New Exotic Pest Update

A view from Florida

Dr. Trevor Smith, Director
Division of Plant Industry
DPI History

Why and Where it All Began

Citrus Canker Eradication Force, Meeting 1915
• 1915, canker first field find.

• Canker became established in Florida, Georgia, South Carolina and all Gulf States.

• Approximately 1,000,000 trees were destroyed.

• 1933, canker eradicated after 18-year program (1915-1933).
1915, port and railway inspection began in Miami and quickly expanded to Pensacola, Jacksonville, Tampa and Key West by 1916.
Another devastating pest detected

Medfly 1929
Medfly 1929

- Before canker eradicated, state nursery inspector found maggots in grapefruit near Orlando
- Soon after, excessive fruit drop reported
- DPI launched eradication program
- Medfly had never been successfully eradicated anywhere in the world, once it had become established
Florida today.....still under siege

- Sudden Oak Death, Leon Co.
- Medfly, Lake Co.
- Chilean Recluse, Polk Co.
- Oriental FF, Hillsborough Co.
- Medfly, Hillsborough Co.
- Africanized honey bee, Hillsborough Co.
- Canker, Manatee Co.
- Medfly, Manatee Co.
- Pea Leaf Miner, Desoto Co.
- Canker, Collier Co.
- Mikania micrantha
- Canker, Dade Co.
- Medfly, Dade Co.
- Exotic Whiteflies, Dade Co.
- Oriental Fruit Fly, Miami-Dade
- Giant African Snail, Miami-Dade Co.
- Laurel wilt/ redbay ambrosia beetle - Duval Co.
- Tropical Soda Apple, Central FL
- Guava FF, Orange & Volusia counties
- Oriental FF, Orange Co.
- Medfly, Highlands Co.
- Sm. Hive Beetle, St. Lucie Co.
- Citrus Psyllid, Palm Bch. Co.
- Red Palm Mite, Palm Bch. Co.
- PHM, Dade Co.
- Citrus Greening, Miami-Dade Co.
- Red Palm Mite, Miami-Dade Co.
- Cotton Seed Bug, Monroe Co.
- Oriental Fruit Fly, Miami-Dade
Florida under siege

- 15 major airports
- 12 maritime ports

Geographic location

Unique climate

Crop diversity

Increased trade

Florida Satellite Image
www.mapwise.com
Florida . . . The Regulatory Challenge

- 27 ports of entry
- 72% cut flower shipments, and a third of all plant material entering the U.S. comes through Florida
- 15,000 plant nurseries
- Over 200 million tons of perishable cargo enter FL annually
- 100 million visitors each year

### New US Cont./Hem. (17)
- Salbia sp. (Moth)
- Aristotelia sp. (Moth)
- Siskiwitia sp. (Moth)
- Eulepte sp. (Moth)
- Crocidosema sp. (Moth)
- Blastobasis inana (Moth)
- Acrolophus sp. (Moth)
- Neopronematus neglectus (Mite)
- Aceria artemisiifolia (Mite)
- Aclerda takahashii (Scale Insect)
- Pissonotus muiri (Planthopper)
- Ochropepla inaequalis (Treehopper)
- Cnesinus setulosus (Beetle)
- Salina celebensis (Springtail)
- Folsomides centralis (Springtail)
- Fulmekiola serrata (Thrips)
- Anaphothrips sudanensis (Thrips)

### New State (12)
- Megacyllene caryae (Beetle)
- Xyleborinus octiesdentatus (Beetle)
- Hylurgopinus rufipes (Beetle)
- Agrilus fuscipennis (Beetle)
- Thopeutis forbesellus (Moth)
- Polykatianna radicula (Springtail)
- Mesaphorura yosii (Springtail)
- Microcentrus caryae (Treehopper)
- Rhinacloa callicrates (Plant Bug)
- Stephanothrips japonicas (Thrips)
- Neurothrips apache (Thrips)
- Pseudocercospora mangifericola (Fungus)
<table>
<thead>
<tr>
<th>Date</th>
<th>Order: Family</th>
<th>Species</th>
<th>Common Name</th>
<th>County</th>
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<td>Mexico and Central America</td>
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<td>5/24,2017</td>
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From 2012 to 2016, Florida had 145 new State and US records (arthropods, nematodes and plant pathogens).

- Average of 2.4 new exotics a month

- 2012 – 19 State; 10 US
- 2013 – 22 State; 12 US
- 2014 – 16 State; 10 US
- 2015 – 13 State; 15 US
- 2016 – 14 State; 14 US
6 State and 13 US/Hem. Records

Cnesinus setulosus

Siskiwitia sp.
Cumulative Established Exotics, 1980-2017

1980-July 2017 Cumulative Exotics Established

[Chart showing cumulative exotic species established from 1980 to 2017, with two lines indicating State Cumulative and Continental Cumulative.]
Emergency Programs

- Asian Citrus Psyllid / Citrus Greening
- Giant African Land Snail
- Citrus Black Spot
- Oriental Fruit Fly
- Laurel Wilt
- Tree Termite
Fruit Fly Issues
FDACS partners with USDA on:

**Statewide trapping program**
Monitor 56,000 fruit fly traps statewide (checked every 2 to 3 weeks)

**Sterile Fruit Fly Release Program**
High risk area around the state

82 million sterile medflies released per week

37 billion released since program
The Safeguarding Continuum
<table>
<thead>
<tr>
<th>Date</th>
<th>Fruit Fly Species</th>
<th>Initial Find</th>
<th># Of Flies</th>
<th>Program Cost</th>
<th>Type of Program</th>
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<td>2007</td>
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<td>Orlando</td>
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<td>2010</td>
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<td>Boca Raton</td>
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<td>2015</td>
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</table>
Fruit Fly Triggers and Responses

**Delimiting Survey/Intensive Trapping**
One male fly found

**Eradication Program Triggers**
Two flies within a 3.5 mile radius and within a time period equal to one life cycle; or

One mature female; or

Larvae or pupae
One male Bactrocera dorsalis was captured on January 12, 2017 in a Jackson Trap in Mt. Dora

Full Delimiting Program initiated immediately

No further fly finds after 2 life cycles

Delimiting Program ended April 29, 2017
Fruit Fly Finds Post 2016 SPB Meeting

- Redland Oriental Fruit Fly Eradication ended in February 2016
- Four separate Oriental fruit fly finds (post Redland program)
  - St. Petersburg - July 2016
  - Mt. Dora - January 2017
  - Clearwater - June 2017
  - Davie - July 2017
- Full Delimiting Program initiated immediately in each case
Interdiction Station Update

INTERDICATION SITES

Alabama

Georgia

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<tr>
<th>Site Name</th>
<th>Address</th>
<th>City</th>
<th>County</th>
<th>Phone</th>
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Created by CAPS - David Saeger - May 18, 2009

Projected Coordinate System - GCS North American 1983 HARN
Interdiction Station Update

State Interceptions

- Truck Interdiction
- Dog Detection
- Import Inspections
- Total

Interdiction Station Update

- Commonly intercepted pests:
  - Brown Garden Snail
  - Potato Psyllid
  - Bagrada Bug
  - Pea Leafminer
  - Brown Marmorated Stinkbug
Interdiction Station Update

Interception origins (most common):
- California
- Mexico
- Central America
- South America
- Asia
2016 netted 6 species of Coleoptera; 4 not known from the Western Hemisphere and 3 of which were cerambycids.

2017 – Ongoing (stalled due to number of fruit fly programs)
Conclusions

- Pest introductions are on the rise!
- Exotic establishments are on the rise!
- Fruit fly introductions are on the rise!
So…..What Can We Do About It

- Absolutely enforce the 39th parallel for fruit fly host material (Treatment at northern ports only)
- This is a treatment for fruit flies.........What about everything else?
  - Ineffective against many other pests including: *Spodoptera littoralis, Helicoverpa armigera*, many mite species (which may vector diseases such as citrus leprosis), a large number of fungal pathogens, etc.

- Are the other southern states prepared for a fruit fly eradication program
  - The 39th parallel has been an effective exclusionary technique for decades; why take away another support of the safeguarding continuum?
Recent Cold Treatment Failures

• **2016** – Live medfly larvae found in clementines from Morocco (DA-2016-10)
  – Supposedly treatment and trapping occurring at origin; cold treatment was applied properly
  – Resulted in the suspension of Moroccan clementines from Berkane region

• **2017** – Live medfly larvae found in clementines from Morocco (same region; Berkane) only months after suspension was lifted (DA-2016-79)
  – Resulted in suspension of Moroccan clementines from the same region
Much more consideration into deregulation and international trade loopholes

States must make themselves heard with proposed federal rule changes

A few examples of recent proposed Federal Rule changes

- Lemons for Argentina
- Figs from Peru
- Pomegranates from Peru
- Avocado from South Africa
- Avocado from Ecuador
- Pitahaya from Ecuador
- Cherimoya from Chile
- Apples and Pears from the EU
- Citrus from Australia and New South Wales
- Citrus Fruit from Morocco
- Aquatic Plants in potted media from Denmark
Regional and Area-Wide Pest Surveys and Control Programs

More Information Sharing Between Federal Agencies and the States

Adequate funding for Pest Detection (CAPS, SITC, Fruit Fly Detection Programs, etc.) – Early Detection and Rapid Response is key

Offshore efforts (Don’t Pack a Pest, Greater Caribbean Safeguarding Initiative, etc.)

Robust Biocontrol Rearing and Release Programs

Adequate Training in ICS and Joint Incident Commands

Summary (Federal Rule Changes)
Thank You!