

# National Crop Biosecurity

Prevention, Preparedness, Response, and Recovery

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# Agenda....

- **▶** Background; USDA-APHIS-PPQ
- Pest & Disease Pathways
- ▶ PPQ National Crop Biosecurity
- Case Study: Potato Cyst Nematode (PCN)



### United States Department of Agriculture





### United States Department of Agriculture

#### **Animal & Plant Health Inspection Service**

Plant Protection & Quarantine

Biotechnology Regulatory Service Veterinary Services

Animal Care

International Services

Wildlife Services

### **PPQ Organizational Structure**

## Science and Technology David Kaplan, Associate Deputy Administrator Phil Berger, Executive Director

- Center for Plant Health Science and Technology
- National Clean Plant Network
- PPQ Representative on Climate Change;
  Plant Health Quadrilaterals Science
  Collaboration Working Group; Coordinating
  Office for Science and Technology
  Assessment; European Phytosanitary Research
  Coordination
- Administrative Support

#### Rebecca Bech Deputy Administrator

Phytosanitary Issues Management International Phytosanitary Standards AQI User Fee Outreach and Communications Chief of Staff

#### Field Operations

Vic Harabin, Associate Deputy Administrator Matthew Royer, Executive Director

- Operational Director South West
  - -AZ, AR, CA, NM, OK, LA, TX
  - -ESF 11; VMO; Data Management
- . Operational Director South East
  - -DE, GA, PR, NC/SC, TN/KY, VA, FL, AL/MS, MD, WV
  - -SITC; Imports/Exclusion; Plant Germplasm
- Operational Director North East
   -CT/MA/RI, ME, MN, NJ, NY, PA, VT/NH, WI, MI, IN,
  - OH, IL
- -Predeparture; Biotech; Exports; Trade
- Operational Director North West
  - -AK/WA, CO, HI, ID, IA, MO, MT, ND, NE/KS, NV/UT, OR, SD, WY
  - -Detection and Response
- OD Pest Management/Safety
  - -Pest management; Aircraft Operations;
- Safety and Health
  Administrative Support

#### Policy Management

Osama El-Lissy, Associate Deputy Administrator

Mike Watson, Executive Director

- · Resource Management and Planning Staff
- Professional Development Center
  - -Cooperator Training Unit
  - -Field Operations Training Support
  - -National Detector Dog Training Center
- Plant Health Programs
- -Regulations, Permits, and Manuals
- -Preclearance & Offshore Programs
- -Quarantine, Policy, Analysis, and Support
- -Pest Detection and Emergency Programs
- -Pest Management
- -Select Agent Program
- -Export Services
- Business Information Systems Strategy and Management
- Administrative Support

January 2013



### Plant Protection & Quarantine

### Mission

PPQ safeguards agriculture and natural resources from the risks associated with the entry, establishment, or spread of animal and plant pests and noxious weeds to ensure an abundant, high-quality, and varied food supply.

Plant Protection Act, 2000
Agriculture Bioterrorism Protection
Act, 2002



## Pest and Disease Pathways

### **Unintentional**

- Natural Movement
- Accidental Introduction

### **Intentional**

- Smuggling
- Bioterrorism



# Why Target Agriculture?

### **American Agriculture**

- ~13% of the Gross Domestic Product
- ~17% of all U.S. employment
- ~25 million Americans are employed in agricultural-related industries
- Agricultural industries valued at \$230 billion
- Agricultural Exports account for \$140 billion & 860,000 jobs



# Why Target Agriculture?

### Ramifications & Consequences:

- Devastating impact on U.S. agriculture economy
- Loss of nation's supply of food & fiber
- Disruption of trade & commerce
- Increased dependency on imports
- Impact on environment / quality of life



# **Asian Long-horned Beetle**







# **Asian Long-horned Beetle**









# **Asian Long-horned Beetle**





# Emergency Response and Recovery Plant Health vs. All Hazards

	Plant Health	All Hazards
Lead Agency	APHIS-PPQ	FEMA
Authority	Plant Protection Act	Homeland Security Act
Policy	NIMS-ICS	National Response Framework NIMS-ICS
APHIS' Role	Primary	Lead – ESF11
Presidential Declaration	Not required	Required



# National Crop Biosecurity

### **PPQ** Vision

### **Highly Coordinated Systems:**

- Science-based
- Maximum protection
- Minimum adverse impacts
- Inclusive



### 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 Pre-Clearance Program
- Agricultural Quarantine Inspection
- 2. Preparedness
- Permits

3. Response

- Surveillance
- Diagnostics

4. Recovery

- Mitigations
- Critical Infrastructure
- Vulnerability Assessment



### National Framework for Crop Biosecurity: Four Elements

### **Prevention**

### **Agricultural Quarantine Inspection**

**Support to DHS Customs and Border Protection:** 

- Policies, Rules, and Regulations
- Pest identification at 25 ports-of-entry
- Technical training
- Inspect plant material
- Animal products (Veterinary Regulatory Services)





### National Framework for Crop Biosecurity: Four Elements

### **Prevention**

Agricultural Quarantine Inspection





### National Framework for Crop Biosecurity: Four Elements

1. Prevention

- Off-Shore Pest Information System
- NAPPO Phytosanitary Alert System
- 2. Preparedness
- Risk Assessment
- Science Panels
- 3. Response

New Pest Response Guidelines

4. Recovery

- Diagnostics (development, validation, capacity)
- Survey Detection (CAPS, NAPIS, NBIS)
- Treatment (mitigation)
- Training (ICS, survey, diagnostics, data management, mitigation, exercises, etc.)
- Infrastructure



### National Framework for Crop Biosecurity: Four Elements

### **Preparedness**

### **Diagnostic Networks & Data Management**





### National Framework for Crop Biosecurity: Four Elements

**Preparedness** 

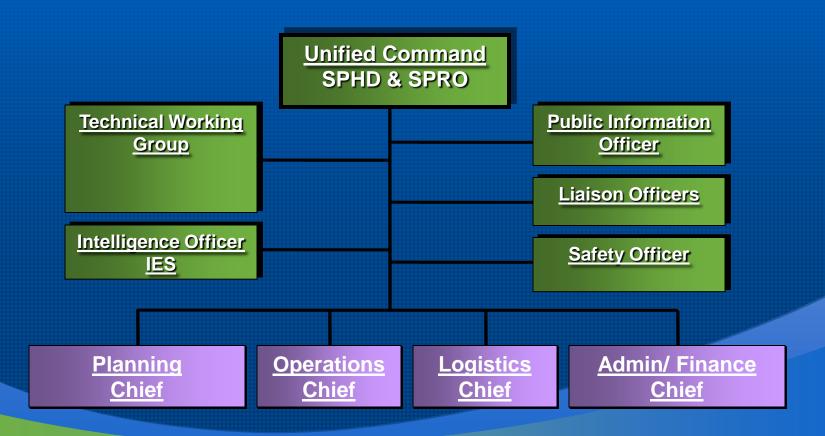
# Preparedness and Response Training:



- ICS 100/200 (Mandatory APHIS Employee Training)
- ICS 300 (Mandatory for All State Plant Health Directors)
- Full-Scale Exercises
- Workshops/Seminars
- Table Top Exercises
- Functional Exercises



### **ICS - Command Staff**





### National Framework for Crop Biosecurity: Four Elements

1. Prevention

- Implementation Plan
   Generic and Sector-Specific Elements
- 2. Preparedness
- Incident Command System

  Federal and State Unified Command

3. Response

 e-Resource Allocation and Tracking Human, Fiscal, and Physical Resources

4. Recovery

- Survey Detection
   Adequate Timely
- Diagnostics
   Accurate and Timely
- Mitigations
   Timely containment, control, and eradication



### National Framework for Crop Biosecurity

### Response

Incident Command System
 Federal and State Unified Command



- Emerald Ash Borer (MI, IN, IL, OH)
- Plum Pox Virus (NY, MI, PA)
- Citrus Greening & Canker (FL)
- Sirex noctilio (NY)
- Fruit Fly Outbreaks (CA, FL, MX)
- Potato Cyst Nematode (ID)



### National Framework for Crop Biosecurity: Four Elements

### Recovery

- National Plant Disease Recovery System
- Prevention Elements
- Survey and Detection
- Long-Term Pest Control Systems



# Thank You

