UF | IFAS Extension
UNIVERSITY of FLORIDA

Sample Submission and DDIS

FLORIDA FIRST DETECTOR

Sample Submission: Sample Types

- Plant disease
- Insect and other arthropods
- Management, plant physiology, nutrient disorders, non-biotic problems
- Plant and weed identification
- Livestock and aquaculture
- Invasive species

How do you Survey to Collect Samples?

- Use a Systematic approach
  - Search every plant the same way
- Document your methods
  - Search every other plant, every fifth plant, 10 plants in a row in 10 rows per crop, etc.
- Quantify the effort
  - Number of plants searched, total number of plants on the innermost row, etc.

How to Package your Samples: Hard-Bodied Insects

- Capture multiple specimens if possible and put them in a vial with preservative (70% alcohol)
- Put the vial in a sealable bag
- Put this bag plus the sample submission form in yet another bag
- Box your sample and take it to your county extension agent.
- http://www.youtube.com/watch?v=DPSOddSQxDE

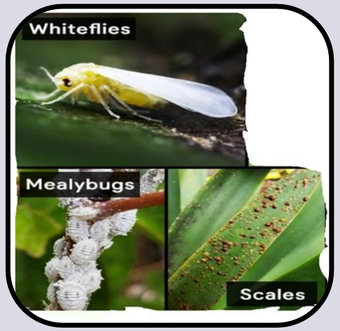
Beetles (Coleoptera)

Stink bugs, grasshoppers (Hemiptera)

Photo credit: Colorado potato beetles, Leptinotarsa decemlineata (Say), feeding on foliage. David Cappaert, Michigan State University, www.insectimages.org; Southern green stink bug, *Nezara viridula,* Suwannee Valley Research Center*; Eastern lubber grasshopper,* Susan Follick, Master Gardener Volunteer.

How to Package your Samples: Small Insects (difficult to remove)

- Capture multiple life stages on 6-8in of a plant; wrap in a paper towel or newspaper and double bag them
- Host plant ID can help with pest identification
- Capture multiple life stages on a smaller piece of plant, put them in a vial along with a preservative (70% alcohol); put the vial in a sealable bag
- Put both sample bags plus the sample submission form in yet another bag.
- Box your sample and take it to your county agent.
- http://www.youtube.com/watch?v=Ma42lE02pDo



Order Hemiptera

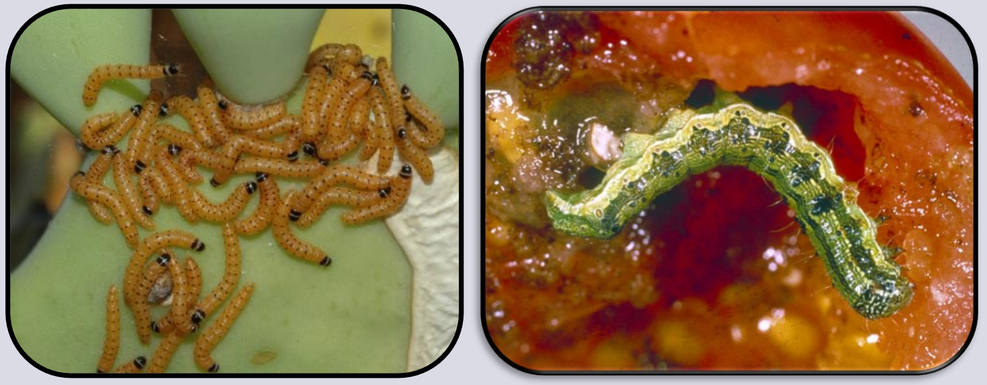
Thrips (Thysanoptera)

Photo credit: Whiteflies, mealybugs and scales (Raymond Kartzman, Just Home Gardening), and thrips (Babu Panthi, UF/IFAS), feeding on foliage.

How to Package your Samples: Soft Bodied Insects

- Capture multiple specimens if possible
- Be sure the water is boiling, then add the specimens to the boiling water for approximately 1 minute
- Remove the specimens from the water and put them in a preservative-filled vial (70% alcohol)
- Put the vial into a sealable bag
- Put this bag plus the sample submission form in yet another bag
- Box your sample and take it to your county agent
- http://www.youtube.com/watch?v=2HA06HW4Kc4

Lime Swallowtail (Lepidoptera)



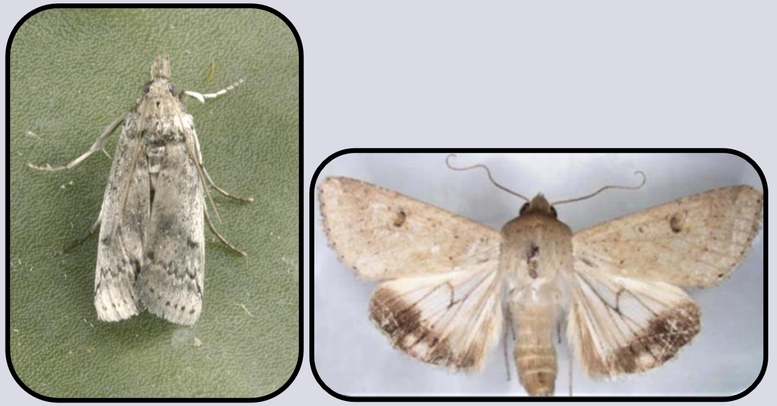
Moth larvae (Lepidoptera)

Photo credit: https://www.fdacs.gov/Agriculture-Industry/Pests-and-Diseases/Plant-Pests-and-Diseases/Lime-Swallowtail-Citrus-Pest#; Cactus moth larvae, *Cactoblastis cactorum*, Right-Baez, USDA Agricultural Research Service, Bugwood.org, #5015069; Old World Bollworm, *Helicoverpa armigera*, Central Science Library, Harpenden, British crown, Bugwood image 0454075

How to Package your Samples: Butterflies & Moths

- Capture multiple specimens if possible.
- Place in a freezer overnight to submit a dry sample
- Put some in a preservative-filled vial (70% alcohol)
- Place a tissue in the vial to prevent damage during transit and place the vial in a sealable plastic bag
- Put these bags plus the sample submission form in yet another bag
- Box your sample and take it to your county agent.

Butterfly (Lepidoptera)



Moths (Lepidoptera)

Photo credit: https://www.fdacs.gov/Agriculture-Industry/Pests-and-Diseases/Plant-Pests-and-Diseases/Lime-Swallowtail-Citrus-Pest#; Cactus moth, *Cactoblastis cactorum*, Jeffrey W. Lotz, Florida Department of Agriculture and Consumer Services, Bugwood.org , #5199023; Old World Bollworm, *Helicoverpa armigera*, Julieta Brambila, USDA-APHIS-PPQ bugwood.org #539264

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How to Package your Samples: Plant Disease Sample

- Collect 6 to 8 inches of symptomatic (**NOT DEAD**) plant material, wrap it in paper towels or newspaper, and bag it
- Alternatively, collect the whole plant, if possible
- Collect 6-8 inches of material without symptoms, wrap it in paper towels/newspaper, and bag it separately
- Put both samples plus the sample submission form in yet another bag
- Box your sample and take it to your county agent
- http://www.youtube.com/watch?v=JOrNi8HrIpI

Viral pathogen


Nematode


Fungal pathogen


Bacterial pathogen

Photo credit: Fungal, Gerald Holmes, Strawberry Center, Cal Poly San Luis Obispo, Bugwood.org; Bacterial, Margery Daughtrey, Cornell University, Bugwood.org; Viral, William M. Brown Jr., Bugwood.org ; Nematode, Shannon McAmis, University of Florida

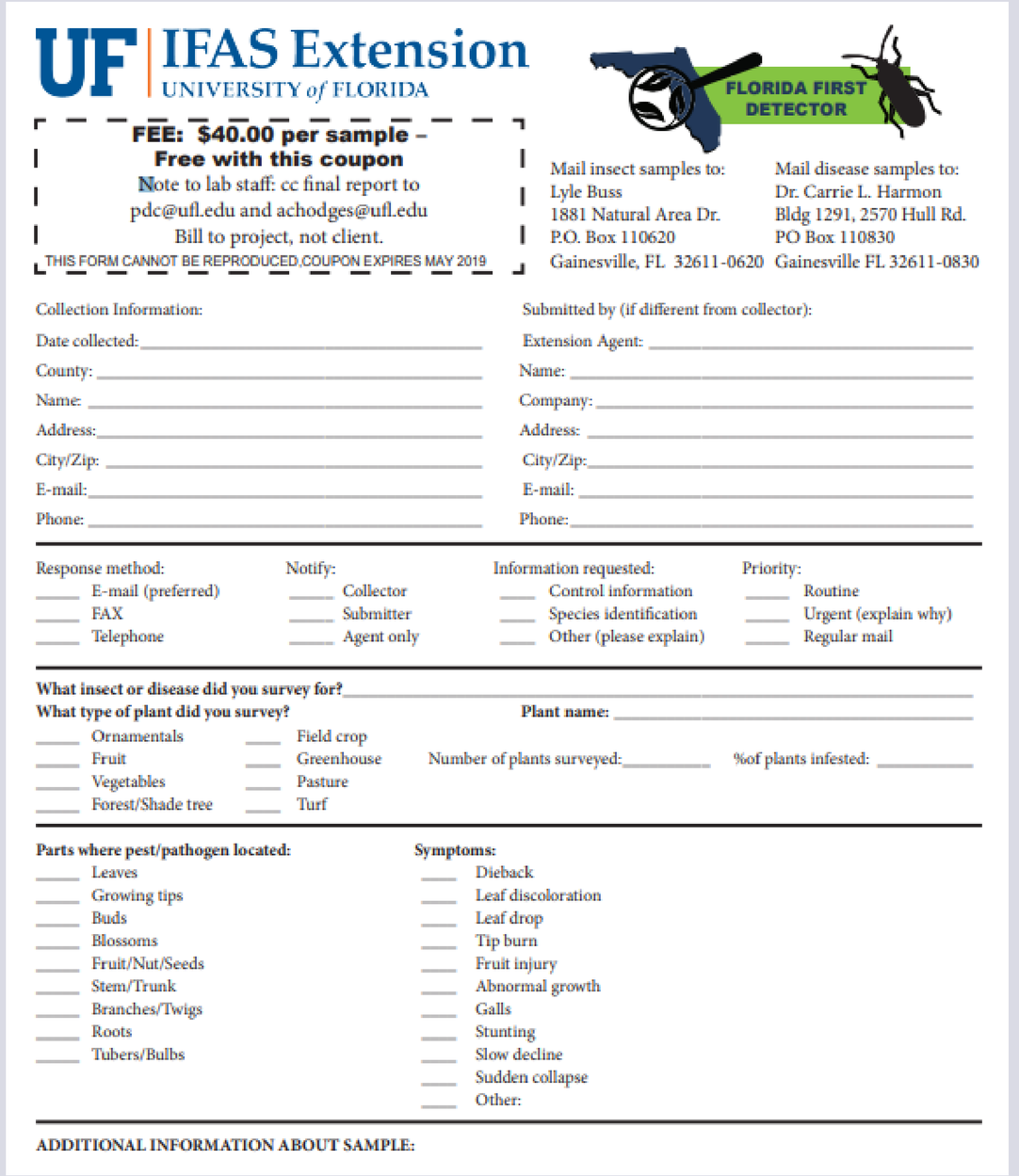
What if you can’t find any pests or disease?

It is okay if you do not find a pest!

- We want to know that you looked
- Quantify your effort
- Tell us the methods you used

Submission Form: Information Needed

1) General information
2) Pest surveyed for
3) Plant type surveyed
4) Additional information



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UNIVERSITY of FLORIDA

FLORIDA FIRST DETECTOR

FEE: $40.00 per sample – Free with this coupon
Note to lab staff: cc final report to pdc@ufl.edu and achodges@ufl.edu
Bill to project, not client.
THIS FORM CANNOT BE REPRODUCED,COUPON EXPIRES MAY 2019

Mail insect samples to:
Lyle Buss
1881 Natural Area Dr.
P.O. Box 110620
Gainesville, FL 32611-0620

Mail disease samples to:
Dr. Carrie L. Harmon
Bldg 1291, 2570 Hull Rd.
PO Box 110830
Gainesville FL 32611-0830

Collection Information:
Date collected: _____
County: _____
Name: _____
Address: _____
City/Zip: _____
E-mail: _____
Phone: _____

Submitted by (if different from collector):
Extension Agent: _____
Name: _____
Company: _____
Address: _____
City/Zip: _____
E-mail: _____
Phone: _____

Response method:
___ E-mail (preferred)
___ FAX
___ Telephone

Notify:
___ Collector
___ Submitter
___ Agent only

Information requested:
___ Control information
___ Species identification
___ Other (please explain)

Priority:
___ Routine
___ Urgent (explain why)
___ Regular mail

What insect or disease did you survey for? _____
What type of plant did you survey? **Plant name:** _____

___ Ornamentals
___ Fruit
___ Vegetables
___ Forest/Shade tree
___ Field crop
___ Greenhouse
___ Pasture
___ Turf

Number of plants surveyed: _____ %of plants infested: _____

Parts where pest/pathogen located:
___ Leaves
___ Growing tips
___ Buds
___ Blossoms
___ Fruit/Nut/Seeds
___ Stem/Trunk
___ Branches/Twigs
___ Roots
___ Tubers/Bulbs

Symptoms:
___ Dieback
___ Leaf discoloration
___ Leaf drop
___ Tip burn
___ Fruit injury
___ Abnormal growth
___ Galls
___ Stunting
___ Slow decline
___ Sudden collapse
___ Other:

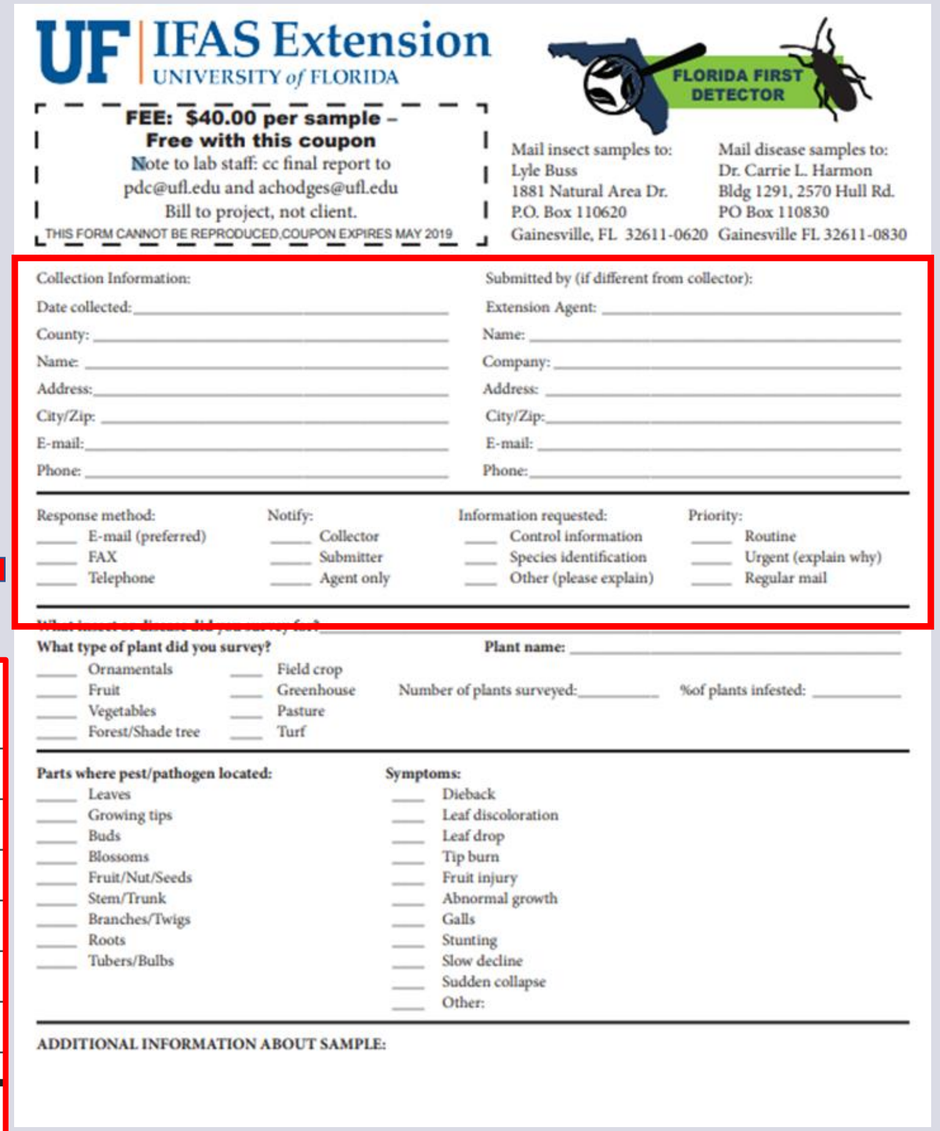
ADDITIONAL INFORMATION ABOUT SAMPLE:

Submission Form: General Information

Date and place of collection

Name of collector and person submitting sample

Address, email, and phone number of the collector and person submitting the sample



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E-mail:
Phone:

Submitted by (if different from collector):
Extension Agent:
Name:
Company:
Address:
City/Zip:
E-mail:
Phone:

Response method:
____ E-mail (preferred)
____ FAX
____ Telephone

Notify:
____ Collector
____ Submitter
____ Agent only

Information requested:
____ Control information
____ Species identification
____ Other (please explain)

Priority:
____ Routine
____ Urgent (explain why)
____ Regular mail

What type of plant did you survey?
____ Ornamentals
____ Fruit
____ Vegetables
____ Forest/Shade tree
____ Field crop
____ Greenhouse
____ Pasture
____ Turf

Plant name:
Number of plants surveyed:
%of plants infested:

Parts where pest/pathogen located:
____ Leaves
____ Growing tips
____ Buds
____ Blossoms
____ Fruit/Nut/Seeds
____ Stem/Trunk
____ Branches/Twigs
____ Roots
____ Tubers/Bulbs

Symptoms:
____ Dieback
____ Leaf discoloration
____ Leaf drop
____ Tip burn
____ Fruit injury
____ Abnormal growth
____ Galls
____ Stunting
____ Slow decline
____ Sudden collapse
____ Other:

ADDITIONAL INFORMATION ABOUT SAMPLE:

Collection Information:
Date collected:_____
County: _____
Name: _____
Address:_____
City/Zip: _____
E-mail:_____
Phone: _____

Submitted by (if different from collector):
Extension Agent: _____
Name: _____
Company: _____
Address: _____
City/Zip:_____
E-mail: _____
Phone:_____

Response method:
_____ E-mail (preferred)
_____ FAX
_____ Telephone

Notify:
_____ Collector
_____ Submitter
_____ Agent only

Information requested:
____ Control information
____ Species identification
____ Other (please explain)

Priority:
_____ Routine
_____ Urgent (explain why)
_____ Regular mail

Submission Form:
Pest and Plant Information

Pest surveyed (insect or disease)

Plant surveyed (type and name)

What insect or disease did you survey for?_____

What type of plant did you survey? **Plant name:** _____

____ Ornamentals	____ Field crop		
____ Fruit	____ Greenhouse	Number of plants surveyed:_____	%of plants infested: _____
____ Vegetables	____ Pasture		
____ Forest/Shade tree	____ Turf		

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____ FAX
____ Telephone

Notify:
____ Collector
____ Submitter
____ Agent only

Information requested:
____ Control information
____ Species identification
____ Other (please explain)

Priority:
____ Routine
____ Urgent (explain why)
____ Regular mail

What insect or disease did you survey for?_____
What type of plant did you survey? **Plant name:** _____
____ Ornamentals ____ Field crop
____ Fruit ____ Greenhouse Number of plants surveyed:_____ %of plants infested: _____
____ Vegetables ____ Pasture
____ Forest/Shade tree ____ Turf

Parts where pest/pathogen located:
____ Leaves
____ Growing tips
____ Buds
____ Blossoms
____ Fruit/Nut/Seeds
____ Stem/Trunk
____ Branches/Twigs
____ Roots
____ Tubers/Bulbs

Symptoms:
____ Dieback
____ Leaf discoloration
____ Leaf drop
____ Tip burn
____ Fruit injury
____ Abnormal growth
____ Galls
____ Stunting
____ Slow decline
____ Sudden collapse
____ Other:

ADDITIONAL INFORMATION ABOUT SAMPLE:

Submission Form:
Pest Location and Damage

Location of pest (insect or disease)

Damage/Symptoms observed

Additional information

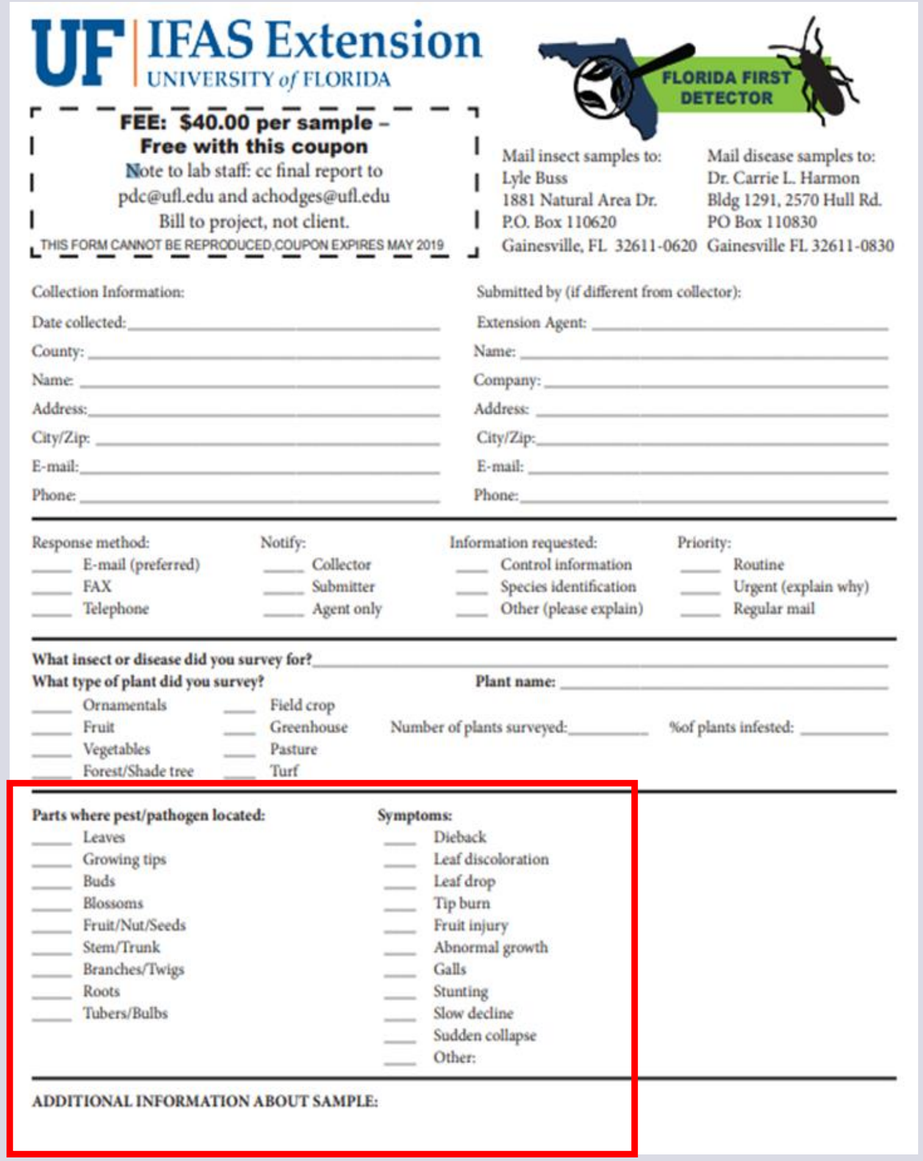
Parts where pest/pathogen located:

_____ Leaves
_____ Growing tips
_____ Buds
_____ Blossoms
_____ Fruit/Nut/Seeds
_____ Stem/Trunk
_____ Branches/Twigs
_____ Roots
_____ Tubers/Bulbs

Symptoms:

_____ Dieback
_____ Leaf discoloration
_____ Leaf drop
_____ Tip burn
_____ Fruit injury
_____ Abnormal growth
_____ Galls
_____ Stunting
_____ Slow decline
_____ Sudden collapse
_____ Other:

ADDITIONAL INFORMATION ABOUT SAMPLE:



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Phone:

Submitted by (if different from collector):
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Name:
Company:
Address:
City/Zip:
E-mail:
Phone:

Response method:
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Notify:
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___ Submitter
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Information requested:
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___ Species identification
___ Other (please explain)

Priority:
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What insect or disease did you survey for?
What type of plant did you survey?
Plant name:
___ Ornamentals
___ Fruit
___ Vegetables
___ Forest/Shade tree
___ Field crop
___ Greenhouse
___ Pasture
___ Turf
Number of plants surveyed:
%of plants infested:

Parts where pest/pathogen located:
___ Leaves
___ Growing tips
___ Buds
___ Blossoms
___ Fruit/Nut/Seeds
___ Stem/Trunk
___ Branches/Twigs
___ Roots
___ Tubers/Bulbs

Symptoms:
___ Dieback
___ Leaf discoloration
___ Leaf drop
___ Tip burn
___ Fruit injury
___ Abnormal growth
___ Galls
___ Stunting
___ Slow decline
___ Sudden collapse
___ Other:

ADDITIONAL INFORMATION ABOUT SAMPLE:

Where to Submit the Samples?

- Bring samples (plant tissue or arthropod specimens)
  with sample submission form (www.flfirstdetector.org) to your local county agent (https://sfyl.ifas.ufl.edu/find-your-local-office/)

- UF/IFAS Entomology and Nematology Dept. Insect ID Lab - Lyle Buss
  970 Natural Area Dive, Gainesville, FL 32611
  http://entnemdept.ufl.edu/insectid/; ljbuss@ufl.edu; (352) 273-3933

- IFAS Nematode Diagnostic Lab - Dr. Billy Crow
  http://nematology.ifas.ufl.edu/assaylab/index.html NEMALAB@ifas.ufl.edu; (352) 392-1994

- UF/IFAS Plant Diagnostic Center - Dr. Carrie Harmon
  https://plantpath.ifas.ufl.edu/extension/plant-diagnostic-center/; pdc@ifas.ufl.edu
  2570 Hull Rd, Bldg 1291, Gainesville, FL 32611-0830
  (352) 392-1795, Fax (352) 392-3438

Sample Submission Exception

Giant African Land Snail

1. **Do not collect live suspect samples**
2. Call the FDACS-DPI Hotline-

1-888-397-1517

DDIS

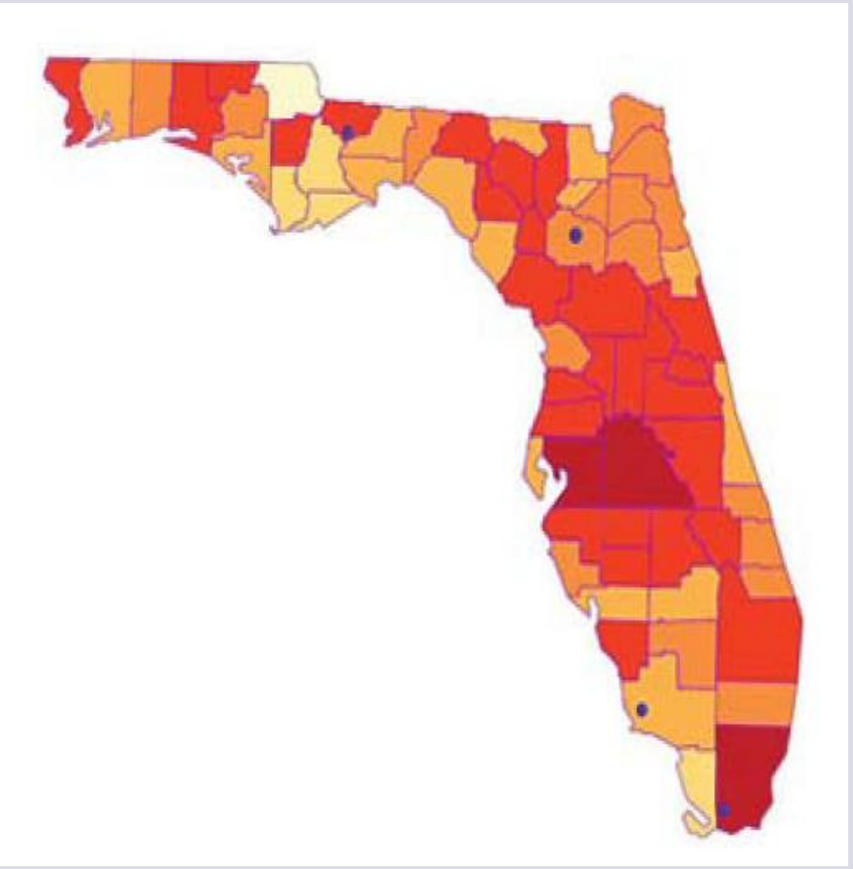
Distance Diagnostic and Identification System for Extension

UF UNIVERSITY of FLORIDA
IFAS Extension

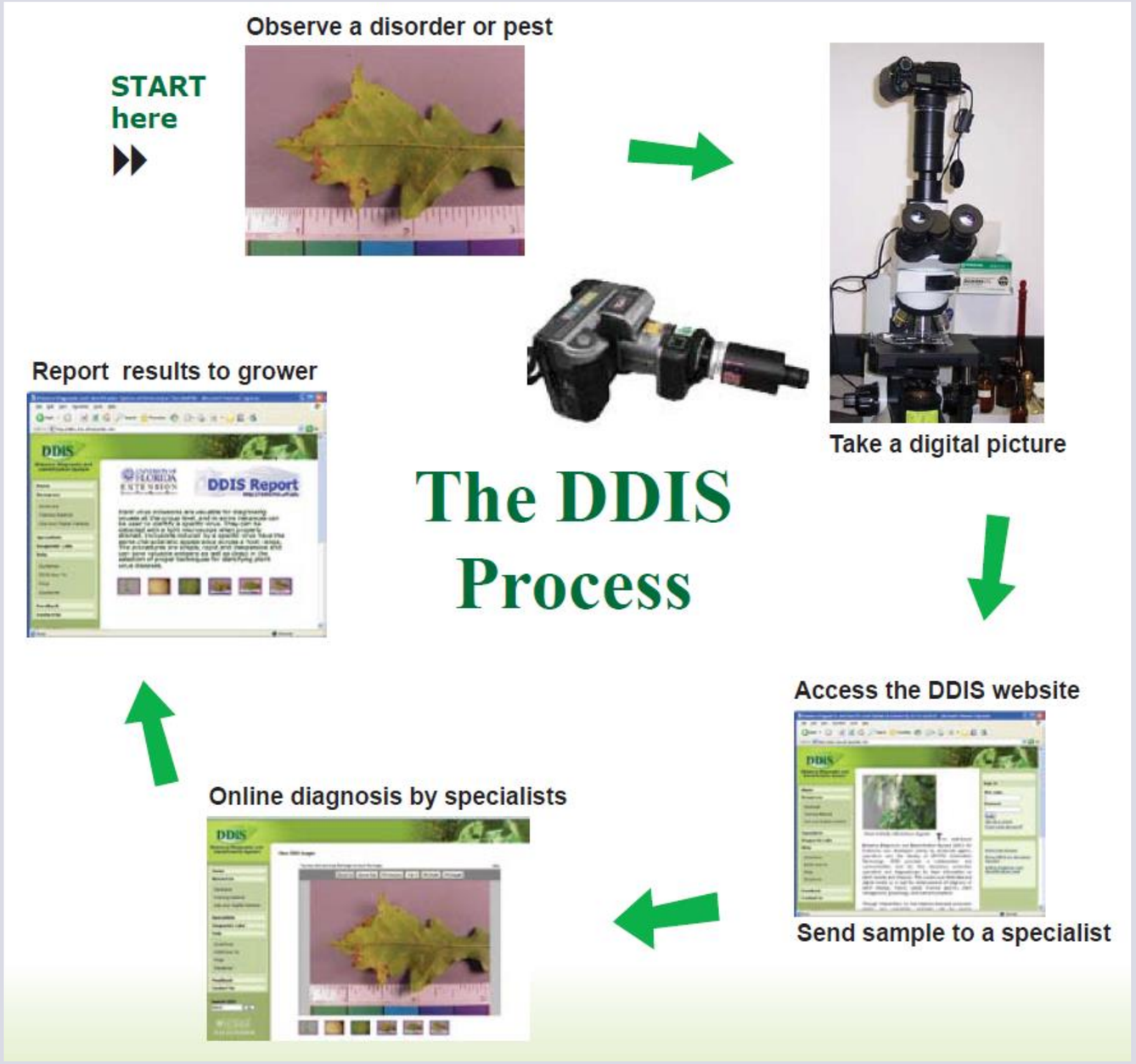
FPDN
Florida Plant Diagnostic Network

SPDN
Southern Plant Diagnostic Network

IPM Integrated Pest Management Florida



FLORIDA FIRST DETECTOR



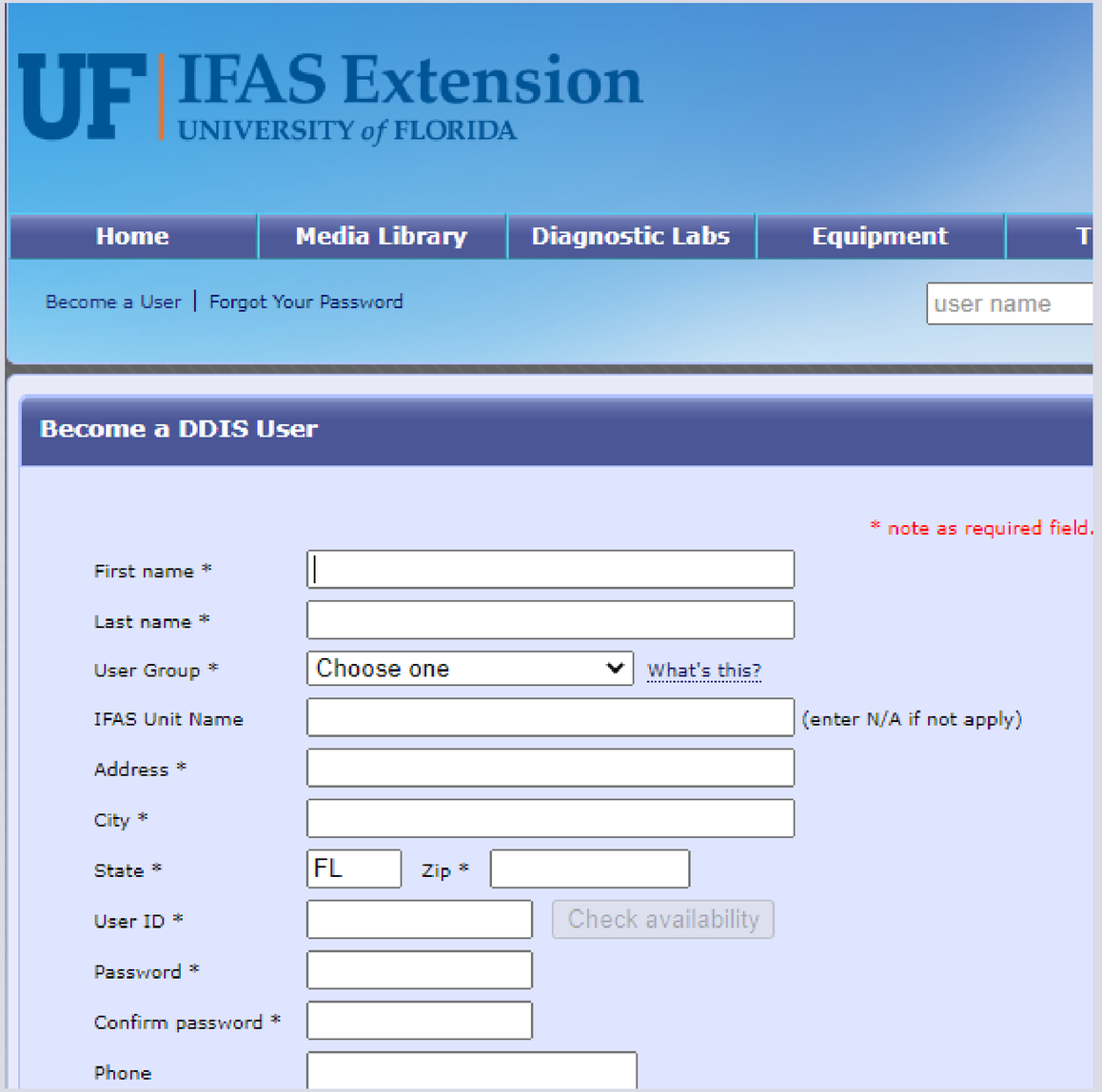
DDIS Website

(http://ddis.ifas.ufl.edu/ddisx/home.jsp)

How to Use DDIS

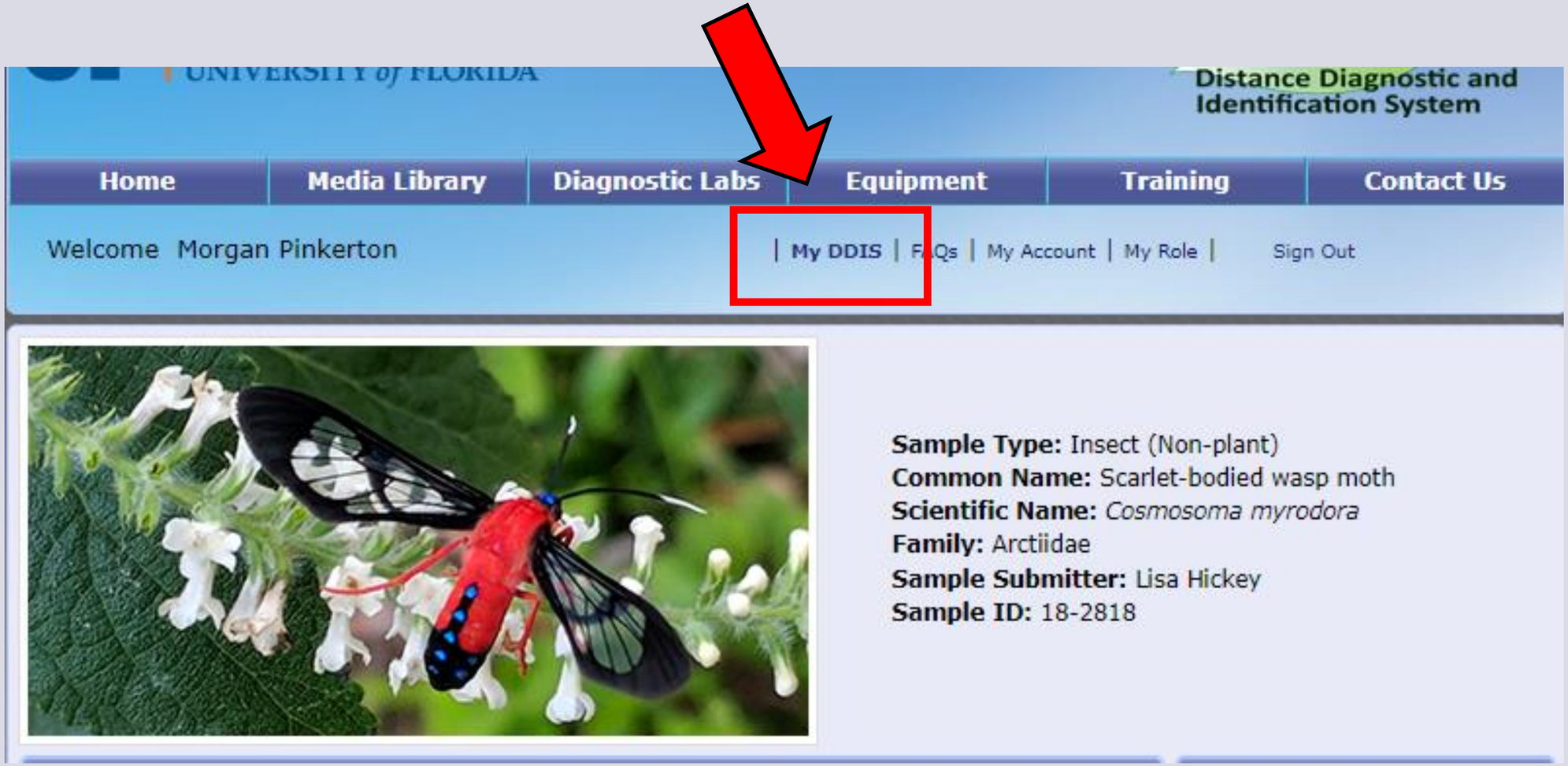
- Reach out to local county extension
- Navigate to: https://ddis.ifas.ufl.edu/
- Scroll down to the bottom of the page and select: 

- In “User Group” select Extension Clientele
- Input N/A for “IFAS Unit Name”
- Extension agent must approve user



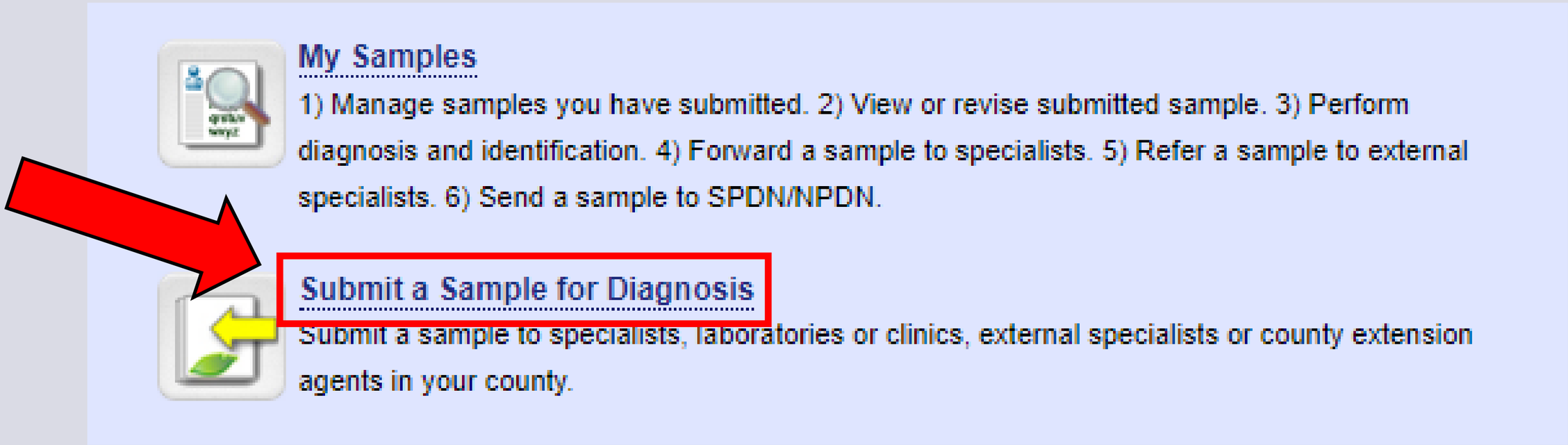
How to Use DDIS

From the home page, Click “My DDIS” to begin the sample submission



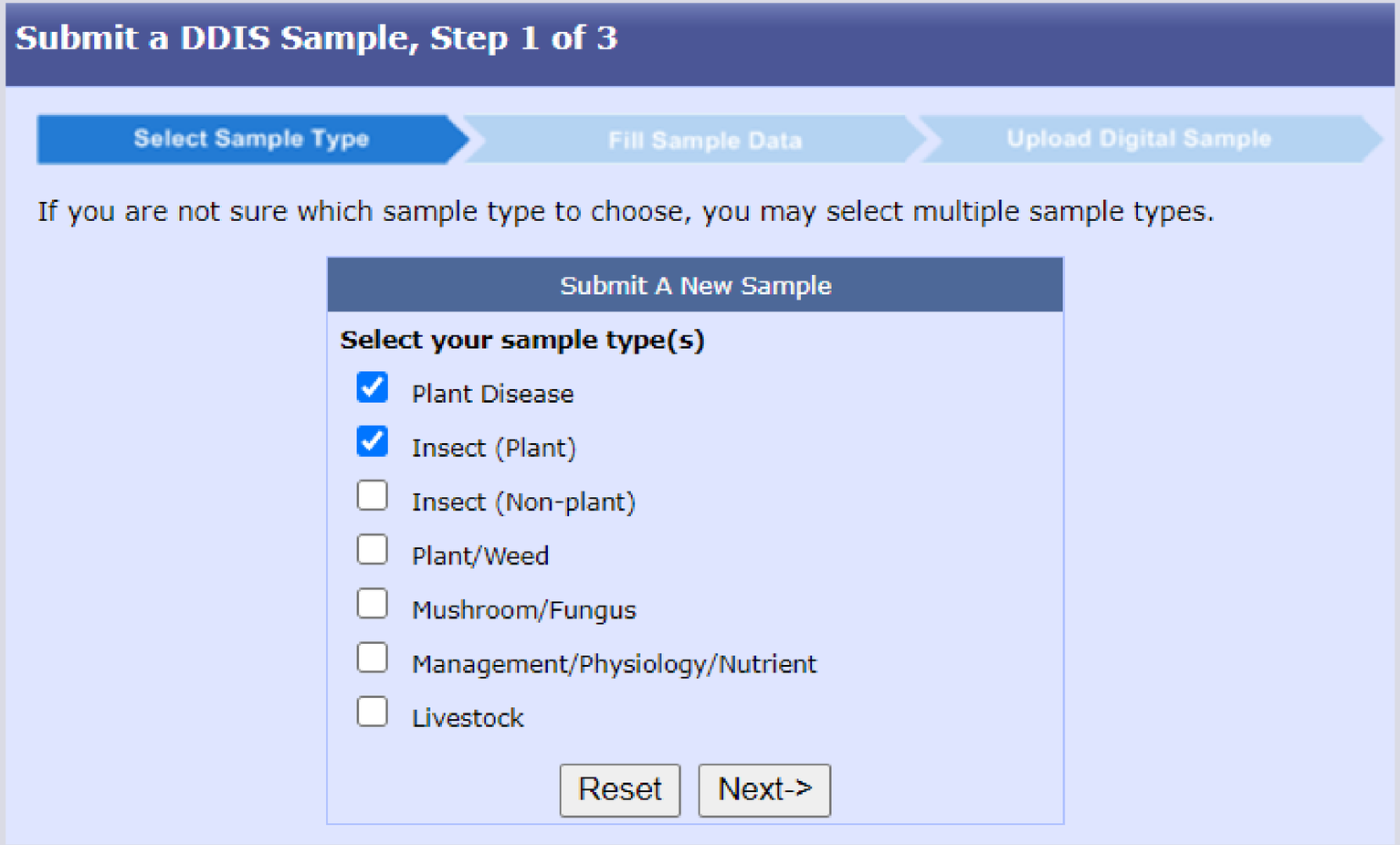
How to Use DDIS

Click “Submit a Sample for Diagnosis”

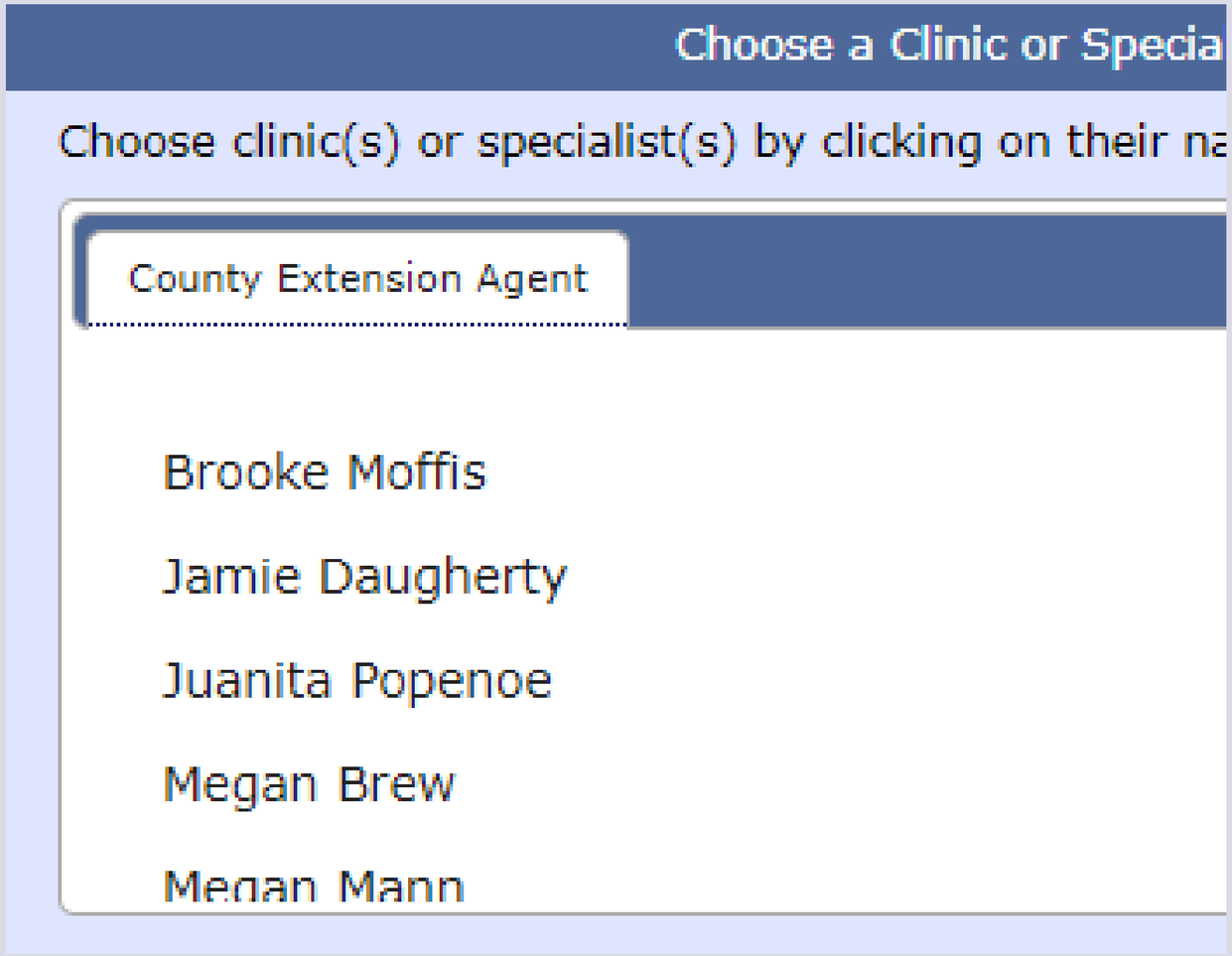


How to Use DDIS:
Select Sample Type (step 1 of 3)

- Select the sample type for submission
- Select multiple categories if not sure about the problem with the plant

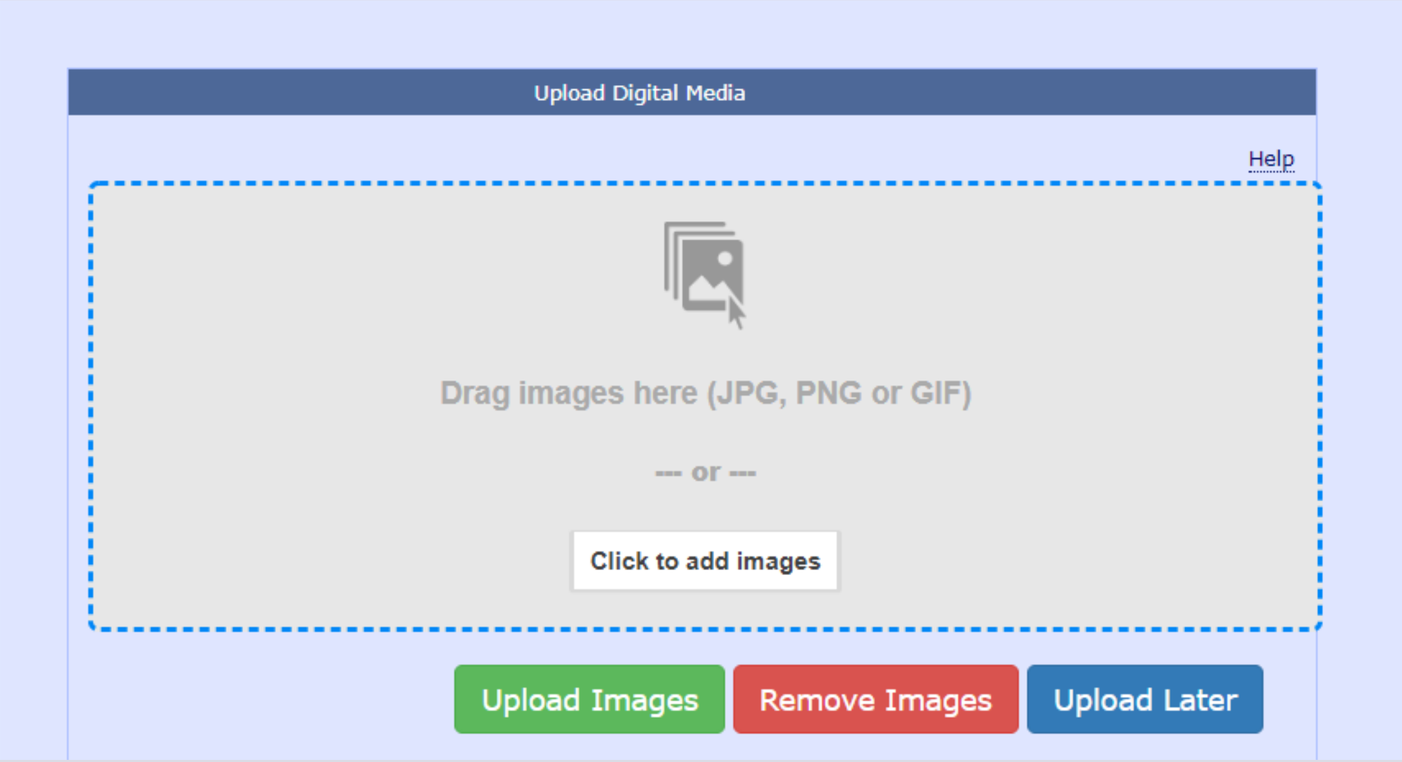


How to Use DDIS:
Fill Sample Data (step 2 of 3)



- Fill with Information based on sample type
- Name, address, locality
- GPS coordinates
- Extension agent
- Any additional information

How to Use DDIS:
Upload Digital Sample (step 3 of 3)



The last step:

- Add CLEAR images of the sample
- Can submit up to seven images

DDIS How To

- How do I register as a DDIS user?
- How do I find my user name/password?
- Where do I get IT related DDIS support?
- How do I submit a DDIS sample?
- How do I retrieve my sample?
- How do I make diagnosis or identification?
- How do I find samples I have submitted or diagnosed?
- How do I search DDIS samples?
- How do I update my account information?
- What's the maximum file size I can upload to the DDIS server?
- How do I reduce the size of an image file?
- How do I make changes for a submitted sample?
- How do I change a sample from "Public" to "Private" or vice versa?

Quick Links

IFAS Diagnostic Services >>

DDIS Mobile >>

Meet Your Diagnosticians >>

Latest Pest Info >>

DDIS Brochure >>

Web Resources >>

Get GPS code >>

Support

User Guidelines >>

DDIS How To and FAQs >>

DDIS FAQs

- What is DDIS and is DDIS a part of SPDN/NPDN?
- Does DDIS support iPad, iPhone or Android phones?
- Why can't I just attach a digital picture to e-mail and send it?
- I don't have a microscope. DDIS won't do me any good, will it?
- Why do I have to fill out so much information on the sample form?
- Who are DDIS users?
- Who can receive my sample?
- How can I tell whether my sample has gone to the specialist?
- What if I want to share a sample or a response with another agent?
- How many images should I submit?
- Does DDIS allow extension clientele in Florida to submit a sample?

ID Resources

- IFAS EDIS and Featured Creature fact sheets
  - http://edis.ifas.ufl.edu; https://entnemdept.ifas.ufl.edu/creatures/
- IFAS Entomology Insect I.D. Lab – Lyle Buss
  - http://entnemdept.ufl.edu/insectid/ ; ljbuss@ufl.edu; (352) 273-3933
- IFAS Nematode Diagnostic Lab – Dr. Billy Crow
  - http://nematology.ifas.ufl.edu/assaylab/index.html ; NEMALAB@ifas.ufl.edu; (352) 392-1994
- IFAS UF/IFAS Plant Diagnostic Center - Dr. Carrie Harmon
  - https://plantpath.ifas.ufl.edu/extension/plant-diagnostic-center/; pdc@ifas.ufl.edu; (352) 392-1795
- IFAS Extension Bookstore I.D. books / decks
  - http://ifasbooks.ifas.ufl.edu/p-153-helpful-harmful-harmless.aspx
- Commodity-specific specialists around the state
  - http://entomology.ifas.ufl.edu/extension/; http://entomology.ifas.ufl.edu/people-directory/

UF/IFAS Resources

- EDIS – Online Publications on Vegetable Production & Diseases
- UF/IFAS Faculty – Gainesville campus
  - Plant Pathology Department
  - Horticultural Sciences Department
  - Entomology and Nematology Department
  - Center for Organic Agriculture
- UF/IFAS Extension & Research Faculty – County & REC vegetable specialists

Lab Team

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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:

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