

INTRODUCTION TO DDIS

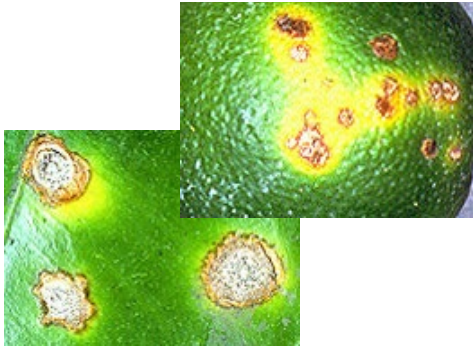


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Challenges in Agriculture

- Pests, plant diseases, and invasive species cause enormous economic losses throughout the world.
- Increased concerns on food security, food safety, and agricultural trade.

Pests, Plant Diseases, and Invasive Species



Citrus Canker



Citrus Greening



Wheat Rust



Soybean Rust



Photo credit: Curtis Rainbolt and Ken Langeland, UF/IFAS



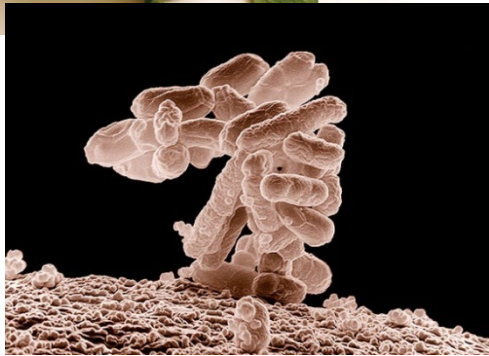
Tomato Yellow Leaf Curl Geminivirus



Photo by M.C. Thomas FDACS/DPI

Red bay ambrosia beetle

Food Safety and Trade Implications



Spinach (E coli) 2006



Tomato (salmonella) 2008



Fruit Fly

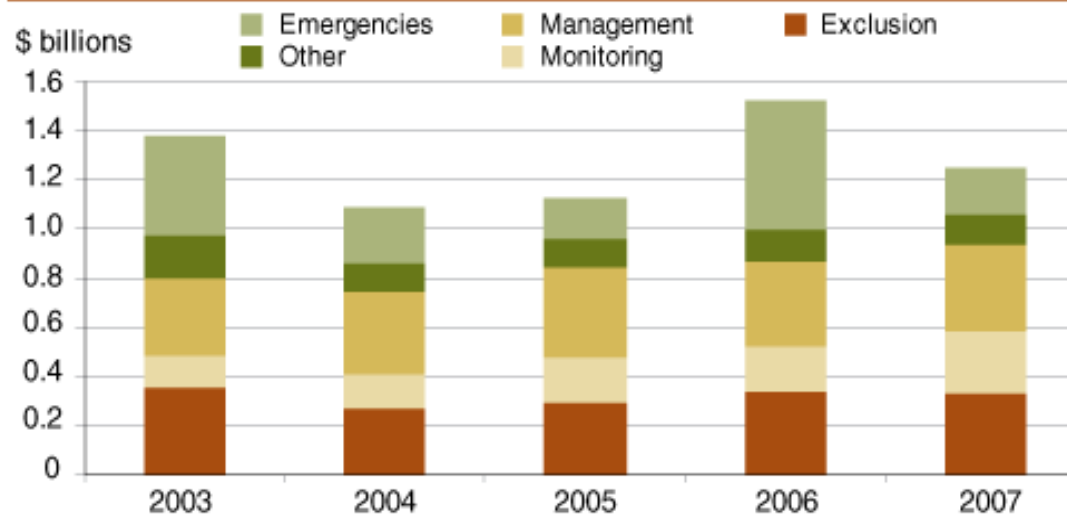


Foot and Mouth Disease

Photo credit: USDA, FDA

Economic Impact

APHIS outlays for pests and diseases exceeded \$1 billion per year from 2003 to 2007



Source: USDA Annual Budget summaries.

Source: <https://ers.usda.gov/data-products/chart-gallery/chart-detail?chartId=58120>

Establishing a Diagnostic Network

- Early detection
- Accurate diagnosis
- Quick response

Establishing a Diagnostic Network

Educate

Provide training and learning modules to farmers and First Detectors.

Detect

Early detection to report high-risk plant pathogens and pests.

Establishing a Diagnostic Network

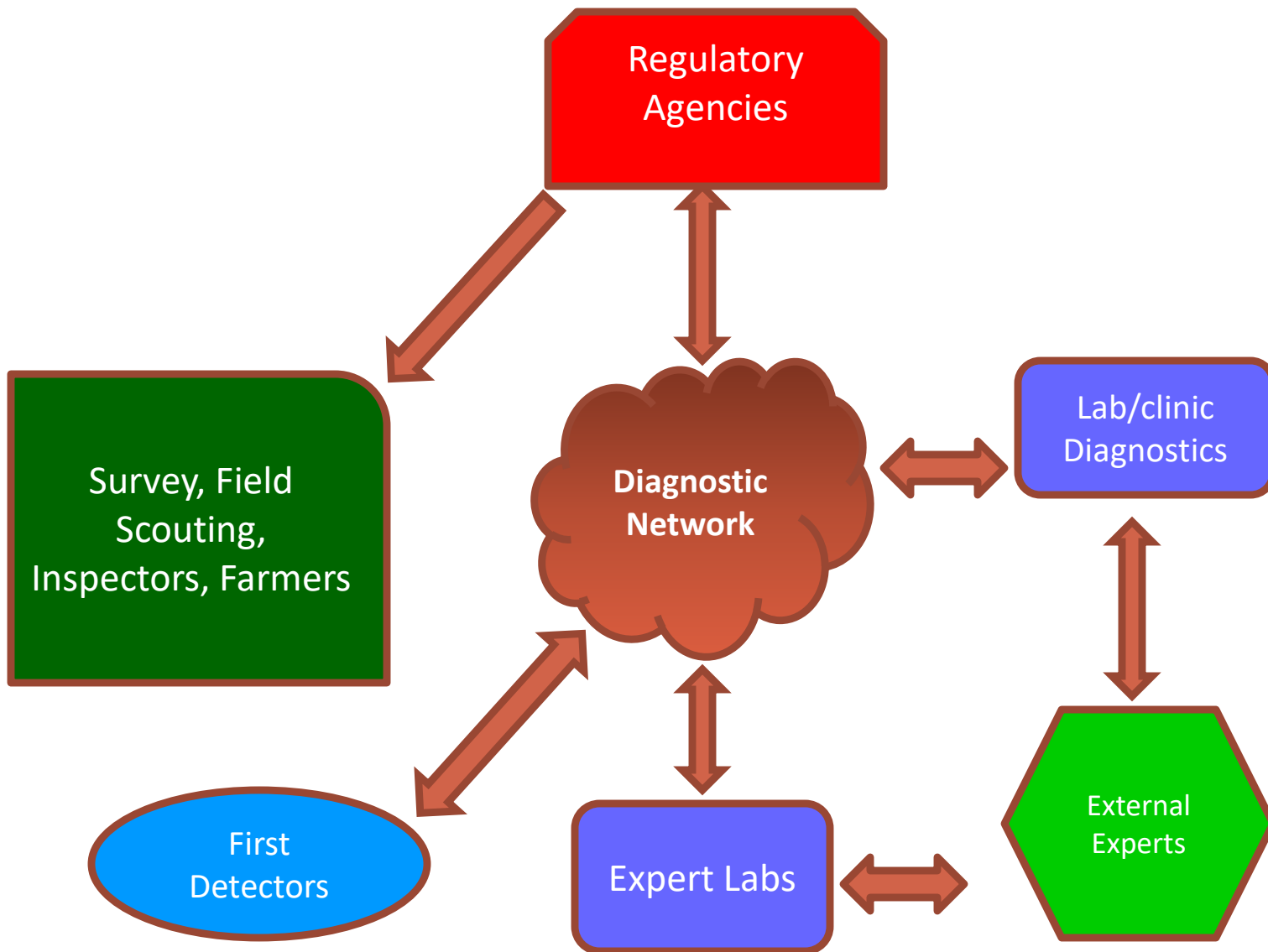
Diagnose

- Increase diagnostic capacity
- Establish standards for diagnosis and identification
- Consult internal and external experts

Response

- Communicate with state and federal regulatory agencies
- Alert and notification system
- Develop Standard Operating Procedure (SOP)

Diagnostic Network



Goal

Protecting agriculture from pests, plant diseases, invasive species and their overall impact on economic lose, trade and environment.



Distance Diagnostic and Identification System for Extension (DDIS)



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 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 Florida soft pink caterpillar on a person's hand. To the right of the image, the following sample information is displayed:

- Sample Types:** Insect (Plant)
- Common Name:** Florida soft pink
- Scientific Name:** *Xylorhina picta*
- Family:** Sphingidae
- Sample Submitter:** JoAnn Hoffman
- Sample ID:** 17-1870

Below the image and text, there is a search bar with the text 'Search DDIS' and a 'Go' button. A 'Quick Links' section contains several links: 'DDIS Mobile >>', 'Meet Your Diagnosticians >>', 'Latest Post Info >>', and 'DDIS Feedback >>'. At the bottom, there is a link for 'Web Resources >>'.

The footer of the page contains the following text:

Distance Diagnostic and Identification System (DDIS)

The DDIS is a digital diagnostic collaboration and communication platform for UF/IFAS Extension. The system allows Extension agents and their clientele in Florida to submit digital samples to UF/IFAS diagnostic laboratories, clinics, and specialists for quick diagnosis. Authorized users may submit samples of plant diseases, insects, plant/wood, mushroom/fungus, invasive species, plant management, physiology, and nutrient related problems.

Through interactions on the Internet between extension agents and specialists, problems can be communicated immediately and assessed. Specialists around the state can perform diagnosis and identification and provide the best management practice recommendations to the users. The archived DDIS database becomes a resource for research, educational programs, and classroom teaching.



What is DDIS?

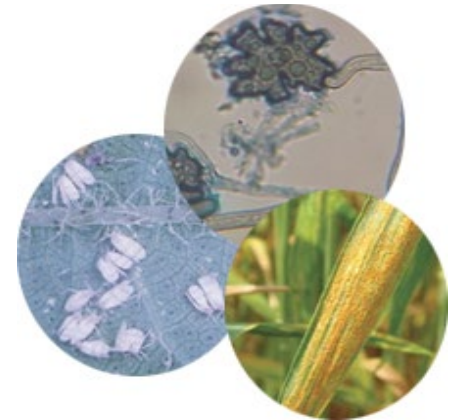
DDIS is a digital diagnostic collaboration and communication platform for UF/IFAS Extension that allows users to share information on plant insects and diseases for quick diagnosis.

DDIS Provides

- Web-based diagnostic system for Extension agents and their clientele
- Rapid diagnosis of pest and plant problems
- Early detection, monitoring, and mapping of pests
- Effective communication among county agents, extension clients, and experts
- Archived database and image library for research and educational use

Sample Types

- Plant disease
- Insect (plant, non-plant)
- Plant and weed
- Mushroom/Fungus
- Plant management, physiology and nutrient problems
- Invasive species, livestock



System Security

- All users are guided the “User Confidentiality Policy.”
- Samples are retracted to authorized users only.



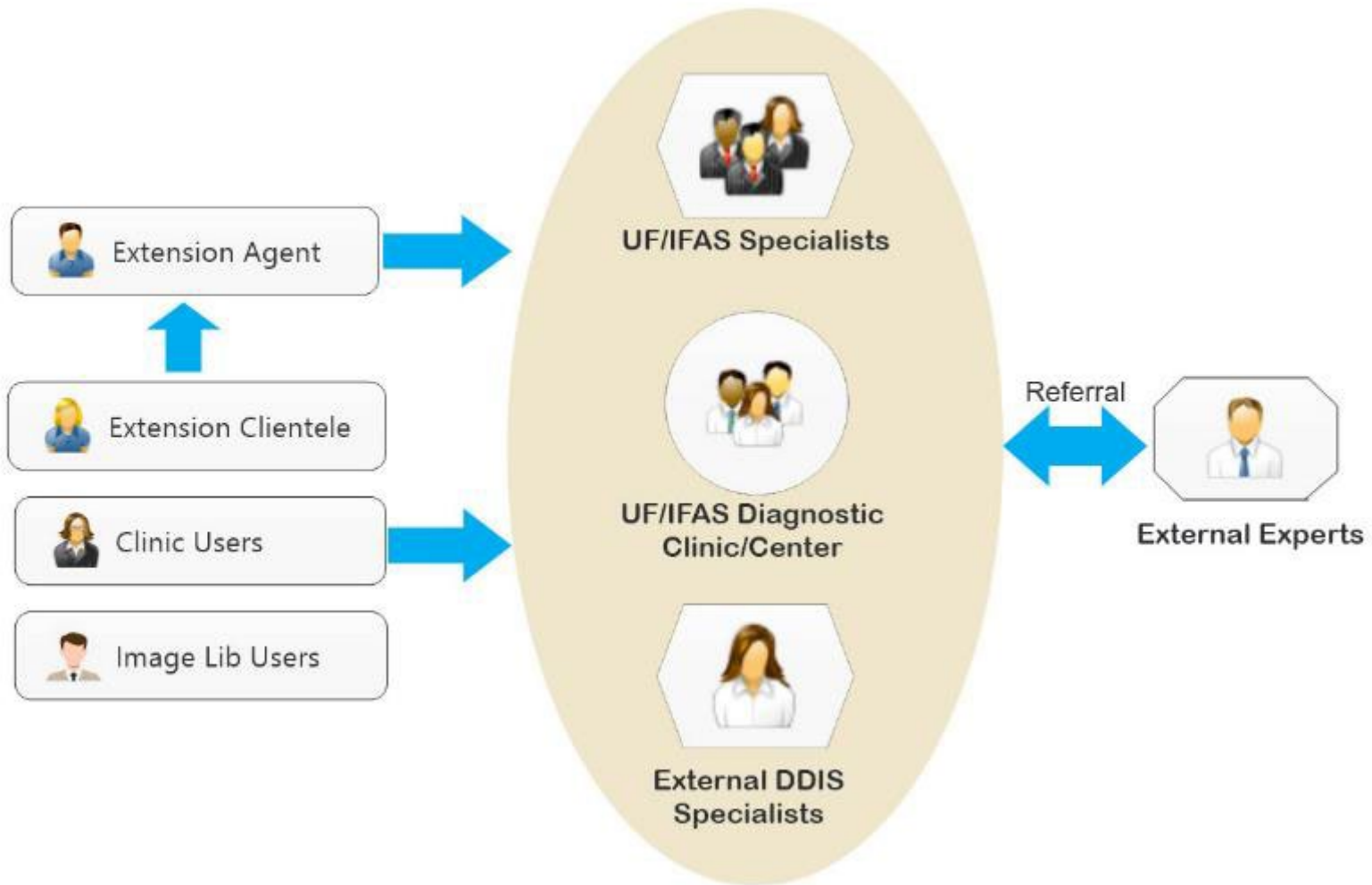
Main Features

- Easy-to-use role-based user system
- Personalized sample management
- Diagnostic lab management
- Sample security and data confidentiality
- Extensive search functions
- Dynamic pest and sample distribution map
- Sample referral to an external expert or other DDIS specialists
- Pest alert system
- Peer reviewed image/media library

DDIS Users

- Extension Agents
- Extension Clientele
- Diagnosticians at IFAS Diagnostic Labs/Clinics, Herbarium
- Specialists at IFAS/FDACS and External Specialists through Referral
- Diagnostic Lab/Clinic Customers

DDIS User Interaction



Sample of Equipment



Digital Media Library

UF | **IFAS Extension**
UNIVERSITY of FLORIDA


DDIS
Distance Diagnostic and Identification System

[Home](#) | [Media Library](#) | [Diagnostic Labs](#) | [Equipment](#) | [Training](#) | [Contact Us](#)

Welcome **Jiannong Xin** | [My DDIS](#) | [Quick Start](#) | [My Account](#) | [My Role](#) | [Sign Out](#)

[MyDDIS](#) >> [Media Library](#)

Browse All Media



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Summary

- Collaboration environment among Extension agents, Extension clientele, and experts in the network.
- Improve education for extension agents as first detectors to provide first-hand service to their clientele.
- Reduce economic loss through early detection of high consequence pests, plant diseases, and invasive species.

Summary

- Increase the chance of eradication or limited distribution.
- Early screening, monitoring, alerting, and mapping of pests for outbreak response.
- Archived Media database for research and educational use.

DDIS:

Protecting agriculture
in Florida and beyond



DDIS Provides:

- Web-based diagnostic system
- Rapid diagnosis of plant and animal problems
- Early detection, monitoring, and mapping of pests
- Effective communication among county agents, clients, and experts
- Alerts about high-consequence pests
- Archived database for research and education

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**DDIS: Protecting agriculture
in Florida and beyond.**

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