Horticultural Industry Partnerships—Challenges and Success Stories

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• AmericanHort’s mission is to unite, promote, and advance the horticulture industry through advocacy, collaboration, connectivity, education, market development, and research.

• The horticulture industry's production, wholesale, retail, and landscape service components have annual sales of $163 billion, and sustain over 1,150,000 full- and part-time jobs.

• Specialty crops represent roughly half of the value of American agricultural crop production. Nursery and greenhouse crops represent about one-third of the total farmgate value of specialty crops.
“Victim and Vector”

- Horticultural crops (and landscapes and forests) extremely vulnerable to introduced pests, pathogens
- Imported plants can be one (not the only) vector for pest introduction
- The industry takes the issue seriously
Plant Trade in Context

• In past, most international trade involved small quantities for new variety introduction
• That’s changing. Ex: vegetative annual cuttings
• Pest by pest regulation
• Most taxa allowed unless specifically restricted or prohibited
• Preclearance or post-entry quarantine in few cases
• Heavy reliance on inspection upon arrival
• Regulatory framework evolving (Quarantine 37)
“It’s Your Wake-up Call!”

• *Phytophthora ramorum* – science catches up to reality, links tree death, nursery pathogen

• Millions in losses, compliance costs

• Response elements:
  • Traditional quarantine
  • Research – NORS-DUC established
  • Recovery protocols
  • Best practices
  • Pilot ‘systems approaches’
    • (e.g., GAIP in Oregon)
Voluntary Industry Best Management Practices for *Phytophthora ramorum*

Introduction or Establishment in Nursery Operations - Version 1.0

Approved by HRI Industry P. ramorum Committee – March 28, 2008
“An International Incident...”

• *Ralstonia solanacearum* Race 3 Biovar 2 (RsR3B2) is bacterial pathogen of concern to geranium... and potato!
• Introduction on cutting imports spurred response plan
• Rigorous systems approach considers facility, propagation, sanitation, water, handling, etc.
And Another...

- Boxwood Blight fungal pathogen discovered in fall of 2011
- Boxwood is major high value nursery crop and iconic landscape plant
- Threat of widespread panic, disruption
- Industry working group, scientists and regulators developed research needs, best management practices, model compliance agreements
Is There a Better Way?
Our Goals

• 21st Century plant health system
• Broad-based “integrated measures” / systems approaches that conform with int’l standards
• Focus on critical control points, best management practices, audits
• USDA-APHIS, National Plant Board, Industry collaboration
• Voluntary Standard
• Potentially applicable for international, domestic
Plant Production Certification: Cutting Through the Jargon

**Integrated Measures**
Actions taken during the production process

**Systems Approach**
Using at least two independent measures, which together appropriately manage risk.
Critical Control Point (CCPs)
Specific steps in the process where procedures can be applied to most efficiently manage risk – The “What.” Also, “hazard” points.

Best Management Practices (BMPs)
Actions taken to address the concerns raised by a critical control point – The “How.”
1. **Standard**
   To Participate You Must Address XYZ

2. **Application for Designation**
   To Participate We Will Address XYZ

3. **Pest Management Plan**
   (Operation Manual)
   Describes How We Will Address XYZ

4. **Records**
   Confirm That We Are Doing XYZ as Described in PMP

5. **Audits**
   Evaluates Records and Confirms that PMP is Being Adhered to.
It all boils down to RISK MANAGEMENT

- Prevent problems coming in
- Monitor crops for issues
- Accurately diagnose pests/diseases
- Treat problems as appropriate
- Avoid shipping pests/diseases
Voluntary Systems Approach Certification

• Dependent on complexity of operation – Identify specific CCPs – Grower chooses BMP’s (toolbox).

• Grower and inspectors/auditors work together as the operation develops its unique management plan.

• Grower keeps records, which are periodically audited by inspectors.

• Grower has significantly more shipping flexibility and saves money on phytosanitary certificates.
### Our Efforts 2012-2013

- Draft Certification Standard that meets International Standards (ISPM-36 and RSPM-24)
- Draft CCP/BMP Matrix (i.e., toolbox)

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Component, site, or stage of production</td>
<td>Target pests or pathogens</td>
<td>Contamination Hazard</td>
<td>BMP-suggested by ANLA/SAF working group</td>
</tr>
<tr>
<td>water management</td>
<td>waterborne pathogens</td>
<td>infested surface irrigation water</td>
<td>Disinfect irrigation water using effective methods</td>
</tr>
<tr>
<td>water management</td>
<td>waterborne pathogens, fungus gnats, moth flies, shoreflies, molluscs, nematodes</td>
<td>splash dispersal of pathogens; pest damage from standing water</td>
<td>Prevent standing water by not overwatering and correcting drainage problems, or by raising containers off the ground.</td>
</tr>
<tr>
<td>water management</td>
<td>waterborne pathogens</td>
<td>Recycled or recaptured water</td>
<td>Disinfect recycled and recaptured water using effective methods. Note; runoff from production may be regulated.</td>
</tr>
<tr>
<td>Site selection and preparation</td>
<td>waterborne pathogens, fungus gnats, moth flies, shoreflies, molluscs</td>
<td>Splash dispersal of pathogens; damage from standing water</td>
<td>Facilities constructed to drain well and avoid standing water.</td>
</tr>
<tr>
<td>Site selection and preparation</td>
<td>waterborne pathogens, fungus gnats, moth flies, shoreflies, molluscs</td>
<td>Splash dispersal of pathogens; damage from standing water</td>
<td>Roads and pathways should be properly graded to allow drainage and avoid standing water standing water. Pavement, gravel or other impermeable surfaces may also help prevent standing water.</td>
</tr>
<tr>
<td>Site maintenance</td>
<td>waterborne pathogens, fungus gnats, moth flies, shoreflies, molluscs, nematodes</td>
<td>If standing water persists, introduction of unwanted pests increases</td>
<td>Address standing water by improving drainage, using gravel or impervious water barriers or raising plants off of floor.</td>
</tr>
<tr>
<td>plant propagation - all</td>
<td>all pests and pathogens</td>
<td>irrigation</td>
<td>Irrigate so as to minimize splashing and periods of leaf wetness. Use a water source that does not contain plant</td>
</tr>
</tbody>
</table>
Related Efforts (e.g., CA)
Key Take-Home Messages

• Status quo is neither stellar nor sustainable
• Solutions must be practical, “speed of business”
• Farm Bill has been major tool
  • Horticulture Title, pest and disease and block grant funds
  • NORS-DUC
• USDA-APHIS engagement on international stage has been, will be critical (NAPPO, IPPC, partners)
• Fine line with respect to trade rules, obligations
• Legal options (e.g. Controlled Import Permits, CIPs) are part of solution