

United States Department of Agriculture  
Animal and Plant Health Inspection Service

**Plant Protection and Quarantine**



# ***Food and Agriculture Defense Initiative: A Meeting of Networks***

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**USDA APHIS PPQ**

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United States Department of Agriculture  
Animal and Plant Health Inspection Service

**Plant Protection and Quarantine**



## ***National Crop Biosecurity***

**USDA-APHIS safeguards agriculture and natural resources from risks associated with the entry, establishment, or spread of animal and plant pests and noxious weeds.**

## *National Framework for Crop Biosecurity: Four Elements*

**1. Prevention**

**2. Preparedness**

**3. Response**

**4. Recovery**



## *National Framework for Crop Biosecurity: Four Elements*

### 1. Prevention

- Off-Shore – Preclearance, Agreements
- Agricultural Quarantine Inspection

### 2. Preparedness

- Permits
- Surveillance

### 3. Response

- **Diagnostics**

### 4. Recovery

- Mitigations
- Critical Infrastructure
- Vulnerability Assessment

## *National Framework for Crop Biosecurity: Four Elements*

### 1. Prevention

- Off-Shore Pest Information System
- Risk Assessment

### 2. Preparedness

- Science Panels
- New Pest Response Guidelines

### 3. Response

- **Diagnostics**

### 4. Recovery

- Survey – Detection
- Treatment
- Training
- Infrastructure

## *National Framework for Crop Biosecurity: Four Elements*

### 1. Prevention

- Implementation Plan

### 2. Preparedness

- Incident Command System
- Resource Allocation and Tracking

### 3. Response

- Survey – Detection

### 4. Recovery

- **Diagnostics**
- Mitigations



## *National Framework for Crop Biosecurity: Four Elements*

### 1. Prevention

- **National Plant Disease Recovery System**

### 2. Preparedness

- Prevention Elements
- Survey and Detection

### 3. Response

- **Diagnostics**
- Pest Management

### 4. Recovery

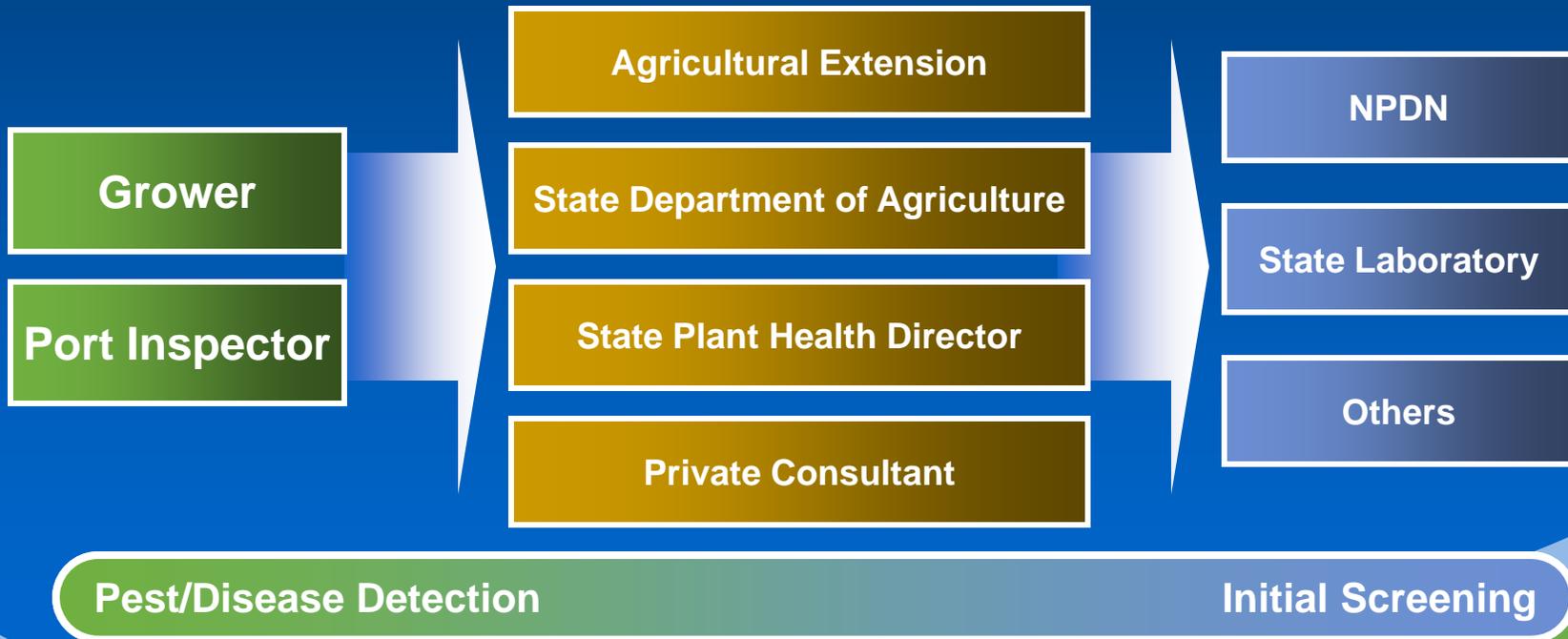
- **Regulatory Framework**





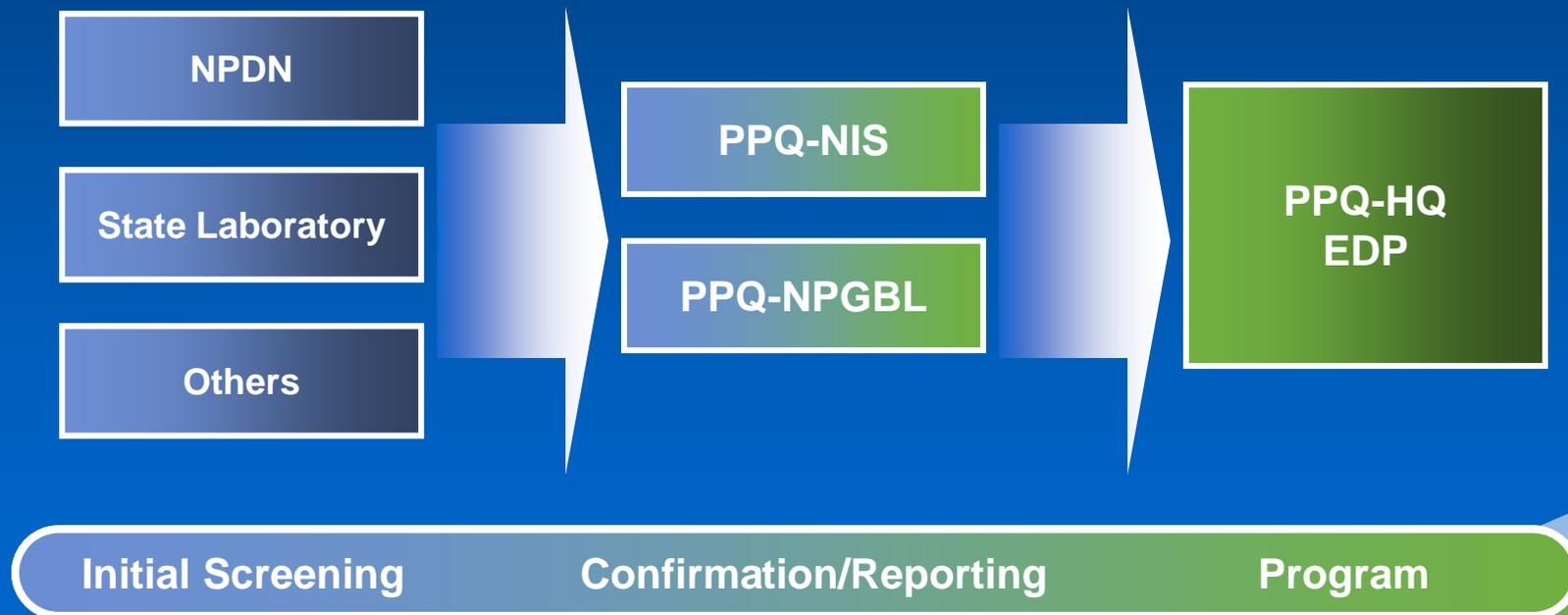
## *National Crop Biosecurity*

# *Detection, Diagnostics, and Confirmation*



## *National Crop Biosecurity*

# *Detection, Diagnostics, and Confirmation*



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## *Diagnostic Training*

**Feb 2004 – May 2012**

**44 Sessions in Beltsville/Frederick**

**124 Days**

**294 NPDPN trainees**

**Molecular and morphological**



## *Diagnostic Training*

### **Bio-informatics**

***Candidatus Liberibacter asiaticus***

**Citrus Leprosis virus**

***Elsinoe australis* (Sweet Orange Scab)**

***Globodera pallida* (Pale Cyst Nematode)**

***Guignardia citricarpa* (blackspot)**

***Phakopsora pachyrhizi***

***Phytophthora ramorum* and *P. kernoviae***

**Plum pox virus**

***Ralstonia solanacearum* Race 3 biovar 2**

***Synchytrium endobioticum* (Potato Wart)**



## ***Farm Bill- Section 10201, Plant Pest and Disease Management and Disaster Prevention***

***APHIS provided >\$448,060 to NIFA in FY10\****

- **Travel- NPDN training**
- **Pest detection training- under served audiences**
- **Online-interactive first detector training for county agents (entomology)**
- **E-Learning – pest screening and taxonomic capacity**

\*direct agreements with NIFA related to training and education, not other projects where NIFA and/or NPDN benefitted



## ***Farm Bill- Section 10201, Plant Pest and Disease Management and Disaster Prevention***

***APHIS provided >\$250,000 to help NPDPN in FY11\****

- **Internships for Systematists**
- **Training NPDPN and State Depts of Agriculture Diagnosticians**
- **Integrated Accreditation System for Plant Diagnostic Network and Regulatory Laboratories**

\*examples, not a comprehensive list



## Plant Protection and Quarantine

# *Farm Bill- Section 10201, Plant Pest and Disease Management and Disaster Prevention*

## ***APHIS providing >\$500,000 to help NPDPN in FY12\****

- Collaborative and Enhanced First Detector Training
- Integrated Accreditation System for Plant Diagnostic Network and Regulatory Laboratories
- NPDPN STAR-D Program Development and Auditor Training
- Sentinel Plant Network (APGA)
- Systematic Internship Program
- Taxonomic Training through Distance Education
- Training NPDPN and State Depts of Agriculture Diagnosticians at the CPHST Beltsville Laboratory

\*examples, not a comprehensive list

## ***Development of National Plant Pathogen Laboratory Accreditation Program (NPPLAP)***

- **Oct 2004 – Response to *P. ramorum***
- **2007 – Citrus Greening testing**
- **2011 – Plum Pox Virus ELISA**
- **~32 Participating Labs/50 Participating Diagnosticians**
  - **>20 NPDN Labs**



## ***AAVLD/NAHLN – A Natural Alignment with NPDPN Efforts***

- Diagnostic focus
- Agricultural focus
- APHIS participation and a customer
- Non-commercial labs
- LGU & SDA co-location
- Peer review structure



**NAHLN**

National Animal Health  
Laboratory Network



## ***Positive Outcomes from the Rathayibacter toxicus Table Top Exercise***

- **NPDN determined their maximum capacity ~ 40,000 samples in this scenario**
- **NAHLN team provided feedback on the number of samples they could receive and analyze for NPDN.**
- **The sampling call put NPDN in touch with EPA ground sampling resources as well as NAHLN lab resources.**

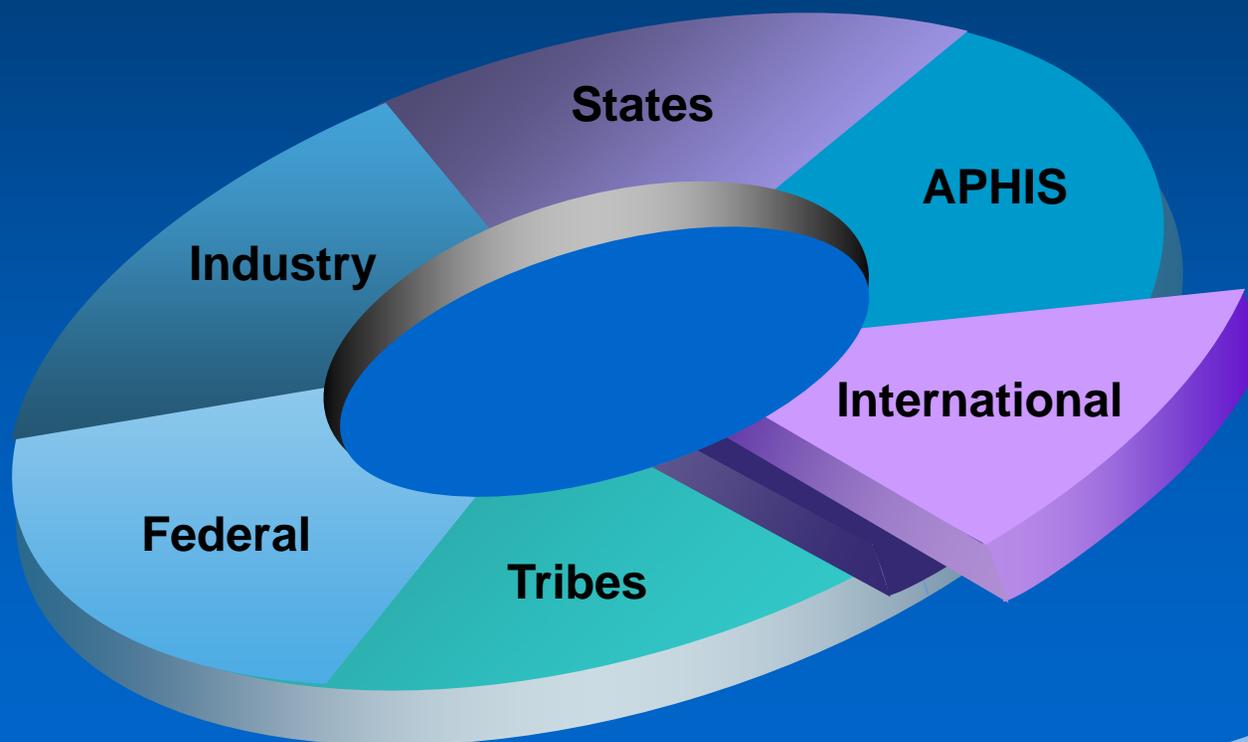
***This is an opportunity that would not have normally occurred except in a multi-network forum such as ICLN***

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## *Partnerships*



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# Protecting American Agriculture



# Diagnosis/Identification

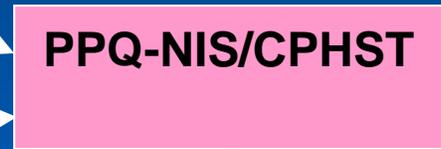
## Detection



## Presumptive ID



## Confirmatory ID



## ICS



# Initial Diagnosis/Identification

## Detection

Ext. Agent

State or Federal Plant Inspector

Grower Crop Consultant

### Presumptive ID

Clinic/State Dept Agric./NPDPN

State Plant Health Director

Private Laboratory

### Confirmatory ID

PPQ-NIS/CPHST

NPAG

## Deployment

Assessment/ Consultation/ Communication

Decision

Emergency Program

Management Program

No Program

Regulatory Actions

Eradication

Containment

IPM