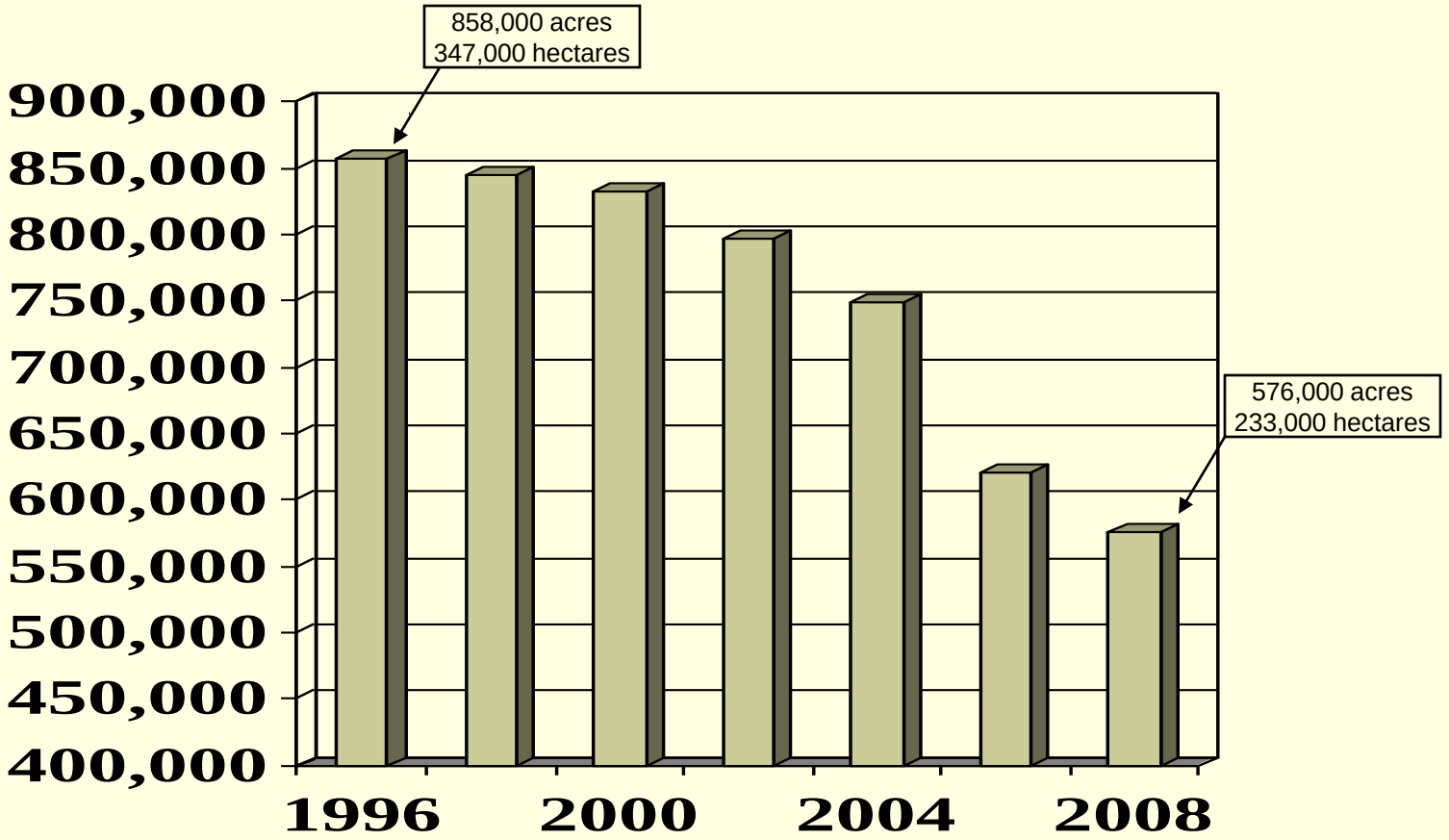
- Loss of markets (not able to ship to other citrus producing states)

LIMITED PERMIT
USDA, APHIS, PPQ
NOT FOR DISTRIBUTION IN:
Arizona, California, Hawaii, Louisiana, Texas, Puerto Rico, U.S. Virgin Islands, Guam, American Samoa, & Northern Mariana Islands

- When canker is found, fruit directed to less lucrative markets



Economic Impact - Citrus Acreage



On a positive note….

- Since the quarantine was established in January 2006, citrus canker has not been found on any fruit that has been shipped out of Florida
- Including domestic and foreign markets

Future Hopes for the Fresh Fruit Market

- New scientific studies published that seem to indicate that even symptomatic fruit is not a viable pathway for spreading canker
- USDA reviewed the science and deemed it compelling enough to enter into rule making
- Currently in comment period
- If the proposed rule becomes final as written,
  - USDA fruit inspections for the presence of canker will no longer be required
  - Will gain market access to the other citrus producing states

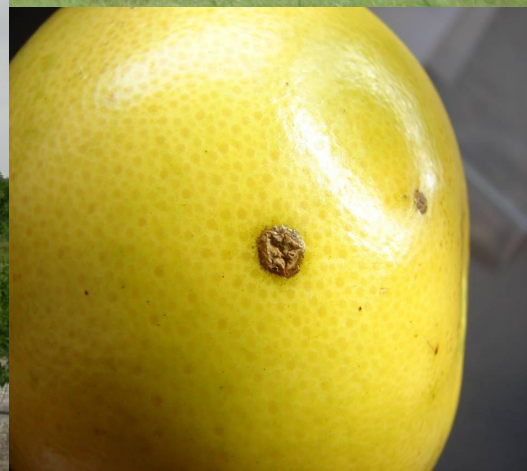
In Conclusion….

The impact of citrus canker in Florida has been dramatic

- Over $1.3 billion in taxpayer dollars to combat the disease
- Quarantine of State has negatively affected markets
- Added fruit production costs
- Higher fruit packing costs and loss of markets
- Contributed to the shrinking of industry

What can be learned from Florida's experience?

- The importance of early detection and eradication – before it becomes a major outbreak



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Current Situation, Management & Economic Impact in Florida

Thank You