Lessons learned from developing and implementing an early-warning system to support U.S. safeguarding against exotic plant pests

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Need for an Early-Warning System
PestLens is an early-warning system that collects and distributes timely information on exotic plant pests and provides a web-based platform for making and following safeguarding decisions and actions.
Description of PestLens

Main components:

- Team of Analysts
- Weekly E-mail Notification
- Web System
- Designated "Action Groups"
Team of Analysts

- Entomology
- Plant Pathology
- Nematology
- Weed Science
- Technical Writing & Editing
- Regulatory Perspective

Combined Expertise
Information

- 284 Journals
- 50+ Web Sites
- 16 E-mail Lists
- Contributions
Filter & Evaluate

Summarize & Complement

Communicate

Pest News

New Info

Known Info

Brief Article
Weekly E-mail Notification

Subject: FW: PestLens Notification: Thursday, March 6, 2014

Warning: The following information has not been confirmed with the appropriate national plant protection organization(s). It is provided solely for the purposes of early warning and should be used with caution. Please do not distribute this information indiscriminately.

About PestLens

PestLens

Thursday, March 6, 2014 Notification

First report of Pistacia vera (pistachio) as a host of Arabian green stink bug, Acrosternum arabicum (Hemiptera: Pentatomidae)
Source: Zoology and Ecology
Event: New Host

During a 2009 to 2012 survey of Pistacia vera (pistachio) trees in Iran, the Arabian green stink bug, Acrosternum arabicum (Hemiptera: Pentatomidae), was found causing damage through feeding on the fruits of both cultivated and wild pistachio trees. This is the first report of P. vera as a host of A. arabicum and the first report of A. arabicum causing damage on a host.

Acrosternum arabicum is known to occur in Greece and the Middle East and also feeds on members of the Poaceae family and Medicago sativa (alfalfa). Acrosternum arabicum is not known to occur in the United States. The genus Acrosternum is listed as reportable in the PEST ID database (queried 3/6/14).

References:

First report of Grapevine Pinot gris virus (GPGV) in Slovenia
Source: Plant Disease
Event: New Location

Since 2001, Vitis vinifera cv. ‘Pinot gris’ and V. vinifera cv. ‘Sauvignonasse’ (grape) plants in Slovenia exhibited leaf mottling and deformation, shortened internodes, and poor growth. Molecular analysis confirmed that the causal agent was the trichovirus Grapevine Pinot gris virus (GPGV). This is the first report of GPGV in Slovenia. GPGV infects Vitis spp. (grape) and also occurs in temperate areas. It is not known to occur in the United States. The mode of transmission of GPGV has not been determined, but other trichoviruses are vectored by mites. GPGV is not listed in the PEST ID database (queried 3/6/14).

References:

First report of Tomato yellow leaf curl Kanchanaburi virus (TYLCKv) in Laos
Source: Plant Disease
Event: New Location

In 2013, Solanum melongena (eggplant) plants in Laos exhibited yellow mosaic symptoms. Molecular analysis confirmed that the causal agent was the begomovirus Tomato yellow leaf curl Kanchanaburi virus (TYLCKv). This is the first report of TYLCKv in Laos. TYLCKv infects eggplant and S. lycopersicum (tomato) and vectored by the whitefly Bemisia tabaci (Hemiptera: Aleyrodidae), which has a restricted distribution in the United States. TYLCKv is also known to occur in Thailand and Vietnam. It is not known to occur in the United States and is not listed in the PEST ID database (queried 3/6/14).

References:
Designated “Action Groups”

Information Reported by PestLens

- Action Group
  - Action Leader
  - Decision
  - Action

- Action Group
  - Action Leader
  - Decision
  - Action

- Action Group
  - Action Leader
  - Decision
  - Action
Web System

PestLens

An early-warning system supporting PPQ’s efforts to protect U.S. agriculture and the environment against exotic plant pests

Latest PestLens Articles

Colosius confusus (Gastropoda: Veronicellidae), a new slug species described from South America

First report of the bacterium Xanthomonas citri subsp. citri (Gammaproteobacteria: Xanthomonadales), causal agent of citrus canker, in Burkina Faso

First report of Potato spindle tuber viroid (PSTVd) infecting Argyranthemum frutescens (marguerite) and Diascia sp.

Additional PestLens News

Printable version
PestLens System Summary

PestLens Analysts Find Information

Information Submitted to PestLens

Weekly E-mail Notification

PestLens Analysts:
Filter & Evaluate
Complement
Communicate

PestLens Web System (access restricted)

Action Groups Make Decisions

Decisions & Actions Recorded
Lessons Learned

• Analysis is a continual process.
• Human expertise is as crucial as technology.
• The way the information is presented is important.
• Successful web system development depends on a close, ongoing relationship with the developer.
Continual Analysis

Analysis is a continual process.

Collect

Communicate

Filter & Evaluate
Expertise & Technology

Human expertise is as crucial as technology.
The way the information is presented is important.

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About PestLens

Thursday, January 16, 2014 Notification

First report of the coconut rhinoceros beetle, Oryctes rhinoceros (Coleoptera: Scarabaeidae), in Hawaii

Source: Hawaii Department of Agriculture
Event: New Location

On December 23, 2013, the coconut rhinoceros beetle, Oryctes rhinoceros (Coleoptera: Scarabaeidae), was detected during routine surveys at Joint Base Pearl Harbor-Hickam in Hawaii. Nine adult beetles have been trapped. Surveys are being conducted to determine the extent of the infestation. This is the first report of O. rhinoceros in Hawaii.

Oryctes rhinoceros is primarily a pest of Cocos nucifera (coconut) and other palms, but it has a wide host range, including Ananas comosus (pineapple), Musa spp. (banana), and Saccharum officinarum (sugarcane). Its distribution includes the coconut-growing regions of Asia, the Middle East, Oceania, Mauritius, Réunion, and Guam. Oryctes rhinoceros is listed as reportable in the PEST ID database (queried 1/15/14).

References:

Successful web system development depends on a close, ongoing relationship with the developer.
Challenges

Linking information with action
• User understanding, participation, and acceptance
• Timing of report vs. timing of action

Language of information
• For PPQ, English-language sources seem to be sufficient
• Machine translation is generally insufficient

European perspective?