2016 Southern Plant Board Meeting
April 18 - 21, 2016
Imperial Palace Casino Resort & Spa
Biloxi, Mississippi

Monday, April 18
4:00 – 7:00 Registration
6:00 – 8:00 Southern Plant Board Reception
8:00 – 11:00 Networking

Tuesday, April 19
Breakfast (Provided) IP Buffet Voucher
8:00 – 8:15 Southern Plant Board Opening Session
   • Call to Order
     Larry Nichols, Virginia Department of Agriculture & Consumer Services
   • Roll Call
     Phil Wilson, North Carolina Department of Agriculture & Consumer Services
   • General Meeting Announcements
     Kenneth Calcote, Mississippi Department of Agriculture & Commerce
8:15 – 8:45 Welcome to Mississippi
     Commissioner, Cindy Hyde-Smith, Mississippi Department of Agriculture & Commerce
8:45 – 9:00 Opening Comments
     Larry Nichols, Virginia Department of Agriculture & Consumer Services
9:00 – 10:00 Agency Reports:
   • USDA APHIS PPQ
     Matt Royer, USDA APHIS PPQ
   • National Plant Board
     Joe Collins, NPB President/University of Kentucky
   • Customs and Border Protection
     Nikki Thomas, U.S. Customs & Border Protection
   • Horticultural Inspection Society – Southern Chapter
     Tom Cary, Virginia Department of Agriculture & Consumer Services
10:00 – 10:30 Break
10:30 – 11:00 Agency Reports (continued)
11:00 – 11:15 IFA Update (Future Status of Program)
     Anne-Marie Callcott, USDA APHIS PPQ, S&T-CPHST
11:15 – 12:00 State Reports – AL, AR, FL, GA, LA, KY, MS
Tuesday, April 19 (Continued)

12:00 – 1:15 Lunch (Provided)

1:15 – 5:00 CAPS Breakout Session (SSC’s & PSS’s)

1:15 – 2:00 State Reports – NC, OK, PR, SC, TN, TX, VA

2:00 – 2:30 SANC Update (Implementation & Nursery Manuals)
Larry Nichols, Virginia Department of Agriculture & Consumer Services

2:30 – 2:50 Citrus Pest Update (TX Canker, etc.)
Robert Bailey, USDA APHIS PPQ

2:50 – 3:15 Break

3:15 – 3:45 National Clean Plant Network (NCPN) Update/Review
Erich Rudý, USDA APHIS PPQ

3:45 – 4:05 FRSMP and DEEP Basics
Ricardo Valdez, USDA APHIS PPQ

4:05 – 5:00 Panel Discussion on Startup Protocols of Hemp Production (DEA permits, etc.)
Larry Nichols, Virginia Department of Agriculture & Consumer Services
Anni Self, Tennessee Department of Agriculture

Dinner (Own your own)

7:00 – 11:00 Networking

Wednesday, April 20

Breakfast (Provided) IP Buffet Voucher

8:00 – 8:20 Florida New Exotic Pest Update (Old World Bollworm, Oriental Fruit Fly, etc.)
Trevor Smith, Florida Department of Agriculture & Consumer Services

8:20 – 8:40 Pine Shoot Beetle & Other Pest Deregulation
Bill Wesela, USDA APHIS PPQ

8:40 – 9:00 Overview of Mississippi Honeybee Stewardship Program
Andy Whittington, Mississippi Farm Bureau Federation

9:00 – 9:20 Farm Bill Honey Bee Survey (What have we learned)
Robert Bailey, USDA APHIS PPQ

9:20 – 9:40 CAPS Report
Sherry Aultman, Department of Plant Industry, Clemson University

9:40 – 10:00 Break
Wednesday, April 20 (Continued)

10:00 – 11:00 Introduction to ezFedGrants
   Video Recording from Eastern Plant Board Meeting

11:00 – 11:20 Introduction to the Gateway America Irradiation Facility
   Ryan Hollingsworth, VP of Operations

11:20 – 1:00 Lunch (Provided)

1:00 – 2:30 Tour Gateway America Irradiation Facility
   Ryan Hollingsworth, VP of Operations

2:30 – 4:00 Tour Biloxi Maritime & Seafood Industry Museum

4:00 – 6:30 Cruise on Biloxi Schooner

Dinner (Own your own)

7:30 – 11:00 Networking

Thursday, April 21

Breakfast (Provided) IP Buffet Voucher

8:00 – 8:30 Panel Discussion on P. ramorum Host List Review & State Surveys
   Anni Self, Tennessee Department of Agriculture
   Leah Roberts, North Carolina Department of Agriculture & Consumer Services

8:30 – 12:00 SPB Business Meeting

8:30 – 12:00 CAPS Breakout Session

8:30 – 12:00 APHIS PPQ Breakout Session

10:00 – 10:30 Break
National Plant Board Updates

Joe Collins
NPB President, KY

SPB Retirees

31 years

30 years

32 years

30 years + NPB President

Brothers???

NPB Executive Team

Joe Collins, KY
NPB President
Aug 2015—Aug 2017

Ann Gibbs, ME
NPB Vice President

Geir Friisoe, MN
NPB Past President

John Caravetta, AZ
NPB Secretary/Treasurer

NPB Board of Directors

Larry Nicholas, VA
Kenneth Calcote, MS
Phil Wilson (alternate), NC

Monthly calls
1 to 2 NPB/PPO leadership meetings per year
Opportunity for states to raise issues that may affect other states

Dickeya dianthicola
NOT D. solani

Citrus canker
TX

PPV
New area in NY

Flag smut
KS

Corn tar spot
IN & IL

Spotted Lanternfly

Medfly
clementines
Chew toys
???
### New US records since Aug:

**Pathogens**
- Hosts/Pathogen
  - Nandina domestica/Phoma sp. cf. nandinae
  - Chrysanthemum/Phytophthora chrysanthemi
  - Aptenia cordifolia/Peronospora eschscholtzii
  - Cordyline gracca/Colletotrichum cordylinicola
  - Turmeric/Colletotrichum queenstadium
  - Tar spot of corn/Phyllachora maydis
  - Gooseberry/Phakapsora phyllovora

**Insects**
- Common name/Host/scientific name
  - Onion leafminer/Leeks & Onions/Phytomyza gymnostoma
  - Whitefly/Ixora sp (tropical)/Asiothrixus antidesmae

**Nematodes**
- Cyst nematode/barley/Cactodera rosae

### New pest(s) found in your state
- New to US
- Sent email by president asking for permission to share with NPB
- If needed, sharing can be delayed
- If no response within 2 weeks, message will be forwarded

### NPB basement

- [www.nationalplantboard.org/basement](http://www.nationalplantboard.org/basement)
- Valuable resource for states
- Need the key? Email Carrie Larson cclarson@nd.gov for password
- What’s hiding down there?
  - BOD & NPB/PPQ call minutes
  - Presentations
  - PPQ contact list
  - Organizational charts
  - Misc past meeting info

### SPHD/SPRO Dialog

- Opportunity for state and federal program discussions
- Items for discussion
  - Cooperative agreements
  - MOUs
  - Personnel available/specialities
  - State regulations
    - Who has authority in certain situations
    - Data collection
- Organizational charts
- Complete over time
- Revisit over time

### Members on Committees

<table>
<thead>
<tr>
<th>Japanese Beetle Harmonization</th>
<th>Members on Non-NPB Committees</th>
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<tbody>
<tr>
<td>Resolutions</td>
<td>BRS Steering: Scott Bray</td>
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<tr>
<td>- Joe Collins (SPB)</td>
<td>CARPOL: Christel Harden</td>
</tr>
<tr>
<td>- Collin Wamsley (CPB) Chair</td>
<td>CHRP: Trevor Smith, Awinash</td>
</tr>
<tr>
<td>- Ann Gibbs (TPB)</td>
<td>Bakhtar</td>
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<td>Awards</td>
<td>Cooperative Agreements:</td>
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<tr>
<td>- Julie Van Meter (CPB) Chair</td>
<td>Christel Hardin</td>
</tr>
<tr>
<td>- Awinash Bhakar</td>
<td>NCPN: Phil Wilson, Christel</td>
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<tr>
<td>- Mike Bryan</td>
<td>Harden</td>
</tr>
<tr>
<td>- Kai Caraher</td>
<td>NPAG: Trevor Smith</td>
</tr>
<tr>
<td>- Rich Cowles</td>
<td>P. Ramorum regulatory:</td>
</tr>
<tr>
<td>- Gray Haun</td>
<td>Christel Harden</td>
</tr>
<tr>
<td>- Ben Kaczmarski</td>
<td>Farm Bill: Trevor Smith, Christel</td>
</tr>
<tr>
<td>- Richard Johnson</td>
<td>Hardin, Kenneth Calconnect</td>
</tr>
<tr>
<td>- Jason Leathers</td>
<td>AQI Partnership Council:</td>
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<tr>
<td>- Robert Leavitt</td>
<td>Larry Nichols</td>
</tr>
<tr>
<td>- Phillip Lewis</td>
<td>GM Management Board: Larry</td>
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<tr>
<td>- Jason Oliver</td>
<td>Nichols</td>
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<tr>
<td>- Mike Redding</td>
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<tr>
<td>- Craig Regelbrugge</td>
<td></td>
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<tr>
<td>- Dana Rhodes</td>
<td></td>
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<tr>
<td>- Carl Schulze</td>
<td></td>
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<tr>
<td>- Andrea Simao</td>
<td></td>
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<td>- Jeff Vogel</td>
<td></td>
</tr>
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</table>

Website: Carrie Larson (CPB) content manager
Brad White (WPB) webmaster
SPB Reps on Non-NPB Committees
- BRS Steering: Brian Bowers (NC), Greg Hodges (FL)
- PPQ Biocontrol Cross Functional WG: Eric Rohrig (FL)
- CHRP: Denise Feiber (FL), David Kostroun (TX)
- Cooperative Agreements: Richard Miranda (FL)
- Domestic Data & Systems Task Force: Sherry Aultman (SC)
- Export Certification Work Group: Carl Harper (KY)
- LBAM Trapping Review: Leroy Whilby (FL), Sherry Aultman (SC)
- National CAPS Committee: Tyson Emery (FL), Sherry Aultman (SC)
- NCPN: Lisa Williams (FL), Ann Gallagher (NC), Richard Miller (LA)
- PPQ data sharing: Bryan Benson (FL)
- P. ramorum regulatory: Norm Dart (VA)
- Post-Entry Review: Sherry Aultman (SC)
- NAPPO Expert Work Groups: Greg Hodges (FL), Carl Harper (KY)
- Pollinator Issues: Dave Westerfelt (FL)

Strategic Alliance between NPB & PPQ
- Initiated at a June 2014 in a meeting between NPB and PPQ leadership
- Desire to more fully utilize and align respective state and federal authorities and resources to better safeguard agriculture and our natural resources.

Four key priorities identified:
- Funding: Alan Dowdy & Brad White
- Enforcement and Compliance: Paula Henstridge & Dana Rhodes
- Training: Alan Dowdy & Geir Frisoe
- Deregulation evaluation: Scott Pfister & Mitch Yergert
- Move to standalone
- Next set of priorities will be addressed at summer BOD-PPQ meeting

Pine Shoot Beetle
- First detected 1992
- Cleveland, OH
- NPB voted for deregulation 2015
- Damage is minimal
- Control through management strategies
- Proposed rule being drafted
- Based on public comments APHIS to decide whether to deregulate or not

Federal Register Notices
Email from Ken Rauscher asking for comments
- Apples from EU due April 28
- Risk analysis to evaluate risk of:
  - Fresh pomegranate from Peru due May 6
  - Fresh figs from Peru May 6
- Amend import requirements fresh lemon & cherimoya from Chile due May 27
SANC Leadership

Wayne Dixon
NPB Program
Associate

Aurelio Posadas
NPB Executive
Secretary

SANC - SPB Participation

- AL - Christel Harden
- AR - David Blackburn
- FL - Tyson Emery
- GA - Mike Evans, Perry Walden
  - Pilot Facility - Southeastern Growers
- KY - Joe Collins
- OK - Jeanetta Cooper, John Nunnery
  - Pilot Facility - Greenleaf Growers
- TN - Anni Self
- TX - Allison Olofson
- VA - Larry Nichols

SANC Pilot Nursery/Greenhouse Operations

WALLA WALLA NURSERY

Northeastern Nursery Co.

Southeastern Growers, Inc.

Conard-Pyle Co.

Lucas Greenhouses

Oregon Pride Nurseries

McKey Nursery Co.

Greenleaf Nursery Co.

Forrest Keeling Nursery

Hotel duPont

The luxurious Hotel du Pont has been welcoming guests since 1913 to one of the grandest hotels in the world, located in the heart of downtown Wilmington, DE.
Companion trip to the sandy beaches and surf of the majestic Atlantic Ocean

A quick trolley ride to the Riverfront
Bottom left: Kalmar Kyckel, Delaware's Tall Ship, Bottom right, Russell W. Peterson Urban Wildlife Refuge
PLUS – restaurants, Iron Hill Brewery, IMAX theater, Children’s Museum, and more

Meeting Sessions
- Federal and Partner updates
- New and emerging pests
- Hemp
- Pollinators
- Crazy Worms
- Biotechnology
- And a few special presentations

Wednesday Evening - Buena Vista
Beautiful surroundings, great food and brew

Wednesday Afternoon Field Trip: Mt. Cuba Center & North Creek Nurseries
Mt. Cuba is a botanical garden featuring native plants. North Creek is a wholesale supplier of native plant liners and plugs.

Music by Betty, the Bullet, & the Boy from Boston
Don’t Miss this Important Opportunity:

- Hear updates on the important plant regulatory issues facing your state
- Welcome new members, and network with state and federal colleagues
- Provide needed input on NPB business at the Annual Business Meeting
- Experience the beauty and hospitality of the 49th largest state in the USA
- Looking forward to seeing you!
Agriculture Resource Allocation Model

- The AgRAM is a workload-based, objective management tool designed to project staffing requirements.
- The AgRAM model has been used to determine that based on the optimal staffing requirements for CBPAS, an additional 723 new hires are needed for our workforce.
- These numbers include CBPAS, Supervisory CBPAS, and CBP Agriculture Canine Handlers.

Federal Noxious Weeds FY 2015

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Family</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphodelus fistulosus L.</td>
<td>Liliaceae</td>
<td>Onionweed</td>
</tr>
<tr>
<td>Avena sterilis L.</td>
<td>Poaceae</td>
<td>Animated Oat</td>
</tr>
<tr>
<td>Cuscuta E.</td>
<td>Cucurbitaceae</td>
<td>Dodder</td>
</tr>
<tr>
<td>Heracleum mantegazzianum</td>
<td>Apiaceae</td>
<td>Giant Hogweed</td>
</tr>
<tr>
<td>Hippeastrum cybister (L.) P Beauv.</td>
<td>Poaceae</td>
<td>Cypergrasses</td>
</tr>
<tr>
<td>Ipomea aquatica Forssk.</td>
<td>Convolvulaceae</td>
<td>Chinese Water Spinach</td>
</tr>
<tr>
<td>Jatropha curcas L.</td>
<td>Euphorbiaceae</td>
<td>Jatropha Curcas</td>
</tr>
<tr>
<td>Malva neglecta L.</td>
<td>Malvaceae</td>
<td>Storksbill</td>
</tr>
<tr>
<td>Malva siu L.</td>
<td>Malvaceae</td>
<td>Malva</td>
</tr>
</tbody>
</table>

Mediterranean Fruit Fly

- Interceptions of Ceratitis capitata, the Mediterranean Fruit Fly (Medfly) cause enhanced restrictions on host commodities.
- Dominican Republic: Commodities under DA-2015-14 must meet specific requirements prior to importation into the USA.
- Spain: Consignments of Pepper Shipments are restricted.
- Morocco: Tangerine/Clementine/Mandarin Fruit (Citrus reticulata) and Sweet Orange Fruit (Citrus sinensis) are prohibited.

Non-Compliant Wood Packaging Material

<table>
<thead>
<tr>
<th>Field Office</th>
<th>No ISPM 15 and Pest</th>
<th>No ISPM15 Pest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlanta</td>
<td>-</td>
<td>33</td>
</tr>
<tr>
<td>El Paso</td>
<td>-</td>
<td>12</td>
</tr>
<tr>
<td>Houston</td>
<td>-</td>
<td>11</td>
</tr>
<tr>
<td>Laredo</td>
<td>1</td>
<td>93</td>
</tr>
<tr>
<td>Miami / Tampa</td>
<td>-</td>
<td>8</td>
</tr>
<tr>
<td>New Orleans</td>
<td>-</td>
<td>8</td>
</tr>
<tr>
<td>San Juan</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>Chicago (partial)</td>
<td>-</td>
<td>39</td>
</tr>
<tr>
<td>National</td>
<td>2</td>
<td>383</td>
</tr>
</tbody>
</table>
Khapra Beetle (KB)

Calendar Year KB Interceptions

<table>
<thead>
<tr>
<th>Year</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>14</td>
<td>37</td>
<td>233</td>
<td>250</td>
<td>220</td>
<td>209</td>
<td>162</td>
</tr>
</tbody>
</table>

- USDA/APHIS has issued a Federal Order on commercial shipments of rice, soybeans, safflower seeds, and chickpeas from KB endemic countries.
- CBP has implemented the NACTU to monitor previous KB incidents and advises ports for inspectional awareness and proper action.
- CBP partners with USDA/APHIS to consider evaluate importation requirements and guidelines for additional dry goods where KB has been consistently detected.

First In Nation Pest Interceptions FY 2015

<table>
<thead>
<tr>
<th>Pest Name</th>
<th>Port of Entry</th>
<th>Origin</th>
<th>Order/Kingdom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exore eucnemis G. Germain</td>
<td>Miami, FL</td>
<td>Honduras</td>
<td>Coleoptera</td>
</tr>
<tr>
<td>Anacridius sp. (Pyralidae)</td>
<td>Port Everglades, FL</td>
<td>Honduras</td>
<td>Lepidoptera</td>
</tr>
<tr>
<td>Exodesia crenulata Stal</td>
<td>Miami, FL</td>
<td>Costa Rica</td>
<td>Hemiptera</td>
</tr>
<tr>
<td>Carposaspis sanchezi Forsscher</td>
<td>Miami, FL</td>
<td>Ecuador</td>
<td>Hemiptera</td>
</tr>
<tr>
<td>Convolvulaceae distans (Rhynaropincusdomaricae)</td>
<td>Port Everglades</td>
<td>Guatemala</td>
<td>Hemiptera</td>
</tr>
<tr>
<td>Edessa crenus Stal (Pentatomidae)</td>
<td>Miami, FL</td>
<td>Costa Rica</td>
<td>Hemiptera</td>
</tr>
<tr>
<td>Catapana sp.</td>
<td>Miami, FL</td>
<td>Costa Rica</td>
<td>Coleoptera</td>
</tr>
<tr>
<td>Nannophyidae reuven</td>
<td>Poaceae, FL</td>
<td>Canada</td>
<td>Coleoptera</td>
</tr>
<tr>
<td>Sycopsis sericea from Van Dusen</td>
<td>Miami, FL</td>
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<tr>
<td>Lessonia sp.</td>
<td>Miami, FL</td>
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<tr>
<td>Graphocephala appropinquans (Fowler)</td>
<td>Laredo, TX</td>
<td>Mexico</td>
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<tr>
<td>Rhodobaenus gramineus</td>
<td>Port Everglades, FL</td>
<td>Guatemala</td>
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</tr>
<tr>
<td>Vazquezitocoris andinus</td>
<td>Port of Entry</td>
<td>Honduras</td>
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<td>Linnavuori</td>
<td>Miami, FL</td>
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<tr>
<td>Loxoprosopus sp.</td>
<td>Miami, FL</td>
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<td>Gymnaphia sanchezi</td>
<td>Miami, FL</td>
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</tr>
<tr>
<td>Gonocephales typicus (Rhyparochromidae)</td>
<td>Port Everglades</td>
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<td>Hemiptera</td>
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<td>Catapana sp.</td>
<td>Miami, FL</td>
<td>Costa Rica</td>
<td>Coleoptera</td>
</tr>
<tr>
<td>Nannophyidae reuven</td>
<td>Poaceae, FL</td>
<td>Canada</td>
<td>Coleoptera</td>
</tr>
<tr>
<td>Sycopsis sericea from Van Dusen</td>
<td>Miami, FL</td>
<td>Ecuador</td>
<td>Hemiptera</td>
</tr>
<tr>
<td>Lessonia sp.</td>
<td>Miami, FL</td>
<td>Ecuador</td>
<td>Coleoptera</td>
</tr>
<tr>
<td>Graphocephala appropinquans (Fowler)</td>
<td>Laredo, TX</td>
<td>Mexico</td>
<td>Hemiptera</td>
</tr>
<tr>
<td>Rhodobaenus gramineus</td>
<td>Port Everglades, FL</td>
<td>Guatemala</td>
<td>Coleoptera</td>
</tr>
<tr>
<td>Vazquezitocoris andinus</td>
<td>Port of Entry</td>
<td>Honduras</td>
<td>Coleoptera</td>
</tr>
<tr>
<td>Linnavuori</td>
<td>Miami, FL</td>
<td>Ecuador</td>
<td>Coleoptera</td>
</tr>
<tr>
<td>Loxoprosopus sp.</td>
<td>Miami, FL</td>
<td>Costa Rica</td>
<td>Coleoptera</td>
</tr>
<tr>
<td>Gymnaphia sanchezi</td>
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<td>Ecuador</td>
<td>Hemiptera</td>
</tr>
<tr>
<td>Gonocephales typicus (Rhyparochromidae)</td>
<td>Port Everglades</td>
<td>Guatemala</td>
<td>Hemiptera</td>
</tr>
</tbody>
</table>

National Agriculture Cargo Targeting Unit (NACTU)

- Consists of five permanent Agriculture Operations Managers and a Branch Chief who continuously analyze national quarantine activity in order to identify high risk shipments.
- The NACTU researches import cargo shipments and analyzes national quarantine activity to identify potential significant risks.
- Functions in harmony with local targeting units.
- NACTU has assumed a field support role and is available for direct field support 7 days a week to provide guidance and assist with research requests to gather field intelligence.

NACTU Objectives

- These agriculture quarantine risks relate to:
  - Pests
  - Contaminants
  - Prohibited agricultural products
  - Smuggled agricultural products
- NACTU attempts to identify potential and repeat violators.
- Collaborating with CBP systems development groups to enhance programs to provide platforms for additional targeting.

NACTU Objectives (continued)

- Does not replace local port targeting.
- NACTU activities help to focus CBP personnel on critical and high risk agriculture quarantine inspections.
- Targeting is performed for multiple cargo environments/pathways (air, sea, rail, truck, ECC).
- Attempts to locate shipments en-route.

Mobile Workstation Device

- FY2015, APTL distributed the mobile devices to CBPAS in all environments to increase efficiencies and reduce wait times.
- Mobile devices have been deployed by the CBP mobile program office to all CBPAS.
Delegation of Title 19 Authority

- Pursuant to CBP Delegation Order 15-004, OFO Assistant Commissioner amended the Delegation Order to include CBPAS.
- CBPAS can now effectively utilize Title 19 authority for five specific violations related to agriculture.
- Training will be provided.

19 CFR 141.113 Failure to redeliver or untimely redelivery of imported shipments
19 U.S.C. 1431, 1433 - Failure to accurately manifest contents
19 U.S.C. 1431, 1433, 1436 - Presentation of fraudulent documents
19 C.F.R. 18.8 - In-Bond Violations - Shortages, Irregular Delivery, Non-delivery, Delivery Direct to Consignee
19 U.S.C. 1595a(b) - Instances of broken or missing seals

Questions?
2016 Goals for HIS/SC

Complete the Beverley Bewley Award
Enhance Website with Education and Training Tools
Have a Successful SANC/Inspector Training Meeting
Complete a Membership Directory
Have a Successful Annual Training Meeting

https://sites.google.com/site/hisscsite/
**Reasons to Join HIS/SC**

Be a part of a professional organization of Inspectors, laboratory and field personnel who regulate plant movement to prevent the spread of plant pests and disease

Network with peers across state lines

Develop your professional status and enhance your resume

Have access to HIS/SC scholarships

Receive the HIS/SC Newsletter

Attend annual conference to learn and network

Take advantage of Inspector training workshops

Support a professional group which enhances the work and standing of Plant Pest Inspectors

Engaging in HIS/SC can be intrinsically valuable and professionally rewarding experience

Can get all this for less than 29 cents per week

---

**Birthplace of Speed: Historic Florida**

* The Ormond Art Museum & Gardens opened in 1946 as a living monument to creative freedom and the service of World War I and II veterans. The gardens are located in a lush, two-and-a-half-acre tropical rainforest, gently nestled into the heart of the Ormond beachside adjoining the art museum.

---

**Save the Date!**

**Horticultural Inspection Society Southern Chapter (HIS-SC)**

**Interstate Inspection Systems Approach to Nursery Certification (SANC)**

**2016 SANC - Interstate Inspection**

**Deadline to apply was: March 31, 2016. Space was limited.**

Greetings,

The National Plant Board has provided the Horticultural Inspection System funds to conduct a training exercise with nursery and greenhouse Southern States. The purpose of this training exercise is to develop, develop skills among inspectors in our region.

The National Plant Board is currently developing an alternative nursery model. SANC is the acronym for A Systems Approaches to Nursery Certification and Management of Insect, Disease, and Weed Risks in a Nursery and Greenhouse Certification relies on a State Inspector's field or binational basis. In this exercise, growers develop and use a grid using Critical Control Points (CCPs) (points in the growing operation).

---

**Eco-Tour of St. John’s River**

Enjoy a 50-minute eco/history boat tour on Spring Garden Run aboard the M/V Acuera.

* You will see a variety of wildlife and learn about the area’s rich history.
In the 1800's, Jeremiah Underhill came to Florida as a farmer. From that time forward, our family has had a rich history of working the land, developing over the years a passion for growing quality foliage.

Visit a Florida Bee Yard

Requirements for Citrus nursery Structure, Orange Jasmine, and other host of citrus greening listed in Rule Chapter 5B-63 F.A.C.
Policy Management (Rich Johnson)
Science and Technology (Anne-Marie Callcott)
Field Operations (Ron Weeks)

Federal Imported Fire Ant Quarantine

- Goal is to prevent the artificial spread of Imported Fire Ants (*S. invicta*, *S. richteri*, and their hybrid) from where they are to where they aren’t — but could establish
  - Establish a quarantine area
  - Regulate known pathways for IFA movement (nursery stock, hay, soil, bee equipment, and anything else that can move fire ants)
- The program also supports best management practices for IFA where they are established.

Economic Impact of Imported Fire Ants

- Economic impact within IFA Quarantine = $6.6 billion per year
- Economic impact if IFA reach all suitable habitats = $10.6 billion per year
- FY 2016 IFA Quarantine Appropriation = $1.9 million
- So spending $1.9 million potentially protects $4 billion in economic damage each year

Future of Federal IFA Quarantine

- PPQ-NPB Strategic Alliance Work Group identified the Imported Fire Ant Program for review this year
- PPQ has initiated the program evaluation through use of the NPB/PPQ Decision Deliberation and Implementation Framework
  - A decision support, communication and implementation planning tool
  - Develop program options, analyze the options and recommend an option
Future of Federal IFA Quarantine

- Rich Johnson is leading this review for PPQ
- Currently consulting with stakeholders and affected parties to develop options
  - SPHDs/SPROs
  - Nursery industry representatives
    - AmericanHort, Turfgrass Producers, etc.
- Options might include (but are not limited to):
  - Status quo — maintain/fund Federal quarantine
  - State supported harmonization-type plan
  - Deregulation
  - Others?

What next?

- Stakeholder consultations will lead to analysis documentation and formal consultation with NPB and ultimately to a NPB-PPQ recommendation
- Timeline for information collection and analysis
  - Stakeholder comments by May 31
  - Economic analysis late summer 2016
- If you would like to provide input at this time please contact:
  Richard N. Johnson
  National Policy Manager for IFA, LBAM, EGVM, JB, BSR
  USDA, APHIS, PPQ, Plant Health Programs
  4700 River Road, Unit 26
  Riverdale, MD  20737
  (301) 851-2109
  Richard.N.Johnson@aphis.usda.gov

IFA-Phorid Fly Release Program

- Compilation of releases of multiple species of phorid flies by APHIS, ARS, state cooperators, universities, etc.; some APHIS funded and some cooperator funded
- Data from eXtension.org Imported Fire Ants website
8,150 traps proposed
7,883 traps placed
141 positive traps; 170 moths caught

Neighboring State catches

EAB PARASITOID RELEASES – KY (2010-2015)

<table>
<thead>
<tr>
<th>Year</th>
<th>Spathius</th>
<th>Tetrastichus</th>
<th>Oobius</th>
<th>County</th>
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</thead>
<tbody>
<tr>
<td>2010</td>
<td>3,719</td>
<td>7,880</td>
<td>-</td>
<td>Jefferson</td>
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<tr>
<td>2011</td>
<td>11,589</td>
<td>18,626</td>
<td>428</td>
<td>Boone, Fayette, Kenton, Jefferson, Shelby</td>
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<tr>
<td>2012</td>
<td>7,986</td>
<td>18,471</td>
<td>620</td>
<td>Boone, Fayette, Franklin, Kenton</td>
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<tr>
<td>2013</td>
<td>2,580</td>
<td>14,939</td>
<td>2,256</td>
<td>Anderson, Boone, Fayette, Franklin, Henry, Shelby</td>
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<tr>
<td>2014</td>
<td>9,524</td>
<td>40,571</td>
<td>9,450</td>
<td>Anderson, Fayette, Jefferson, Henry, Shelby</td>
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<tr>
<td>2015</td>
<td>1,470</td>
<td>85,959</td>
<td>26,100</td>
<td>Anderson, Fayette, Shelby</td>
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</table>

>262,000 released

PARASITOID RECOVERY

<table>
<thead>
<tr>
<th>Treatment</th>
<th>parasitoids released/ trt</th>
<th>parasitoids recovered</th>
<th>parasitized EAB larvae</th>
<th>% parasitized EAB larvae</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical</td>
<td>-</td>
<td>25.5 (25.5)</td>
<td>3.3 (3.3)</td>
<td>1.5 (1.5)</td>
</tr>
<tr>
<td>Dual</td>
<td>-21,460</td>
<td>340.3 (155.5)</td>
<td>29.5 (20.1)</td>
<td>12.0 (3.2)</td>
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<tr>
<td>Biocontrol</td>
<td>-21,460</td>
<td>206.2 (79.3)</td>
<td>13.7 (5.9)</td>
<td>9.6 (4.2)</td>
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<tr>
<td>Untreated</td>
<td>-</td>
<td>47.2 (25.1)</td>
<td>10.5 (6.6)</td>
<td>4.4 (1.0)</td>
</tr>
</tbody>
</table>

\[ F_{3, 11}; p \]

2.68; 0.10  0.88; 0.48  1.81; 0.20

T. Planipennisi 2014

- 79,924 released (4 sites)
- Recovery at 3 sites
**Parasitoid Recovery**

- *O. agrili 2014*
  - 19,650 released (4 sites)
  - Recovery (and sampling) at 1 site only

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Parasitoids released/ trt</th>
<th>Total EAB eggs</th>
<th>Parasitized EAB eggs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical</td>
<td>-</td>
<td>1.5 (0.5)</td>
<td>0</td>
</tr>
<tr>
<td>Dual</td>
<td>-9,824</td>
<td>5.3 (2.2)</td>
<td>1.7 (0.7)</td>
</tr>
<tr>
<td>Biocontrol</td>
<td>-9,824</td>
<td>5.7 (1.5)</td>
<td>1.5 (0.9)</td>
</tr>
<tr>
<td>Untreated</td>
<td>-</td>
<td>4.3 (2.7)</td>
<td>0</td>
</tr>
</tbody>
</table>

F, 12; p

0.57; 0.64

1.14; 0.38
TEXAS DEPARTMENT OF AGRICULTURE

Awinash P. Bhatkar, PhD
Coordinator for Biosecurity & Agriculture Resource Management
(512) 463-5025
Awinash.Bhatkar@TexasAgriculture.gov

18,000 N/F operations
$19.1 billion gross sales
Economic Impact:
$11.7 billion
194,945 jobs

Citrus greening
Asian citrus psyllid
Xanthomonas axonopodis pv. citri
Strain A or Wellington strain
Rancho Viejo area

Citrus Greening Quarantine
Citrus Canker Quarantine Area
Rancho Viejo, Cameron County, Texas
Texas
Citrus Nursery Facility Certification
Insect Exclusionary Structures

Mexican Fruit Fly Quarantined Areas
Rio Grande Valley, Texas

Orchard Sanitation
Abandoned orchards

Sweet Potato Weevil
Acres: 472 (5% decrease)
Counties: Van Zandt, Wood, Rains
Traps: 60, No weevils
Green tags: 17000,
90% decrease in acreage Since 1990s
County quarantined for FIA:

\[
\frac{188}{254} = 74\%
\]

Jacobson et al. 2006
(J. Econ. Entomol. 99(2): 313-322)

Species determination based on mtDNA and PCR
GM egg masses

Fusarium wilt of Queen & Mexican palms

Lethal Yellowing of Palms

Total Number of Trucks Inspected at Road Stations by State

<table>
<thead>
<tr>
<th>State</th>
<th>Total Number of Trucks</th>
</tr>
</thead>
<tbody>
<tr>
<td>California</td>
<td>5905959 (7.0%)</td>
</tr>
<tr>
<td>Florida</td>
<td>7475460 (5.6%)</td>
</tr>
<tr>
<td>Texas</td>
<td>416687</td>
</tr>
</tbody>
</table>
Total Number of Agricultural Rejections at Road Stations by State

<table>
<thead>
<tr>
<th>State</th>
<th>Rejections</th>
</tr>
</thead>
<tbody>
<tr>
<td>California</td>
<td>2701</td>
</tr>
<tr>
<td>Florida</td>
<td>2109</td>
</tr>
<tr>
<td>Texas</td>
<td>82</td>
</tr>
</tbody>
</table>
An ongoing effort to incorporate a systems approach strategy into nursery certification:
- To reduce pest risk and pest movement
- To facilitate and expedite the movement of nursery stock
- To operate within existing state nursery certification programs

A Systems Approach Strategy:
- Incorporates specific operational nursery practices to minimize the likelihood of introduction, establishment and spread of plant pests and pathogens in a nursery

Key Points
- **Risk Assessment** - Pest risk analysis of facility
- **Pest Management Plan** - developed from risk analysis
- **Facility Manual** - Describes PMP/SANC requirements
- **Implementation** - of Facility Manual
- **Audits (of the facility)** - Verification that Facility Manual is being followed. Performed by facility and regulators.

Risk Assessment:
- Survey of nursery to identify hazards (risks)
  - **Inputs** - Plants, Propagation Practices, Media & Containers, Site
  - **Shipping**, **Water**, **Production Practices**, **Disposal**
- Evaluation of BMPs for hazards at Critical Control Points (CCPs) identified during risk assessment to be used by facility

Pest Management Plan
- Consists of BMPs to mitigate identified hazards (risks)
- Procedures to scout for, document and manage identified pests
  - Scouting must occur on a regular basis
  - All incoming plants must be inspected
SANC Facility Manual

- Pest Management Plan leads to development of SANC Facility Manual
  - Formalizes and documents facility’s procedures
  - Pest Management Plan (BMPs and Scouting)
  - Recordkeeping and Training
- Approval of SANC Facility Manual (by State Nursery Program)
  - To ensure facility’s plan meets SANC Standard

Implementation/Audits

- Implementation of components in SANC Facility Manual (by facility)
  - Recordkeeping, training, BMPs, etc.
- Audits (by facility and State Nursery Program)
  - Ensures facility’s plan is being implemented as described in SANC Facility Manual

Where are we now: SANC Pilot Project, Phase-1

- Selection of 8 pilot growers
  - Two from each Plant Board Region
- Training for Inspectors/SPROs –
  - Fall, 2014
  - Winter, 2015, 2016
- Actual Implementation of Pilot - November, 2014

Key Points

- Risk Assessment – Pest risk analysis of facility
- Pest Management Plan – developed from risk analysis
- Facility Manual – developed from PMP and other inputs
- Implementation – of Facility Manual
- Audits (of the facility) – Verification that facility manual is being followed. Performed by facility and regulators.
**SANC Pilot – Steps Completed**

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Conard-Pyle</td>
<td>√</td>
<td>√</td>
<td>√*</td>
<td></td>
<td>√</td>
</tr>
<tr>
<td>Forrest Keeling</td>
<td>√</td>
<td>√</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walla Walla Nursery</td>
<td>√</td>
<td>√</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lucas Greenhouses</td>
<td>√</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oregon Pride Nursery</td>
<td>√</td>
<td>√</td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greenleaf Nursery</td>
<td>√</td>
<td>√</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southeastern Growers</td>
<td>√</td>
<td>√</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>McKay Nursery</td>
<td>√</td>
<td>√</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Approved by Pilot Subcommittee

**Lessons Learned from Pilot**

- SANCH identified hazards to mitigate or processes that could be improved
- Developed organizational improvements
- Assigned roles and responsibilities within company
- Inspectors are integral part of process
- Growers will still rely on inspectors for information
  - New pest issues, Regulator compliance, hazard ID, etc.
- Growers want inspectors present during the SANC process (risk assessment, review of facility’s SANC Manual)
- Growers see a business competitive edge

**Next Steps:**

- Completion of Phase I: (Target: 2017)
  - Several facilities will be completed in 2016
  - Evaluate and identify areas of improvement
  - Continued Training
- Phase-2
  - Up to 12 more nurseries and greenhouses
  - Scalability

**For more information:**

CITRUS HEALTH RESPONSE PROGRAM

2016 Southern Plant Board
April 18-21, 2016
Biloxi, Mississippi

Information Covered
- Introduction
- Status of Citrus States
- Citrus Nursery Stock
- Regulations
- Budget

Cooperative Program:
- California Department of Food and Agriculture
- Arizona Department of Agriculture
- Texas Department of Agriculture
- Louisiana Department of Agriculture
- Florida Department of Agriculture
- California Citrus Research Board
- Florida Citrus Research & Development Foundation
- California Citrus Mutual
- Texas Citrus Mutual
- California Citrus Quality Council
- University systems in CA, AZ, TX, LA, and FL
- Citrus Nursery Industry
- USDA Agricultural Research Service
- USDA National Institute for Food and Agriculture
- USDA Animal and Plant Health Inspection Service

Bearing Acreage and Value:
- Florida: 459,100 acres, $1.34 Billion
- California: 271,800 acres, $1.99 Billion
- Texas: 24,500 acres, $55 Million
- Arizona: 9,500 acres, $63 Million

Total US Acreage & Value: 764,900 acres, $3.4 Billion
Source: USDA NASS September 2015

Arizona
- Survey:
  Trapping/Visual Sites: 5,389
  Counties: 8
  Number of ACP Detected: 75
  HLB Samples Collected: 1,442 (Negative)
- Regulatory:
  Quarantines for SOS (entire state) & ACP
  Partial state: 27,675 sq. miles
  SOS Compliance Agreements: 31
  ACP Compliance Agreements: 226
- Biocontrol:
  Tamarixia radiata
  376 sites in Yuma and Mohave Counties
  80,229 wasps

California
- Survey:
  ACP - Number of Counties: 20
  Number of Traps: 33,637
  Resulting in 12,695 ACP samples
  HLB - Number of Counties: 12
  Number of sites: 104,855
  Number of ACP: 733 adults, 10 nymphs
  Number of Tissue Samples: 7,005
- Hacienda Heights Survey:
  Number of Properties: 1,461
  Number ACP: 1,461
- San Gabriel Survey:
  HLB Confirmed: July 10, 2015
  To date 17 trees are positive and 4 ACP
**California**
- Regulatory:
  - ACP Quarantine: 20 counties
  - Total Area under quarantine is 53,283 square miles
- 9,498 Compliance Agreements for nurseries, growers, harvesters, packinghouses, and others operating within the ACP quarantine.
- 14 APHIS Approved Interstate Citrus Nurseries
- HLB Quarantine: Los Angeles County (180 square miles)

**Florida**
- Regulatory:
  - Entire State Quarantine: Citrus Canker, Sweet Orange Scab, ACP and HLB
  - Partial State Quarantine: CBS
- Multi-Pest Survey (MPS)
  - ARS Census-travel computations to establish a risk base survey: CC, ACP, HLB, CBS, Leprosis, CVC and SOS.
  - Commercial Groves acreage: 218,904
  - Residential Properties: 7,564
- Citrus Health Management Areas (CHMAs)
  - 55 Established CHMAs covering 92% production areas
  - Data is provided to growers on a 3-week cycle
  - Supports grower coordinated pest management decisions
- Citrus Nursery Stock
  - 8 APHIS approved citrus nurseries
  - Exclusionary facilities inspected every 30 days CC and ACP
  - Twice a year sampled for HLB
- PPQ CHRP monitors 239 Compliance Agreements

**Texas**
- Multi-Pest Survey
  - Focused on HLB, ACP, CBS, CVC, Leprosis, and CC
  - Rio Grande Valley: Cameron, Hidalgo and Willacy Counties
  - Residential: 14,763
  - Groves: 13,000
  - HLB: 13,862 samples
  - HLB Positive Samples: 495
- Citrus Nursery
  - 5 nurseries in the Valley
  - 1 TX Citrus Center
  - 4 nurseries ACP/SOS outside of Valley
  - Ship under Limited permit

**South Texas Citrus Black Spot Survey**
- Survey consists of groves, buffers, corridors, and residential
- Grove Acres: 109,263
- Residential: 6,000
- Regulated Area: Hendry, Collier, Lee, and Polk
- No residential finds.
**Texas**

- Citrus Canker Positives

**Louisiana**

- Quarantine:
  - ACP: Entire state
  - SOS: Entire state
  - HLB: Orleans, Washington Parishes
  - CC: Orleans and St Bernard Parts of Jefferson, Lafourche, Plaquemines and St. Charles

- Survey
  - Multi-Pest survey PPQ CHRP 1200 Acres
  - 35 Parishes surveyed for citrus pest

- Regulatory
  - 10 facilities under APHIS compliance

**Other Areas**

- CHRP Support survey and Biocontrol for citrus pest in: AL, AS, GU, HI, and PR
- CHRP supports the University of HI Lab for diagnostics in the Pacific Area

**Regulations**

Citrus Nursery Rule
- Source material must originate from an APHIS approved State Certified Clean Stock Program
- Facility-APHIS approved Pest exclusionary structure
- Inspection every 30 days
- CG testing every 6 months
- Treatment soil drench at least 30 days but no more than 90 days before shipment and Foliar spray no more than 10 days prior to shipment
- Subject to at least 3 inspection cycles

**Pre-Certification**

**Budget 2016**

<table>
<thead>
<tr>
<th>STATE</th>
<th>PROJECT</th>
<th>AMT</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL</td>
<td>Citrus MPS</td>
<td>$46,881</td>
</tr>
<tr>
<td>AZ</td>
<td>ACP/HLB Survey</td>
<td>$1,040,806</td>
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<td>CA</td>
<td>ACP/HLB Survey</td>
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<td>FL</td>
<td>CHRP</td>
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<td>GU</td>
<td>Citrus Pest &amp; HLB</td>
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<tr>
<td>HI</td>
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</tr>
<tr>
<td>TX</td>
<td>Area Wide ACP</td>
<td>$387,607</td>
</tr>
<tr>
<td>TX</td>
<td>Citrus Germiparvum</td>
<td>$88,056</td>
</tr>
</tbody>
</table>

**Contact Information**

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USDA APHIS PPQ
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The U.S. Congress recognizes the value of the National Clean Plant Network (NCPN) engaged in 'mother' (nuclear stock) plants in preparation for their 'increase' and use by industry.

Farm Bill 2014 Section 10007(e)

The National Clean Plant Network (NCPN)

Program Overview

Southern Plant Board Meeting
April 18 – 21, 2016
Biloxi, Mississippi

NCPN – Establishment and Mandate

- **Farm Bill 2008**
  - Title X Section 10202
  - NCPN Established
- **Appropriations Act 2014**
  - NCPN Committed
- **Farm Bill 2014**
  - Title X Section 10007(e)
  - NCPN Reauthorized
  - NCPN Autonomous
  - NCPN Permanent

US Congress Recognizes the Importance of NCPN

Consolidated Appropriations Act 2014 – H.R. 3547

- **Law** – Consolidated Appropriations Act 2014 (which embraces NCPN) signed by the President into law on January 17, 2014
- **Recognition** – The U.S. Congress recognizes the value of the National Clean Plant Network to improve detection and eradication of viruses, encourages the Department to continue its work on this important program, and includes funding for these purposes

NCPN – Core Program Activities

NCPN Supports the Primary ‘Service’ Activities of Clean Plant Centers Engaged in Plant Pathogen Elimination:

- **Governance and Networking**
  - Participation and Engagement inJoint and Participatory Task Forces/Programs Together for Mutual Support, Synergy, and Strength, Including Education, Outreach, and Economics
- **Importation or Introduction**
  - Program Centers Testing, 'Mother' Plants Available for Introductory Therapy
- **Diagnostics**
  - Program Centers Test Species-based Status of Material Submitted for Clean-Up
- **Therapeutics (Pathogen Elimination)**
  - Program Centers Eliminate Pathogens from ‘Mother’ Plants
- **Foundation Plantings**
  - Establishing Seeds in Foundations
  - Maintaining Clean Material in Foundations
  - Relocating and Distributing Material to Nurseries, Growers, and Others

NCPN – Program Governance

http://nationalcleanplantnetwork.org/
NCPN - Governance and NPB/State Support

Core Working Group – Tier 1
- Tom Bewick – USDA/NIFA
- Phil Berger – USDA/APHIS
- Gary Kinard – USDA/ARS

National Governing Board - Tier 1
- Cindy Cooper – WA Dept. Agric.
- Joseph Postman – ARS/Germplasm
- Robin Rosenbaum – MI Dept. Agric.
- Ruth Welliver – PA Dept. Agric.
- Phil Wilson – NC Dept. Agric.

http://nationalcleanplantnetwork.org/

NCPN Tier 2 Governance – State Members
- Late Summer/Early Autumn – Open for 10 weeks
- Competitive Process

- Funding Availability
  - Approximately $5 million annually

- Proposal Reviews
  - AdHoc Committee - Pre-Proposals
  - Governing Board - Final Proposals

- Select Program Priorities:
  - Existing Facilities
  - Highly Restricted Crops
  - Diagnostic/Therapy/Founding Blocks
  - Service Activities – Industry Focused
  - Program Self-Sufficiency

Southern Region Cooperators

- University of Arkansas at Fayetteville – (Berries)
  - Dr. Ioannis Tzanetakis
  - Next Generation Sequencing technology

- University of Arkansas at Pine Bluff – (Sweet Potato)
  - Dr. Mathusamy Manoharan
  - Clean Plant Foundation Blocks

- Auburn University – Alabama - (Sweet Potato)
  - Dr. James Jay Spiers
  - Clean Plant Foundation Blocks

- Clemson University – South Carolina - (Tree Fruits)
  - Dr. Simon Scott
  - Full Service Center > Diagnostics, Therapy, Foundation Blocks
  - An NCPN Founding Member

- Florida A&M University – (Grapes)
  - Dr. Violinka Colvara
  - Full Service Center > Diagnostics, Therapy, Foundation Blocks
  - Specializing in Southern Grape varieties

- Mississippi State University – (Roses)
  - Dr. David Byrne
  - Full Service Center > Diagnostics, Therapy, Foundation Blocks

- North Carolina State University – (Berries and Sweetpotato)
  - Dr. Zvezdana Pesic VanEsbroeck
  - Full Service Center > Diagnostics, Therapy, Foundation Blocks

Florida Dept. of Plant Industries – (Citrus)
- Dr. Peggy Siefburt
  - Full Service Center > Diagnostics, Therapy, Foundation Blocks

Louisiana State University – (Citrus)
- Dr. Raj Singh
  - Full Service Center > Diagnostics, Therapy, Foundation Blocks

Louisiana State University – (Sweetpotato)
- Dr. Chris Clark
  - Full Service Center > Diagnostics, Therapy, Foundation Blocks

Mississippi State University – (Sweetpotato)
- Mr. Mark Shanbiki
  - Clean Plant Foundation Blocks

http://nationalcleanplantnetwork.org/

NCPN - Cooperative Agreements Program 2008-2016

The ‘Engine’ for Collaboration

NCPN Supported Clean Plant Centers and Programs

http://nationalcleanplantnetwork.org/
NCPN — So How Does It All Fit Together?

- NCPN — ‘National’
  - National Networking, Coordination, Balance, and Visibility
  - Forum for all Relevant Critical Discussions
  - Resourcing...
- NCPN — Tier 2
  - Platform to Bring all Players to the Table
    - Research, Regulatory, Educators, and Industry
    - Charters, Membership, Governance, Collaboration
  - Identification, Prioritization, and Advocacy for Crop Needs
- Clean Plant Centers
  - Diagnostics, Therapeutics, and Foundations
  - Service Delivery to Stakeholders
  - Recipient of National Funds

http://nationalcleanplantnetwork.org/

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NCPN — Crops Included and ‘Deliverables’

- **Fruit Trees** (Stone and Pome Fruits)
  - Maintain about 2,250 clean fruit tree accessions in foundations that have delivered more than 500,000 cuttings, scions, and plants as well as more than 1.7 million buds to nurseries and growers.
- **Grapes**
  - Maintain about 1,000 selections of clean grapevines accessions in foundations and distributed more than 700,000 clean grape-wood cuttings, buds, plants, or special seed to industry.
- **Hops**
  - Maintain about 75 clean hop selections in foundations that are used to accommodate about 30 percent of the world’s need for clean hops.
- **Berries** (Strawberries, Blueberries, Cane Fruit)
  - Diagnose and clean about 75 new berry accessions annually and maintain clean plant foundations that provide mother plants to industry that have produced nearly 30 million clean berry plants annually.
- **Citruses**
  - Maintain about 400 citrus tree accessions in foundations and deliver starter material to industry that has resulted in more than 275 million clean citrus trees over the past 6 years.
- **Sweetpotato**
  - Add about 40 new sweetpotato accessions annually to existing foundations.
- **Roses**
  - Initiate advanced testing of about 600 rose selections currently maintained in foundations.

http://nationalcleanplantnetwork.org/

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NCPN — Critical and Emerging Issues 2016

- **Strategic Planning — Nat’l**
  - Review the Old Plan
  - Developing the ‘New’ Plan
  - Establishing Procedures
  - National Meeting
- **Sustainability**
  - Long-Term Center Health
  - Succession Planning
  - Resourcing
- **Next Gen Sequencing**
  - What it means for NCPN
  - The Regulatory connection
- **Education/Outreach**
  - Visibility and Service
  - Economics
- **Information/Data**
  - Needs and Efficiencies
- **Nursery Programs**
  - Linkages to NCPN
  - Service to Industry
- **Center Enhancements**
  - SOP’s
  - Program Reviews
  - QA/QC/Certification

http://nationalcleanplantnetwork.org/

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NCPN — Lessons Learned in *Becoming a Network*

1. Gather **Stakeholders** — Establish a Program **Strategy**
2. ID and Secure Program **Resources** and **Funding**
3. Clearly **Define** Program **Boundaries**
4. **Recognize** the Needs of **Industry** as your Primary Goal
5. Focus First on Becoming a **Network** with **Governance**
6. Be **Inclusive**; Researchers, Regulators, Educators, Industry
7. Focus also on the Constituent **Parts**; the **Centers/Programs**
8. Serve as a **Forum** for Wide-Ranging Discussions
9. Handle **Basic** Needs Initially
10. Be Positive and **Inspire**
11. Reach Out to Allied Programs and Expand **Linkages**
12. Address **Advanced** Aspirations Later
13. Review and **Revise** the Program and the Strategic Plan

http://nationalcleanplantnetwork.org/
NCPN — How the Program Supports Stakeholder Interests

- **Access** to plants otherwise prohibited entry into USA
- **Reduces** industry business risk and regulatory safety risk
- **Increased** likelihood of having ‘clean’ plants
- **Alternative** to high-value germplasm destruction
- **Supports** industry trade
- **Non-regulatory** solution to plant pathogen mitigation
- **New beginnings** --- Revitalize, renew, replant
- **Forum** to bring stakeholders together — broad discussions
- **Collaborative cadre of cooperating scientists and stakeholders**
- **Linkages** to ‘allied’ programs (e.g. PEQ, nursery certification)

---

NCPN — Discussion with Stakeholders to Improve the Program

- Is NCPN meeting your needs for:
  - Networking, Governance, and Communications? >>> Not Enough, Enough, Too Much Already!
  - Adequate NCPN Funding to Centers/Programs to Meet Critical Program Needs?

- Are You Getting Clean Plants:
  - On Time? At a Reasonable Price?
  - With a High Degree of ‘Clean’ Confidence?
  - In Volumes Commensurate with the Needs of Business?

- Are the Existing NCPN Supported Clean Plant Centers and Foundations Sufficient to Meet Demands for Product?
  - Is there a need for an added clean plant center?
  - Is there the need for a Redundant or ‘Satellite’ Foundations Somewhere?

- Are There ‘Non-NCPN’ Issues Before You that NCPN Can Help With?
  - Research Needs
  - Regulatory Matters
  - Nursery Certification Programs

- Other Matters? Discussion

---

**NCPN — National Contacts**

Mr. Erich S. Rudyj, M.Sc.
Dr. David R. Prokrym, Ph.D.
Ms. Tammy Kolt, Nat’l Admin. Officer

**National Clean Plant Network (NCPN)**

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FRSMP and DEEP Basics

Ricardo Valdez
National Coordinator for Official Control
Southern Plant Board Meeting
Biloxi, MS. April 19, 2016

FRSMP
Federally Recognized State Managed Phytosanitary Program (pronounced Free-Stamp)

DEEP
Deregulation Evaluation of Established Pests

Acronyms

Background

- The IPPC (ISPM 5) states that if a country has a pest established within its territory, it may not take action against it at ports of entry unless the pest is under official control.

- The FRSMP program is considered a type of official control.

- In the United States, we have a number of pests established (and NOT under official control) for which we still take action at ports of entry.

- The DEEP process was established for PPQ to consult and collaborate with the States to resolve the statuses of these pests.

When is FRSMP of interest to a State?

- When a pest is considered non-actionable at ports of entry* BUT

- State(s) want to keep action against that pest at ports of entry

* or is about to change status to non-actionable through DEEP process

FRSMP Petition

Petition Requirements

- State demonstrates that a pest of consequence is under a phytosanitary program
- State has or is able to obtain legal authority to act on the pest
- Exclusion/containment/eradication is possible

Official Control Advisory Panel (OCAP)

- Group charged with reviewing petitions
- NPB representation

Current FRSMP Programs

Florida

- Potato psyllid (*Bactericera cockerelli*)
- Bagrada bug (*Bagrada hilaris*)
FRSMP at Ports of Entry (POEs)

- Options if pest is found at a POE within the participating State:
  - Treatment (if available)
  - Re-exportation
  - Destruction
  - Re-direct and Avoid

- Option if pest is found at a POE outside the participating State:
  - Avoid

DEEP Process

- PPQ presents 5-10 pests a year to the National Plant Board for input.
- NPB provides feedback to PPQ.
- PPQ takes that feedback into consideration and engages States with concerns.
- As of today, we have presented 131 pests.
- States have expressed interest in petitioning.
- 86 of these pests have changed status to non-actionable.

Contact Information and Helpful Links

- Ricardo Valdez/National Coordinator for Official Control ricardo.valdez@aphis.usda.gov
  (301) 851-2053
- FRSMP website http://www.aphis.usda.gov/frsmp
New Exotic Pest Update

A view from Florida

Dr. Trevor Smith, Director
Division of Plant Industry

Giant African Land Snail

Major landscape and agricultural pest

Public health threat – carries rat lungworm parasite

Eats stucco

Able to reproduce rapidly

No natural enemies

Giant African Land Snail Eradication Program

Management Approach

‘Boots on Ground’ control approach

- Survey
- Hand collect snails
- Treat properties with EPA-approved molluscicides added to a snail bait product (Metaldehyde)
- Collect and dispose of debris
- Detector dogs on duty!

GALS Potential Distribution in the USA

Program in 4th Year

161,000+ collected

Mortality rate increased significantly / number of snails collected decreased significantly

95% of positive properties from calls to the helpline

19 of 30 cores have not had positive find in almost 2 years

Eradication can be declared two years after last positive find

Decommission plan for select properties is under review

Based on parameters: Zhou et. al. 1998 Raut & Barker 2002

Movement on commodity
Survival in transit
Ability to colonize
Ability to spread = probability of establishment

GALS Potential Distribution in the USA
Food for thought:
During the 7-year eradication program in the 70’s, 17,000 snails collected . . .
Program costs around $1 million

In the first 4 years of the current infestation, over 161,000 have been collected . . .
Program costs around $13 million
Oriental Fruit Fly Eradication Program
Miami-Dade County

FDACS partners with USDA on:
- Statewide trapping program
  Monitor 56,000 fruit fly traps statewide (checked every 2 to 3 weeks)
- Sterile Fruit Fly Release Program
  Sterile Mediterranean fruit flies released Miami-Dade, Broward, Palm Beach Counties and in the Tampa Bay area
  82 million sterile flies released per week

Florida Department of Agriculture and Consumer Services • Adam H. Putnam, Commissioner

OWB Delimitation Survey (Cont.)

OWB Life Cycle Predictive Table

Predicted life cycle dates

<table>
<thead>
<tr>
<th>Days</th>
<th>Total</th>
<th>Generation</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>Start Date</td>
<td>07/09/15</td>
</tr>
<tr>
<td>29</td>
<td>29</td>
<td>Life Cycle 1</td>
<td>08/07/15</td>
</tr>
<tr>
<td>29</td>
<td>58</td>
<td>Life Cycle 2</td>
<td>09/05/15</td>
</tr>
<tr>
<td>30</td>
<td>88</td>
<td>Life Cycle 3</td>
<td>10/05/15</td>
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<td>35</td>
<td>123</td>
<td>Life Cycle 4</td>
<td>11/09/15</td>
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<td>167</td>
<td>Life Cycle 5</td>
<td>12/23/15</td>
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<tr>
<td>73</td>
<td>240</td>
<td>Life Cycle 6</td>
<td>03/05/16</td>
</tr>
</tbody>
</table>

Florida Department of Agriculture and Consumer Services • Adam H. Putnam, Commissioner

Oriental Fruit Fly

- Native to southeast Asia
- Introduced into Hawaii 1945
- First found in California in 1960 - detected in California every year since 1966
- First found in Florida in 1964 - appearances in 13 different years

FDACS partners with USDA on:
- Statewide trapping program
- Monitor 56,000 fruit fly traps statewide (checked every 2 to 3 weeks)
- Sterile Fruit Fly Release Program
- Sterile Mediterranean fruit flies released Miami-Dade, Broward, Palm Beach Counties and in the Tampa Bay area
- 82 million sterile flies released per week

What We Do to Prevent Fruit Fly Establishment

What We Do When We Find Them

Delimiting Survey/Intensive Trapping
One male fly found

Eradication Program Triggers
Two flies within a 3.5 mile radius and within a time period equal to one life cycle; or
One mated female; or
Larvae or pupae

Florida Department of Agriculture and Consumer Services • Adam H. Putnam, Commissioner
OFF Redland Area Finds

- August 26, 2015, a male Oriental fruit fly was detected in a trap in the Redland area of Miami-Dade County.
- On August 27th, 45 males were found in a trap—an unprecedented number of flies in one trap.
- Eradication program immediately mobilized.

Molecular Analysis
Haplotype = SE Asia (e.g. China, Cambodia, Laos and Thailand)

OFF Previous Florida Detections

- 1964: Pinellas—1 fly
  2-month trapping
- 1969: Miami—1 fly—$25K
  2-month trapping
- 1994: Broward—1 fly—$100k
  3-month trapping
- 1995: Pinellas—3 flies—$530k
  3-month eradication program
- 1999: Hillsborough—16 flies—$100k
  3-month eradication program
- 2001: Orange—1 fly
  3-month trapping
- 2001: Sarasota—2 flies—$100K
  3-month eradication program
- 2002: Orange—2 flies
  3-month trapping
- 2002: Broward—1 fly
  3-month trapping
- 2007: Hillsborough—1 fly
  3-month trapping
- 2007: Orange—1 fly
  3-month trapping
- 2008: Orange—2 flies
  3-month trapping
- 2010: Pinellas—2 flies
  3-month trapping
- 2014: Broward—1 fly
  3-month trapping
- 2015: Miami—165 flies—$2.7 Million
  6-month eradication program

New Expanded Host List

The USDA-APHIS-PPQ-S&T-CPHST is pleased to announce the release of the Compendium of Fruit Fly Host Information (CoFFHI), Version 1.0.

The fruit of the following plant species are now considered regulated (host) articles for Oriental fruit fly (OFF), and are subject to the requirements of 7 CFR 301.32.

<table>
<thead>
<tr>
<th>Botanical Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acca sellowiana (O. Berg) Burret</td>
<td>Guavasteen, pineapple-guava</td>
</tr>
<tr>
<td>Adenanthera pavonina L.</td>
<td>Red sandalwood</td>
</tr>
<tr>
<td>Adonidia merrillii (Becc.) Becc.</td>
<td>Manila palm</td>
</tr>
<tr>
<td>Aegle marmelos (L.) Corrêa</td>
<td>Baeltree</td>
</tr>
</tbody>
</table>

Redland Production Area

- Number of flies found, triggered eradication program (165 total)
- Broad host range with 430 confirmed hosts
- Area of impact is predominantly agricultural lands
- Crops impacted include:
  - Avocado, mango, mamey, banana, guava, papaya, green beans, tomatoes, nursery plants
- Estimated 2,000 businesses impacted
  - Growers, nurseries/stock dealers, fruit stands, lawn maintenance, packing houses, harvesters

Quarantine area = 98 square miles
Treatment area = 26 square miles
**Trapping**

- **Methyl Eugenal traps**
  - 607 traps checked daily until 0 flies are found seven days in a row. Then traps will be checked weekly.

- **McPhail traps**
  - 245 traps checked every 3 days

**Control**

- **Male Annihilation Technique (MAT)**
  - Adult fly control with male lure bait
  - Applied every two weeks to utility poles, tree trunks and other structures out of reach of people and pets
  - Product applied is Dibrom (naled), an organophosphate insecticide used to control a number of insect pests including fruit flies and mosquitoes
  - Over 75,000 bait stations were applied (600 stations per square mile)

**Control**

- **Foliar Spot Treatment**
  - Trees/plants around positive finds are spot treated with Spinosad (GF-120), an insecticide derived from a naturally-occurring soil organism, commonly used by organic growers

- **Larval Finds**
  - Fruit Stripping - fruit from host trees within a 200-meter area around larval find properties is removed so flies have no host material to lay eggs (221,430 lbs. fruit removed; 113 acres)
  - Soil Drenching—soil under host trees known or suspected to be infested with Bactrocera larvae and/or pupae is drenched with a synthetic pyrethroid (Warrior II)

**Control**

- **Aerial Treatment**
  - Conducted the nights of October 2nd and 3rd
  - Covered approximately 16 square miles
  - Extensive outreach conducted (community used to aerial spraying for mosquitoes and agricultural practices)
  - Helpline operational through weekend
  - Population of area predominately agricultural
  - Growers strongly requested aerial spraying
  - Product used was GF-120 (spinosad) — approved for use on organic crops posing no hazard to people, pets, livestock, fish or pets

**Regulatory Activities**

- Businesses (packers, growers, fruit stands, nurseries, harvesters, plant nurseries, etc.) handling host material must sign compliance agreements
  - Over 1,800 compliance agreements signed

**Ag Law Assistance with Violations**

Approximately 165,000 pounds of fruit fly host material confiscated

Violators were cited and issued a “Notice to Appear”
**Quarantine Requirements**

- Movement of host material in regulated area is restricted.
- Businesses required to sign compliance agreements (growers, packers, lawn maintenance, fruit stands, nurseries, flea markets, mobile vendors).
- Certification process in place allowing host materials to move in and out of quarantine area.

*Some Commodities Impacted*

- Avocado: 1,180 Acres
- Guava: 78 Acres
- Banana: 28 Acres
- Annona: 22 Acres
- Mamey: 110 Acres
- Sapodilla: 45 Acres
- Lychee: 50 Acres
- Longan: 110 Acres
- Dragon Fruit: 110 Acres

**Quarantine Requirements**

- Inside ½-mile arc around positive finds post-harvest treatment only (many crops do not tolerate post-harvest options)
  - Fumigation
  - Irradiation
- Within quarantine, but outside core areas, pre- and post-harvest treatment options available
  - 30-day pre-harvest treatment as outlined in compliance agreement

**OFF Outreach**

- Road Signs indicating Fruit fly impact zones
- Fruit Fly Impact Area
- Do Not Move Fruit
- No Mueva Frutas
- 12 signs positioned in key locations

**OFF Outreach**

- Helpline
- Newspaper Advertisements
- Grower Meetings
- Information Booth
- Industry Updates
- Website
- Multi-lingual materials

**OFF Outreach**

- Website/Interactive Map
- Oriental Fruit Fly Information

**Eradication Program Stats**

- Incident Command began August 26, 2015
- At the height of the program, 120 Personnel assigned
  - 94 state
  - 26 federal
- Program costs
  - $2.7 million
- Number of compliance agreements signed
  - 1,804
- Amount of fruit confiscated
  - 165,277 lbs
Eradication Program Stats (cont.)

- Pesticide totals:
  - 217 gallons Dibrom (mixed)
  - 1,260 gallons GF-120
  - 31,290 gallons Warrior II (mixed)
- Total number of fruit cut:
  - 4,419
    - target larvae = 8
    - non-target larvae = 2,205
- Amount of fruit stripped and destroyed:
  - 221,430 lbs.
- Eradication Declared
  - February 13, 2016
  - 6 month program

Weaknesses Identified in This Program

- Better lures for females
- torula yeast not very effective
- Affordable alternative to Dibrom
- OPs being phased out
- More post-harvest treatment options
  - mamey, avocados, guavas, tomatoes, etc.
- More systems approaches for hosts
  - green beans, squash, etc.
- More vetting of the host list
  - regular meetings
  - harmonize domestic host lists with import lists

Thank You!
What is: Regulated Domestic Pest Program Evaluation?

- The new title for what was originally called: Evaluate Deregulation and the Process to Close Programs
- One of 4 strategic priorities in the Strategic Alliance Working Group Action Plans

What is: Regulated Domestic Pest Program Evaluation?

- **Goal:** Develop an objective, science-driven evaluation process to affirm, strengthen, modify, or end regulatory efforts for identified pests. This will be achieved by providing a strong basis for continuing regulatory efforts and phasing out activities that are not cost beneficial nor otherwise supported by science nor shared policies.

Pine Shoot Beetle: First attempt at process

- **Step 1:** Evaluate pest program documentation including pest risk assessments, cost benefit analysis environmental assessments, accomplishment reports and determine if additional reports are needed prior to initiating analysis
- **Step 2:** Develop evaluation decision framework document
- **Step 3:** Conduct impact analysis on current programs
- **Step 4:** Working group will prepare program recommendation

Pine Shoot Beetle: Current status

- Initial detection in Ohio 1992
- Found in Northeast and Midwest
- Low funding
- Considered to be a secondary pest of pine
Pine Shoot Beetle: Current status

- Analysis of Regulatory Options
- NPB sent a letter in support of deregulation
- Proposed rule process
- Documents will go out for public comment
- Coordinate with Canada

Next program for review?

- European Larch Canker program
- Imported Fire Ant Program
- Japanese Beetle Program
- Emerald Ash Borer Program

Thank you!
The Importance of State Programs

- Raise Awareness
- Proactive Approach
- Flexibility in Design and Implementation
- Encourage cooperation

Ingredients

- People are the main ingredient!
- Knead Farmers
- Add beekeepers, mix thoroughly and whip until smooth.

Ingredients cont.

- Stir in a heaping amount of Extension Entomologist, Apiculturist, Department of Agriculture
- Spice it up with crop consultants, Ag Aviation, Ag Industries Council etc.

Finding Areas of Agreement

STEWARDSHIP PROGRAM PILLARS

- Communication
- Cooperative Standards
- Habitat Restoration
**COMMUNICATION**

Know your farmer; Know your beekeeper

Exchange basic information.

- Name
- Phone Number
- Location of hives

Notify Ground and Aerial Applicators

- GPS locations if possible.
- Farmers should notify employees and/or contractual parties of hive locations.
- Beekeepers should notify the farmer if hives are moved from traditional locations or if a new location is established.

**“Bee Aware” Flag**

- Place flag in a highly visible area.
- Flag indicates bees are nearby.
- Incorporate into our pesticide applicator training program.
- Flags are currently in Mississippi, Arkansas, Louisiana, Florida, Wisconsin, and Illinois with other states interested in adopting.

**COOPERATIVE STANDARDS**

Discuss proper hive locations on farm property.

- Use natural barriers like tree lines to avoid exposure to drift.
- Place hive entrance away from fields.
- Avoid placing hives close to the immediate edge of a field.

Insecticide Applications

- Apply late in the afternoon or early morning.
- Applications should be made when winds are blowing away from hives.
- Select a time to apply sensitive areas to mitigate risk.
- Always follow the guidelines on the labels.

**HABITAT RESTORATION**

- Plantings with extended blooming periods.
- Seed mixes with varying blooming periods.
- Utilize existing “dead areas”.
- Locations near water, weeded areas, etc.

**COLLABORATIVE EFFORT**

- Mississippi Beekeepers Association
- Mississippi Farm Bureau Federation
- Mississippi Agricultural Aviation Association
- Mississippi Agricultural Consultants Association
- Mississippi State University Extension Service
- Mississippi Department of Agriculture and Commerce
Contact Information:

Andy Whittington
Environmental Programs Coordinator
601-977-4238 (office)
601-665-7885 (cell)
awhittington@msfb.org
Southern Plant Board Bee Update
Biloxi Mississippi 4/18-4/21 2016

National Honeybee Survey History

- **History**
  - 2009: Pilot survey in 3 states
    - Test sampling methodology
  - 2010: Limited survey in 13 states
    - Increased state participation
    - Data sampled over much of calendar year
  - 2011: National Survey in 34 states
  - 2012: National Survey in 34 states
  - 2013: National Survey in 30 states
    - Puerto Rico, Guam and Grenada
  - 2014: National Survey in 20 states
    - Little/no funding for states to survey
    - Puerto Rico, Guam and Grenada

Survey Update

- Funding for 2015—2016 Survey 1,068,988.00
  - Total for 42 States have been identified to participate
    - Puerto Rico & Guam
  - Sampling Pollen for Pesticide Analysis for every state

Goals

Verify absence or early detection of exotics
- *Tropilaelaps*
- *Apis cerana*
- Slow Paralysis Virus
  - No detections to date

Honey Bee Health

Target Pests for NHB Survey

- **ABPV** Acute bee paralysis virus
- **BQCV** Black Queen Cell Virus
- **CBPV** Chronic bee paralysis virus
- **DWV** Deformed Wing Virus
- **IAPW** Israel acute paralysis virus
- **KBV** Kashmir bee virus
- **SPV** Slow paralysis virus

Honeybee losses
Overwinter Losses

- Losses of managed honey bee colonies were 23.1 percent for the 2014-2015 winter but summer losses exceeded winter numbers for the first time, making annual losses for the year 42.1 percent, according to preliminary results of the annual survey conducted by the Bee Informed Partnership (http://beeinformed.org), the U.S. Department of Agriculture (USDA) and the Apiary Inspectors of America.

- The winter loss improvement was about 0.6 percentage points less than the losses reported for the 2013-2014 winter. This is the second year in a row that winter losses have been noticeably lower than the nine year average winter loss of 28.7 percent.

Honeybee colony loss by State

Nat. Bee Survey Results 2009-2015

- 90.8% of all samples had at least 1 mite.
- Mean Varroa load is 4.45 mites/100 bees.
- 45.7% of all received samples had Varroa levels that exceeded what is thought to cause damage

National Results Summary:

Nosema

- National Results: 2009 - 2015

- 50.7% of all received samples were positive for Nosema disease.
- 10.2% of all received samples had Nosema levels that exceeded what is thought to cause damage.
- Mean Nosema spore load is 360,000 spores/bee

Methods – Pollen Sample

- Pollen Sampling
  - 10 Apiaries per State
  - 10 States in 2014-2015
  - Analyzed for Over 170 Pesticides
  - Report this year includes a Short description of each pesticide found in all national samples

Nat. Bee Survey Results 2015 Pesticide Analysis

Chart 2: Overall distribution of categories of Pesticides detected in the National Survey

- Insect Growth Regulator 1.0% n=25
- Neonicotinoid 2.2% n=60
- Herbicide 11.7% n=216
- Fungicide 19.3% n=356
- Pesticide 22.3% n=411

Varroacid 43.1% n=795
Pesticide Analysis

- Most prevalent pesticides are Miticides:
  - **Coumaphos** and its metabolites (detected in 37.7% of the samples)
  - **Fluvalinate** (detected in 50% of the samples)
  - **Thymol** (detected in 21.1% of the samples)
  - **Amitraz** metabolite Dimethylphenyl (detected in 21.3% of samples)
- INSECTICIDE: Chlorpyrifos (detected in 20.4% of the samples)

Viral Analysis

- **KBV Monthly Viral Prevalence 2009-2014**
- **BQCV Monthly Viral Prevalence 2009-2013**
- **DWV Monthly Viral Prevalence 2009-2014**
- **CBPV Monthly Viral Prevalence 2009-2014**
- **ABPV Monthly Viral Prevalence 2009-2014**
- **IAPV Monthly Viral Prevalence 2009-2014**

Farm Bill Programs

- National Honey Survey
- Selecting and Improving Varroa Resistant Honeybee stock
- Development of an Early Warning System for Exotic Honey bee pests
- Quantification of Bumblebee pathogen spillover from commercial to wild populations

Bumble Bees Sampled during 2011 NHB Survey

<table>
<thead>
<tr>
<th>Sample</th>
<th>Mite/Noosema Testing</th>
<th>Virus Testing</th>
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</table>

**Rates were 33%**

Acute Bee Paralysis | 5/6
Black Queen Cell Virus | 6/6
Deformed Wing Virus | 5/6
Israeli Acute Paralysis Virus | 1/6
Chronic Bee Paralysis Virus | 1/6
Interstate Movement of non Honeybee Pollinators

Request for importation for Bumble Bees
- Bumblebees and Leafcutters interstate movement
- Limited regulations by the states
- APHIS has been requested to regulate interstate movement of Bumble bees

APHIS Regulates Imports: CFR 319 Part 322
- Bees other than Honeybees
  - Bumblebees Bombus impatiens, B. occientalis
  - Leafcutter bee Megachile rotundata
  - Blue orchard bee Osmia lignaria
  - Horned-faced bee Osmia cornifrons

Climate Change and Apiculture

Flowering plants and pollinators co-evolved. Pollination is the key event for a plant and for the pollinators in the year. Will Plants and Pollinators Get Out of Sync?

Climate change is affecting pollination by disrupting the synchronized timing of flower blooming and the timing at which bees pollinate.

Climate change effect on Apiculture

- Weather anomalies effect on Overwintering, Available Food Sources, and Pest Pressures
- Varroa mite

- In the average temperate climate, mite populations can increase 12-fold in colonies having brood half of the year and 800-fold in colonies having brood year-round. This makes the mite very difficult to control.

THE END

Questions??

Original Bee Suit
- Warm, Stylish, but somewhat problematic when you sit down
**Sudden Oak Death**

**Phytophthora ramorum**

**State Survey Efforts**

Farm Bill funded, state specific
- Nurseries - field staff were asked to select these sites by prioritizing those that routinely imported material from the west coast, who specialized in the “fifty-five”, or who have been involved in regulatory issues in the past.
- Stream-side natural vegetation surveys — work in cooperation with state forest service
- NC: 88,505 plants from the HAP list surveyed in total; 31 sites

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**Phytophthora kernoviae**

**Hosts:**
- European beech
- English holly
- Yellow poplar
- Magnolia spp.
- Pieris/Andromeda
- Cherry laurel
- Quercus sp./oaks
- Rhododendron sp.
- Vaccinium sp./blueberry

The PPQ lab that tests our samples also tests for Phytophthora kernoviae at the same time.

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**Nursery Dealer - Challenges**

Everyone has a cull pile
Recurring positive site for P. ramorum in water

Positive detections in plants have occurred off and on

Nursery Dealer - Challenges

- Not as much incentive to sell clean plants
  - May or may not even “own” the plants yet
- Especially true of “big box” stores
- These locations move lots of plant material and, by definition, all of it is bought in

Nursery Dealer “Blitz”

Permanent field staff survey true nurseries for Farm Bill SOD surveys
A small team of temporary staff survey nothing but “big box” nursery dealers
  - Temporary staff are trained to recognize the “filthy five” but also other common hosts that nearly every big box store sells

Approximately a third of our survey sites are nursery dealers, covering both our state-level interests and PPQ interests