Partnerships and Opportunities in Pest Risk Analysis -- Tales from the Science Side

Christina Devorshak
Note: PERAL is currently the only ISO-certified plant health risk analysis unit in the world – WRA, Commodities, NPAG
What we do:

PERAL collects & analyzes scientific information & evidence in response to Agency needs regarding plant health threats from harmful pests
PERAL Work Flow

Phytosanitary Issues Management

Policy Management

Field Operations

Science & Technology

Commodity PRA

Organism PRA

Pathway Analysis

Weed Risk Analysis

Economic Analysis

Export Analysis

Operational Analysis

= Prioritization
PERAL PRA Products
2004-2012

- 337 - documents for importation of fruits & vegetables
- 62 - documents for plants & miscellaneous imports
- 477 - new pest analyses
- 162 - export documents
- 84 - pathway analyses
- 124 - organism analyses
- 134 - operational analyses
Who are we?

- 30 analysts
- ~10 cooperators
- Key disciplines important to Pest Risk Analysis ("—ologists")
- Virtual teams

“It’s time we face reality, my friends... We’re not exactly rocket scientists.”
Cooperation with States

- New Pest Advisory Group (“NPAG”)
- Deregulation Evaluation of Established Pests (“DEEP”)
- Weed Risk Analysis (“WRA”)
- Export Analysis
- Training opportunities
New Pest Advisory Group

**Mission:** The New Pest Advisory Group (NPAG) assesses exotic plant pests that are new or not yet present in the United States but may pose a risk to U.S. agriculture or the environment and recommends appropriate actions to the Plant Protection and Quarantine (PPQ) Deputy Administrator (DA).

**Product:** A brief technical report that provides key information about the pest and recommendations for how PPQ should respond.

- The first PPQ document written when a new pest is officially identified in the United States.
NPAG Scope

- **New Pest**: Pest that has been recently detected in the Continental United States, Hawaii, or any of the US territories
- **Exotic Pest**: Pest that is not yet present in the United States but a new (unregulated) pathway for its introduction has been identified
  - Includes pests new to Canada, Mexico, Caribbean
NPAG Functions

- Evaluates significance of plant pests believed to be new to or imminently threatening the U.S.
  - Is this something that PPQ should worry about?

- Coordinates information sharing and solicitation of expertise
  - Assembles ad hoc panels to ensure expert evaluation

- Recommends options and actions on how PPQ should respond to a new plant pest

**NPAG does not make policy**
Possible Recommendations:

- Do not take action; Remove pest from reportable/actionable list
- Conduct a survey program in order to gather information
- Eradicate or institute an official control program
- Institute a quarantine
- Implement a public education program
- Refer to other institutions: state depart. of agriculture, other Federal agencies, industry groups etc.
NPAG

Center for Plant Health Science & Technology:
• Research Needs
• Risk Analyses

National Identification Services:
• Port Policy
• Pest Identification Protocols

PestLens:
• Overseas surveillance

Field Operations:
• State Issues

Phytosanitary Issues Management:
• Federal Orders
• Import Regulations

Plant Health Programs:
• Pest Program Management
• Surveys
• Pest Alerts
• New Pest Response Guidelines
• Official Control
Deregulation Evaluation of Established Pests

• CPHST PERAL scientists conduct analysis of “DEEP” pests and prepare reports
• Unlike NPAG there is not a direct communication link between DEEP team and the NPB
• Federally Recognized State Managed Phytosanitary Program (FRSMP) is now operational
• Many DEEP pests become stuck in limbo without deregulation but not yet part of a FRSMP
DEEP process and outcomes

Pests submitted to list for consideration of deregulation by:
- Center for Plant Health Science and Technology
- National Identification Services
- Plant Health Programs

Plant Health Programs
Pest Detection and Emergency Programs:
Federally Recognized State Managed Phytosanitary Programs (PHP-FRSMP)

Not a candidate for Deregulation at this time
Retain PPQ Port Policy reportable/actionable

Deep Team Analysis-PERAL

Analysis concludes that the pest is:
1) Not established in US
2) Under official control/Official control program
3) Further scientific research is warranted before decision can be made

Analysis concludes that the pest no longer meets the definition of a quarantine pest

Deep Team Analysis-PERAL

State(s) initiate a Federally Recognized State Managed Phytosanitary Program FRSMP

NPB requests additional information from DEEP Team

NPB disagrees with DEEP recommendation

Deep Team Analysis-PERAL

PPQ Port Policy changed to non-reportable/non-actionable

Deep Team Analysis-PERAL

NPB agrees with DEEP recommendation

Deep Team Analysis-PERAL

DEEP Report sent to National Plant Board (NPB) for consultation

NPB disagrees with DEEP recommendation

Deep Team Analysis-PERAL

State(s) initiate a Federally Recognized State Managed Phytosanitary Program FRSMP

NPB requests additional information from DEEP Team

DEEP process and outcomes
Deregulation Evaluation of Established Pests

• Why do we need to deregulate pests?
  – The regulatory landscape in the U.S. is constantly developing.
  – Invasive pests that enter the US, may establish and become pests.
  – It is the responsibility of APHIS PPQ to effectively recognize when quarantine pests should no longer be actionable at the ports of entry.
  – Essential in the development of PRAs and other documents to have accurate information and an ongoing process for review of pest status
PPQ’s Weed & Invasive Plant Scope

Exclusion at the borders to prevent introduction of new weed species to the U.S. and prevent the spread of those with a limited U.S. distribution

- Federal Noxious Weeds
- NAPPRA-listed pest plants
- Noxious weed seeds
PPQ Weed Risk Assessment

- New predictive WRA model in 2010
- Validated with known U.S. weeds & non-weeds
  - Non-invader accuracy 97.1%
  - Major-invader accuracy 94.1%
- Baseline evaluation of risk that is widely applicable
78 Species Assessed with the New Model

**Original WRAs**

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Number of WRA Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>5</td>
</tr>
<tr>
<td>2011</td>
<td>13</td>
</tr>
<tr>
<td>2012</td>
<td>27</td>
</tr>
<tr>
<td>2013</td>
<td>30</td>
</tr>
<tr>
<td>2014</td>
<td>3</td>
</tr>
</tbody>
</table>

**Impact Potential**

- **High Risk**
- **Low Risk**
- **Evaluate Further**

- **Establishment Spread Potential**
  - High Risk: Red crosses
  - Low Risk: Yellow triangles
  - Evaluate Further: Green triangles
WRAs are available online

Link from the Noxious Weed Program website

http://www.aphis.usda.gov/planthealth/fnw
Cooperation with States

• Anyone can use our WRAs (e.g., FL, ID, MD, NC, & NE)
• Our WRA process can be adopted (e.g., MD, PA, & MI)
• Technology transfer (supporting 2 RPB resolutions)
  – WRA training (4-day workshop, @PERAL or in state)
  – Mentoring
  – Technical support
• For states, we can evaluate species that meet our scope of U.S. exclusion
Export Analyses – Enhancing export opportunities for US commodities

• Provide scientific and technical support for a specific export problem

• Evidence supports US position while balancing the need to provide a technically sound and transparent document

• Very practical and solution oriented analyses
Background: Types of Export Analyses

- PERAL reviews import pest lists and PRAs done by trading partners and creates export PRAs and pest lists to support US market access
  - Review pest lists done by trading partners (RPRA)
  - Review PRAs done by trading partners (RPRA)
  - Develop export pest lists (PLS)
  - Develop “Export PRAs” (PRA)
  - Provide technical information (INFO)
  - Provide ongoing support for export trade disputes (ONG)
Examples of Export Analyses

- Avocado budwood from CA to Chile
- *Juglans hindsii* cuttings from CA to Chile
- Apples from PNW to China
- Potatoes from Nebraska and Nevada to Korea
- Apples from New Mexico to Mexico
- Ginseng from Wisconsin to Taiwan
- Citrus from Texas to Taiwan
Want to learn about PRA?

- RA 101 workshop – offered yearly
- WRA 101 workshop – offered as needed
- RAMP – risk analysis mentoring program – offered as needed
- A la carte - one session, one day, a few days, targeted to topics or audience
- It is important to establish an understanding of the “fundamentals”
RA 101
2007-2012: 177 participants, 37 countries, 6 continents

• United States
  • Colorado
  • California
  • Florida
  • Hawaii
  • Maryland
  • New Jersey

• New York
  • North Carolina
  • Texas
  • Oregon
  • Washington
  • Washington DC
  • West Virginia
Objectives – RA 101

1. Understand the role of and rationale for conducting Pest Risk Analysis
2. Learn the skills to be able to prepare, direct, and evaluate a Pest Risk Analysis
3. Understand the role of science in policy and aiding in regulatory decision-making
4. Understand the national and international legal and regulatory framework for PRA
Approaches

• Lectures
• Week-long scenario with different exercises
• Group exercises…group presentation(s)!
• Negotiations
• Prizes
• Toys
• Evaluation
Summary

• Many opportunities for cooperation
• Information exchange (two-way)
• Consultation
• Methods transfer
• Technical assistance
• Product delivery
• Training
Thank you for your attention!

Contributors:

• Tara Holtz (NPAG)
• Dan Borchert (DEEP)
• Tony Koop (Weeds)
• Lottie Erikson (Exports)
• Stephanie Bloem (Training)