National & International Regulatory Issues

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Animal & Plant Health Inspection Service
Plant Protection & Quarantine

Texas HLB/Zebra Chip Conference
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Huanglongbing is one of the most serious disease threats to Citrus in the world!
To address this threat, we all need to work together!
Common Goals

- Exclude the vector & disease
- Prevent further spread of the vector
- Prevent further spread of the disease
- Manage or suppress the vector
- Manage or suppress the disease
HLB Distribution in the US

- **2005** Florida: 1\textsuperscript{st} detection
- **2006/7** Northward spread within Florida
- **2008** Louisiana: 2 Parishes
- **2009** South Carolina: 2 Counties
  - Georgia: 1 County
  - Puerto Rico: 4 Municipalities
National Quarantine
Citrus Greening (CG) and Asian Citrus Psyllid (ACP)

Legend
- Green: ACP Quarantine only
- Yellow: ACP Quarantine only
- Orange: Partial County ACP Quarantine

Legend for HLB+ve:
- Green: ACP and CG Quarantine

The U.S. Department of Agriculture's Animal and Plant Health Inspection Service created this data. These data may be used by others; however, they must be used for their original intended purpose.
Very few tools exist for combating HLB or other citrus pathogens!
Disease Control
Better tools urgently are needed to prevent, contain, control or eradicate regulated plant pathogens.
Pathways & Sources

- Movement of propagative material
- Movement of fresh cut foliage
- Incidental movement of plant debris
- E-commerce sale of plants
- Hobbyists/gardeners
- Domestic & foreign sources
A major contributing cause to pest introduction & spread comes from a lack of public awareness about threats & consequences posed by HLB and its vector.
Outreach/Education

- Communication is key to success
- Grower/Caretaker education
- Public awareness & involvement
- Educating others – Master gardeners, extension agents, scouts
- Conferences, workshops & symposia
- Sponsoring site visits to affected areas
An interactive public learning campaign

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The Approach

- Elevate the issue to crisis level
- Speak with an official and urgent tone
- Disrupt online buyers and sellers through dynamic search and display ads
- Target radio, television and interactive media with additional facts
- Have all information channels point to a microsite that tells the full story
Online Marketing

- Two components:
  - Keyword Search Marketing
  - Display Ads
- Strategy: reach people who actually intend to purchase citrus online
- Objective: interrupt the buyer and urge him/her to click on the ad
SaveOurCitrus.org

- Scrolling news ticker
- Disease tracker
- Interactive quiz
- Forward function

http://www.saveourcitrus.org

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The Results

- Response was immediate
- More than 20,000 unique visitors to the site in the first month (more than 60,000 by the end of February)
- Most site visitors are coming from Florida, Louisiana, Arizona, Alabama, California, and Texas
- Average site visits last between 1 - 2.5 minutes
- Many consumers took the message seriously, either requesting more information or seeking confirmation that their purchase would not violate any regulations.
Communication

- Incumbent upon everyone at all levels to raise awareness of value, threats & consequences
- Citrus – It’s worth protecting!
- Establishing a point of reference helps your audience understand & relate to the issue
- Key messages at key times
Enforcement

• Smuggling, Interdiction & Trade Compliance (SITC)
• Investigative & Enforcement Services (IES)
• Assisting State cooperators conduct market & terminal inspections
• Training sniffer dogs to detect citrus scents
Recent Finds Outside the US

- Cuba
- Dominican Republic
- Belize
- Mexico
- Jamaica
International Cooperation

- Many exotic pathogens can only be studied at their origin
- Technical exchange vital in developing detection & control strategies
- Addressing the pest at source can mitigate risk of spread & introduction
- Helps gain acceptance of practices & establishment of international standards
International partnerships and other collaboration are essential to finding solutions.
Tri-National Plan

- Strategic & Operational Plan
- Organizational Structure
- Program elements
- Resources
- Coordination & Communication
- Research & Development
- Outreach
International Collaboration

- Technical exchange
- Training on symptom recognition & molecular diagnostics
- Technical support
- Foreign exploration & collection of new parasitoids
Center for Plant Health Science & Technology

- Identifying critical needs & priorities
- Developing & validating diagnostics
- Accrediting laboratories & certifying specialists
- Evaluating ways to control ACP
- Convening Technical Working Groups
- Conducting pilot projects
- Funding projects to develop new technology & methods

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CPHST Activities

• Updated diagnostic work instructions
• Accredited additional diagnostic labs & performed annual certification testing of specialists
• Trained specialists from Mexico, Costa Rica, California, Alabama, Florida
• Conducted pilot Area-wide project in Texas
• Participated in mapping complete HLB genome
Projects Underway

- Developing a stochastic model for Asian citrus psyllid in partnership with Cambridge University
- Developing predictive model to assess effects of temperatures on HLB
- Conducting ACP area-wide management pilot project
- Screening, colonization & mass-rearing new ACP parasitoids from India
- Examining new regions of HLB genome as a way to improve diagnostic methods
- Exploring other diagnostics apart from PCR
Technical Working Groups

- Citrus greening/Asian citrus psyllid – January 2006
- Detection of CG positive psyllids – March 2007
- Production of disease-free Citrus nursery stock – September 2007
- Response to early detection of Citrus greening and/or Asian citrus psyllid – August 2008
- Systems approach to disease-free production of Citrus nursery stock – October 2008
- Area-wide Control of Asian citrus psyllid – February 2009
- Criteria for Deregulating ACP Areas – April 2009
• Standing group consisting of Federal & State regulatory officials
• Purpose is to seek solutions to regulatory issues through open dialog
• Group is reviewing requirements for production & movement of citrus nursery stock from areas under quarantine
Nursery Stock Certification
Citrus Health Response Program – Implementation Phase

Leadership

- National CHRP Council

Coordination

- Science & Technology Coordination Group (CA, TX, FL, ARS, NIFA, APHIS)
- Communication & Outreach Working Group (APHIS, State, Industry, Extension)
- National Program Coordination Group (APHIS, States, Extension, Industry)
- Regulatory Working Group (APHIS, States)

Implementation

- Research Working Group
- Technical Working Group
- State Operations Task Force (States, Industry, APHIS, Extension)
- Research Subgroups
- Program
Final Comments

• Citrus – National resource worth protecting

• Numerous challenges to be addressed collectively by all agencies (County, State, Federal)

• Communication is key component of prevention and response

• CHRP provides a framework & platform for addressing HLB nationally & internationally
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Key APHIS Websites

http://www.aphis.usda.gov  
http://www.saveourcitrus.org
Thank you for your kind attention!

Any questions?