

Invasive Pests and Pathways



FLORIDA FIRST DETECTOR



What Is The Difference?

Native? Introduced? Invasive?
What about non-native?



Japanese honeysuckle



Honeybee



Blueberry

Photo: (Left) – Chuck Barger, University of Georgia, Bugwood.org, #1150068; (Middle and Right) – Wikimedia Commons.

Native

Organisms that occur in an ecosystem as a result of only natural processes, with no human intervention.



Blueberry



Alligator



Wild turkey

Introduced

Organisms that are introduced to a new ecosystem where they become established and survive

- A.K.A **Non-native**
- Usually introduced via human intervention
- Can have beneficial or detrimental effects on the environment



Peaches



Honeybee

Invasive

Organisms that are **introduced** to an ecosystem where they **establish and survive, causing harm** – NISC**.

- Usually introduced via human intervention
- Only have detrimental effects (economic, ecological, and/or human health)



Japanese honeysuckle



Giant African land snail



Wheat stem rust

Photos: (Left)- Chuck Barger, University of Georgia, Bugwood.org, #1150068

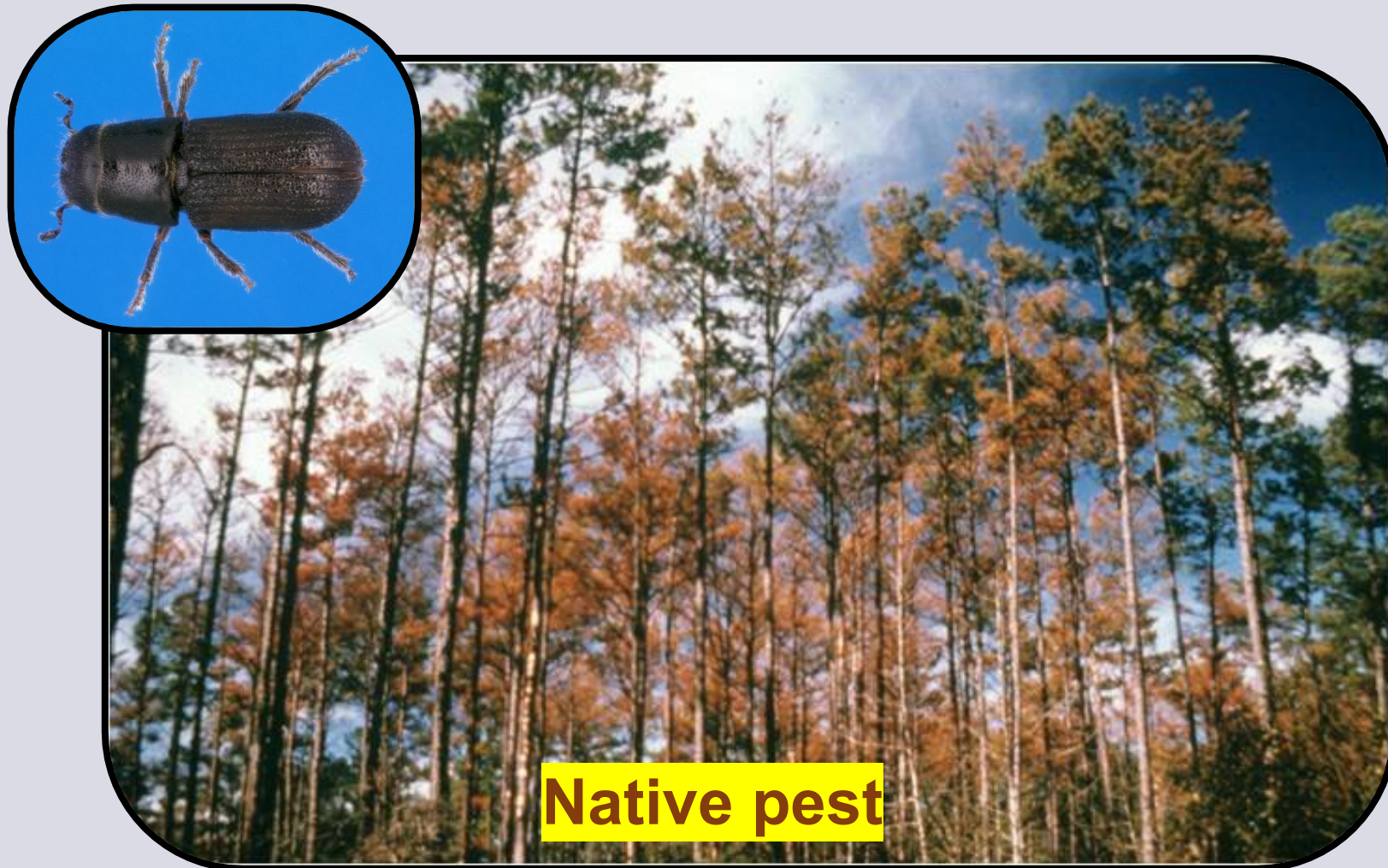
(Middle)- Pest and Diseases Image Library, Bugwood.org, #5502140; (Right) - USDA-ARS Photo, <http://www.ars.usda.gov/Main/docs.htm?docid=9910>

****National Invasive Species Council**

Pest

Organisms that compete with humans for resources

- Competition includes consuming or damaging food, fiber, and other resources that humans value
- **Pests** can be native, introduced, or invasive



Native pest

Pine tree damage caused by **Southern pine beetle**



Introduced or invasive pest

Ash tree damage caused by **Emerald ash borer**

Photos: (Left, main) - Ronald F. Billings, Texas Forest Service, www.bugwood.org, #1546017; (Left, inset) - Erich G. Vallery, USDA Forest Service - SRS-4552, www.bugwood.org, #5289035; (Right, main) - Daniel Herms, The Ohio State University, www.bugwood.org, #5171038; (Right, inset) - David Cappaert, Michigan State University, www.bugwood.org, #2106098.

Don't Pack a Pest!

**TRAVELERS: AVOID
FINES AND DELAYS**

DECLARE



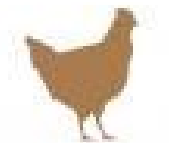
Fruits & Vegetables



Plants & Cut Flowers



Meat & Animal Products



Live Animals

Foreign insects, plant and animal diseases,
and invasive plants can be harmful
to United States agriculture.



U.S. Customs and
Border Protection

www.cbp.gov

English

DONT PACK A PEST

CAN I BRING IT? TRAVEL GUIDELINES PARTNERS ABOUT

Traveling with food, plants
or animals: ask yourself...

Can I Bring It?

Answer a few easy questions to determine if the items you are
traveling with could harm native species.

Why Should You Be Concerned?

<http://www.dontpackapest.com/>

FDACS-DPI campaign - Detector Dogs (funded by USDA-APHIS-PPQ)

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Don't Pack a Pest!



<https://www.youtube.com/watch?v=x0S99cwnDqM>

FLORIDA FIRST DETECTOR

**How are new species
introduced, and why does
Florida seem to get so many?**

Introduced

Organisms that are introduced to a new ecosystem where they become established and survive

- A.K.A **Non-native**
- Usually introduced via human intervention
- Can have beneficial or detrimental effects on the environment



Peaches



Honeybee

Why is Florida a likely place for invasive species to establish?

- Live plant material is imported through airports, deepwater ports, and interstate travel
- Florida has a large tourism industry
- Florida has prolonged growing seasons and a favorable climate

#1 - Siesta Key

#6 - Clearwater Beach

#7 - Destin

Travelers' Choice 2021 Best of the Best

Top 25 Beaches — United States 2021

Yeah, we wish we were there, too. White sands, rugged coastlines, the works—these are the beaches that travelers dream of all year long.

UNITED STATES WORLD REGIONS COLLAPSE LIST

1 Saint Pete Beach

St. Pete Beach, Florida

“A great walking beach with white quartz sand, clear calm water, and seashells by the truckload. The most perfect place to watch the sun set over the ocean.”

Shop for a place to stay

- 34 Hotels
- 4 B&B and Inns
- 417 Vacation Rentals

MORE

3 out of 10 best beaches in the U.S. (2024)

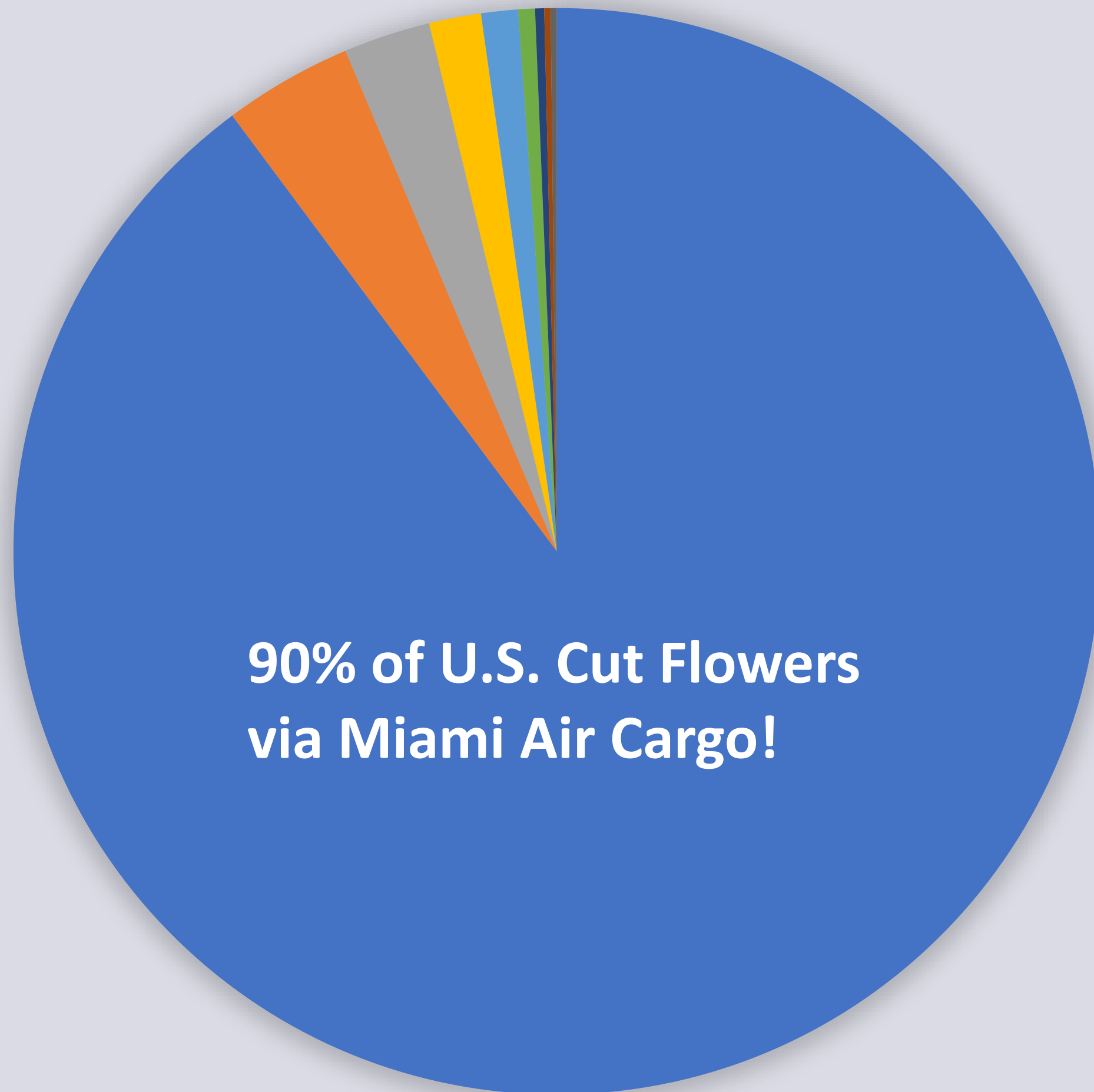
Florida has 12 International Airports

1. Panama City/Bay County International
2. Tallahassee International
3. Jacksonville International
4. Daytona Beach International
5. Orlando International
6. Melbourne International
7. Palm Beach International
8. Ft. Lauderdale International
9. Miami International
10. **Sarasota International**
11. **St. Pete/Clearwater International**
12. **Tampa International**



Map courtesy of: Florida CAPS

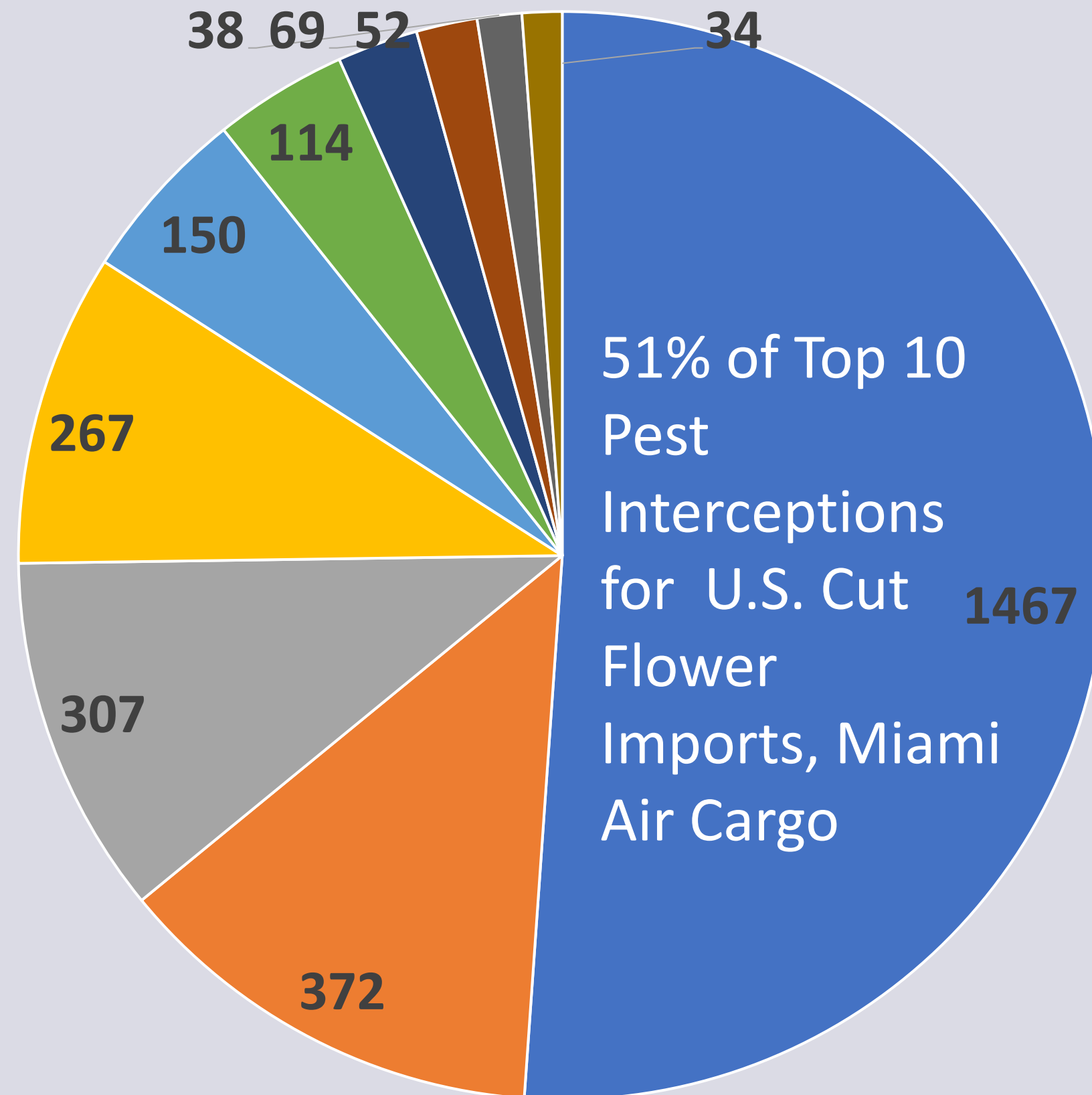
U.S. Cut Flower Imports



**90% of U.S. Cut Flowers
via Miami Air Cargo!**

- Miami Air Cargo, Miami, FL
- Los Angeles, CA
- Otay Mesa, CA
- JFK Air Cargo, NY
- Laredo, TX
- Chicago, IL
- Aguadilla, PR
- Newark, NJ
- Honolulu

U.S. Cut Flower Imports, Pest Interceptions



More opportunities for pests to enter and establish

Miami Air Cargo, FL

Los Angeles, CA

Aguadilla, PR

Otay Mesa, CA

JFK, NY

El Paso, TX

Calexico, CA

San Ysidro, CA

Chicago, IL

Laredo, TX

Florida has 14 Deepwater Ports

1. Port of Pensacola
2. Port of Panama City
3. Port of St. Joe
4. **Port of Tampa**
5. **Port of St. Petersburg**
6. **Port of Manatee**
7. Port of Key West
8. Port of Miami-Dade
9. Port of Everglades
10. Port of Palm Beach
11. Port of Ft. Pierce
12. Port Canaveral
13. Port of Jacksonville
14. Port Fernandina

Potential pathway for new and invasive species to arrive in Florida



Photo: Microsoft Power point clip art, Map courtesy of: Florida CAPS

Stowaways in Cargo



Asian longhorned beetle



Cargo being inspected



Pallet damaged by Asian longhorned beetle

Under eradication | Not considered to be established | Report via FFD Network.

(Left to right) - Michael Bohne, Bugwood.org #UGA1262002; USDA-APHIS-PPQ, Bugwood.org #1265007; Larry R. Barber, USDA Forest Service, Bugwood.org #3047036;

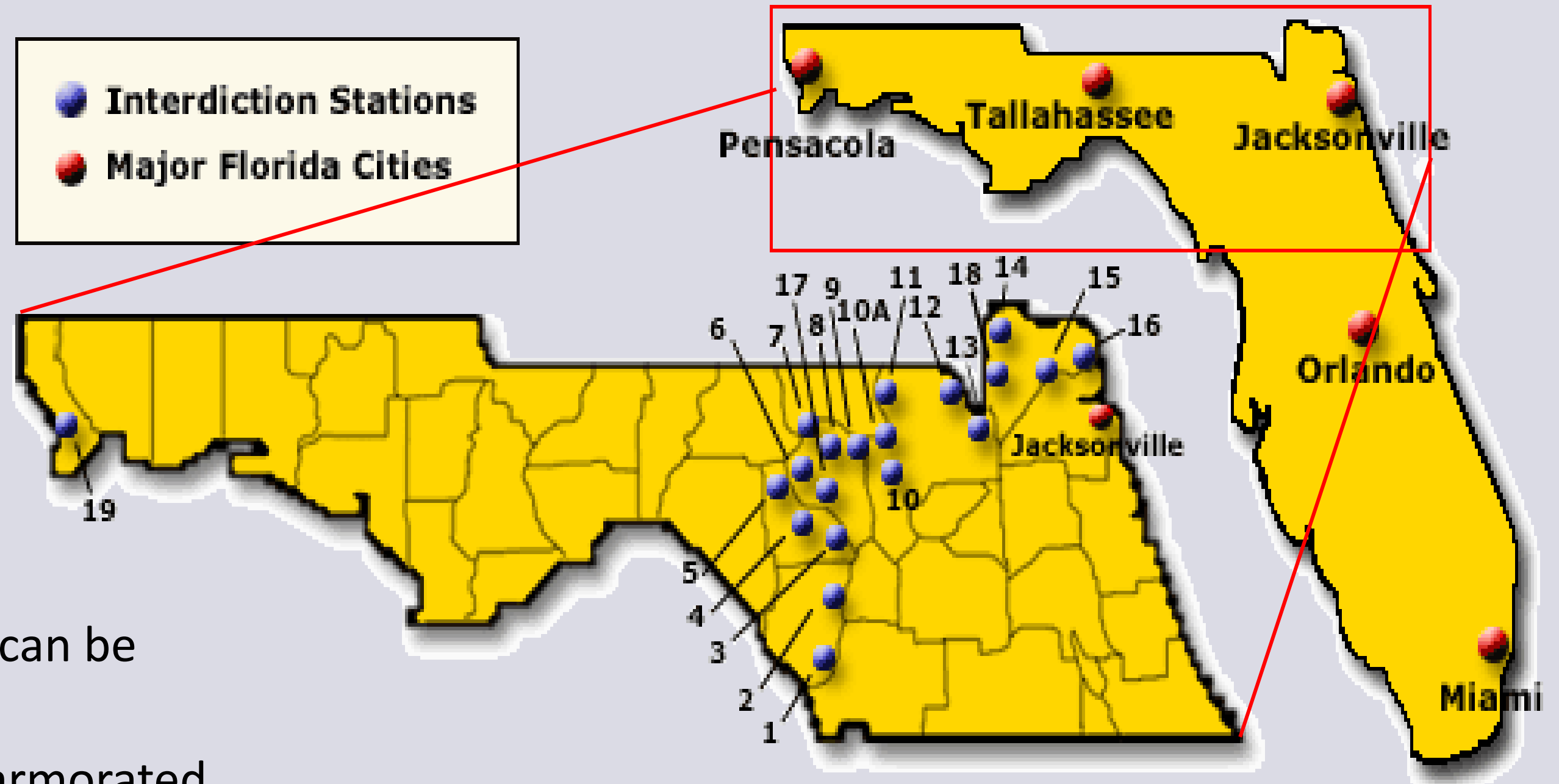
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Agricultural Interdiction Stations



Brown Marmorated Stink Bug (BMSB)

- Less than 5% of agricultural shipments can be thoroughly inspected
 - ✓ in 2012, FL CAPS detected brown marmorated stink bug
- BMSB is known to sometimes hitch rides in peoples' cars that are traveling to Florida.



Multiple Interceptions

Map courtesy of: Florida CAPS

Thank you!

Reporting to UF/IFAS Faculty in Florida

- Local county extension office

<https://sfyl.ifas.ufl.edu/find-your-local-office/>

- Insect ID Lab - Dr. Lyle Buss

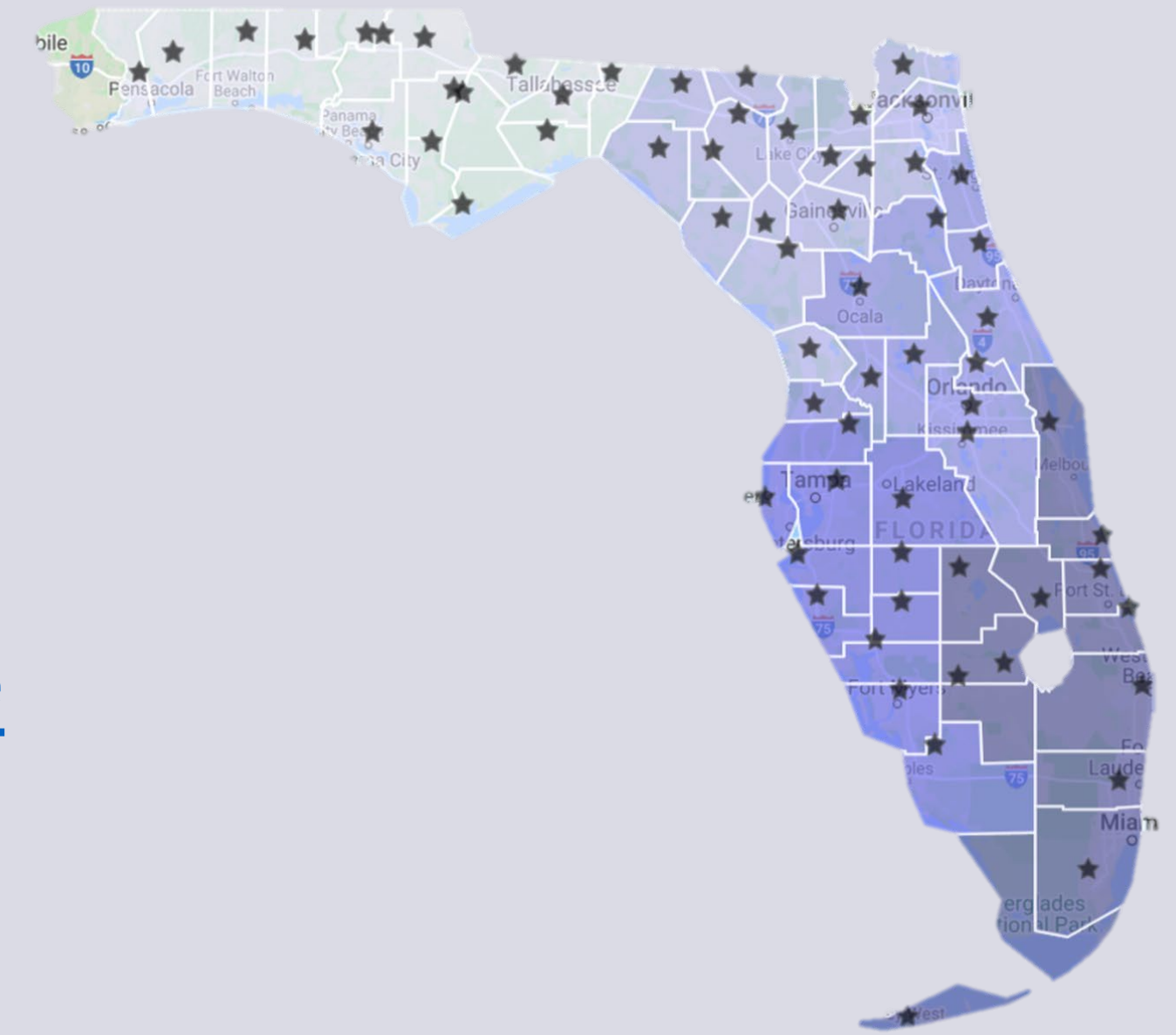
<http://entnemdept.ufl.edu/insectid/>

- Nematode Diagnostic Lab - Dr. Billy Crow

<http://nematology.ifas.ufl.edu/assaylab/index.html>

- Plant Diagnostic Center - Dr. Carrie Harmon

<https://plantpath.ifas.ufl.edu/extension/plant-diagnostic-center/>



Reporting to FDACS-DPI in Florida

Florida Department of Agriculture and Consumer Services (FDACS)

- Division of Plant Industry (DPI)

- FDACS, DPI Responsibility

- Announcing detection or establishment of new invasive species.
- Reporting is a legal obligation under Florida Statute 581.091.

- Submission Form

- <http://forms.freshfromflorida.com/08400.pdf>
- <https://www.fdacs.gov/Agriculture-Industry/Pests-and-Diseases/How-to-Submit-a-Sample-for-Identification>

FDACS, DPI Contact

- Dr. Leroy Whilby, Bureau Chief-Entomology, Nematology and Plant Pathology
 - 352-395-4661
 - Leroy.whilby@freshfromflorida.com
- Dr. Paul Skelley, Assistant Chief-Entomology, Nematology and Plant Pathology
 - 352-395-4678
 - Paul.skelley@freshfromflorida.com
- Division of Plant Industry Hotline
 - 1-888-397-1517
 - DPIHelpline@FDACS.gov

Reporting using DDIS in Florida

Digital Diagnostic and Identification System (DDIS)

- Digital Diagnostic Collaboration
 - Extension agents
 - Laboratories
 - Clinics
 - Specialists
- <https://ddis.ifas.ufl.edu/>



The screenshot displays the DDIS website interface. At the top, the UF IFAS Extension logo is on the left, and the DDIS logo (Distance Diagnostic and Identification System) is on the right. Below the logos is a navigation menu with links for Home, Media Library, Diagnostic Labs, Equipment, Training, and Contact Us. A login section includes a "Become a User" link, a "Forgot Your Password" link, and input fields for "user name" and "password" with a "Sign In" button. The main content area features a photograph of a yellow and black striped caterpillar on a green leaf. To the right of the image, the following sample information is displayed:

- Sample Type:** Insect (Plant)
- Common Name:** Snowbush spanworm
- Scientific Name:** *Melanchroia chephise*
- Family:** Geometridae
- Sample Submitter:** Joe Sowards
- Sample ID:** 15-2335

Find More Information At:

<https://entnemdept.ufl.edu/ffd/>



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Collaborating Agencies

- U.S. Department of Agriculture Animal and Plant Health Inspection Service (USDA-APHIS)
- Cooperative Agricultural Pest Survey Program (CAPS)
- Florida Department of Agriculture and Consumer Services (FDACS)
- National Plant Diagnostic Network (NPDN)
- Sentinel Plant Network (SPN)
- University of Florida Institute of Food and Agricultural Sciences (UF-IFAS)
- Protect U.S.

Educational Disclaimer and Citation

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- Citation:
 - –University of Florida, Entomology and Nematology Department, Biosecurity Research and Education Lab. September 2024. Invasive Pests and Pathways, Day Accessed