

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

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Center for Integrated Pest Management and USDA Plant Protection and Quarantine April 2, 2014

Need for an Early-Warning System



Pacific Pest

In This Issue Pests in Brief Pests of Concern

Pacific Pest Detector News

Detector News

A Quarterly Newsletter for First Detectors

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WPDN

EPPO Reporting Service

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Pomegranate (Punica granatum L.) as host of the broomrapes Phelipanche aegyptiaca and Orobanche crenata in Israel

plant disease

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LETTER Disease associations between honeybees and bumblebees as a threat to wild pollinators

Molecular identification of a new begomovirus associated with mosaic disease of *Jatropha cureas* L. in Nigeria

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Description of PestLens

PestLens is an early-warning system that collects and distributes timely information on exotic plant pests and provides a webbased platform for making and following safeguarding decisions and actions.





Description of PestLens

Main components:

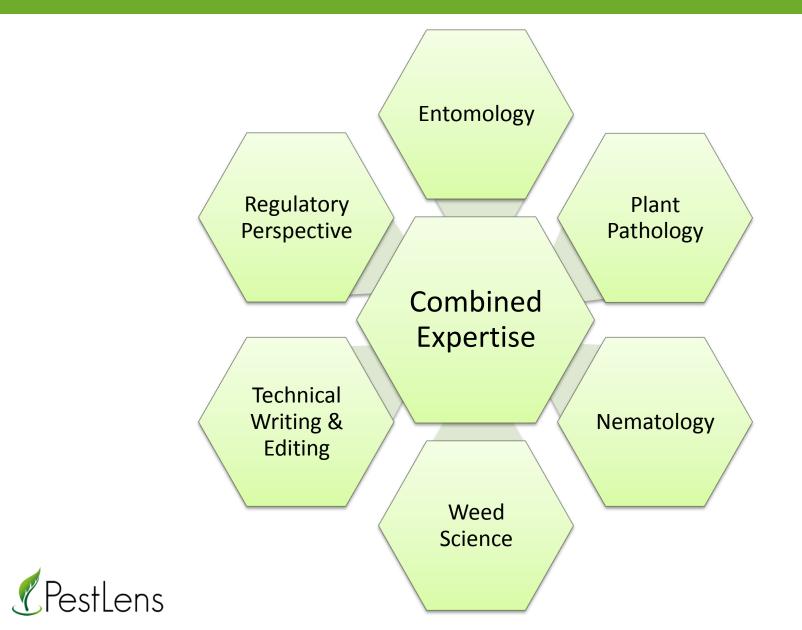
Team of Analysts

Weekly E-mail Notification

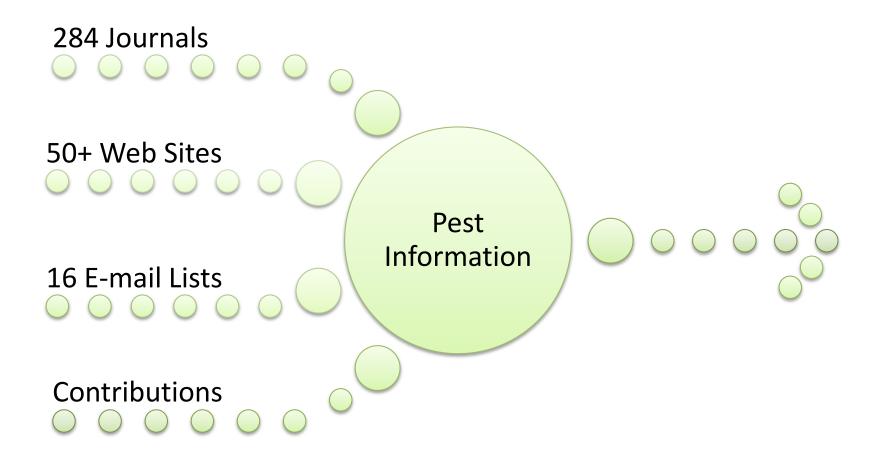
Web System Designated "Action Groups"



Team of Analysts

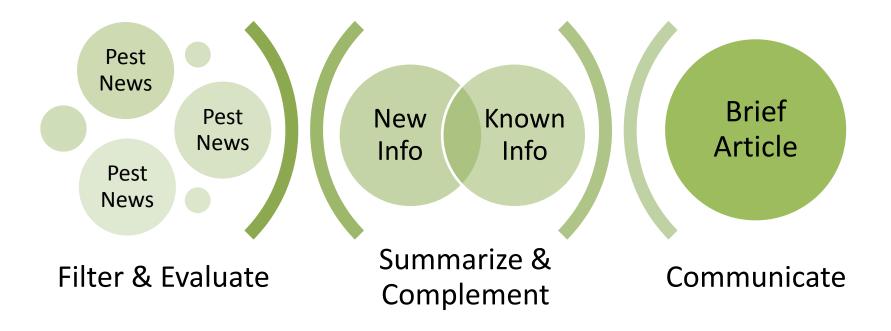


Information





Information





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.







Thursday, March 6, 2014 Notification

First report of *Pistacla vera* (pistachio) as a host of Arabian green stink bug, *Acrostemum arabicum* (Hemiptera: Pentatomidae) 8 ourse: Zoology and Ecology Event: New Host

During a 2009 to 2012 survey of Pistacia vera (pistachio) trees in Iran, the Arabian green stink bug, Acrostemum 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.

Acrostemum arabicum is known to occur in Greece and the Middle East and also feeds on members of the Poaceae family and Infedicago sativa (alfalfa). Acrostemum arabicum is not known to occur in the United States. The genus Acrostemum is listed as reportable in the PEST ID database (queried 2/5/14).

References:

Reza Mehmejad, M., R. E. Linnavuori, and 8. Hossein Alavi. 2013. Hemipteran bugs associated with pistachio trees and notes on major species. Zoology and Ecology 23(1):29-40. Last accessed March 6, 2014, from http://www.tandfonline.com/doi/full/10.1080/21658005.2013.774832#_Uw0KdmtOlog.

First report of Grapevine Pinoz aris virus (GPGV) in Slovenia

Source: Plant Disease Event: New Location

Since 2001, Vitts vinifers cv. 'Pinot gris' and V. vinifers cv. 'Sauvignonasse' (grape) plants in Stovenia exhibited leaf mottling and deformation, shortened intermodes, 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 Stovenia. GPGV infects Vitts spp. (grape) and also occurs in Italy and Korea. 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 3/5/14).

References:

Pieško, I. M., M. V. Marn, G. Seljak, and I. Žežina. 2014. First report of Grapevine Pinot gris virus infecting grapevine in Slovenia. Plant Disease DOI: 10.1094/PDI8-11-13-1137-PDN. Last accessed March 6, 2014, from http://apsiournals.apsnet.org/doi/10.1094/PDI8-11-13-1137-PDN.

First report of Tomato yellow leaf curl Kanchanaburi virus (TYLCKaV) in Lace

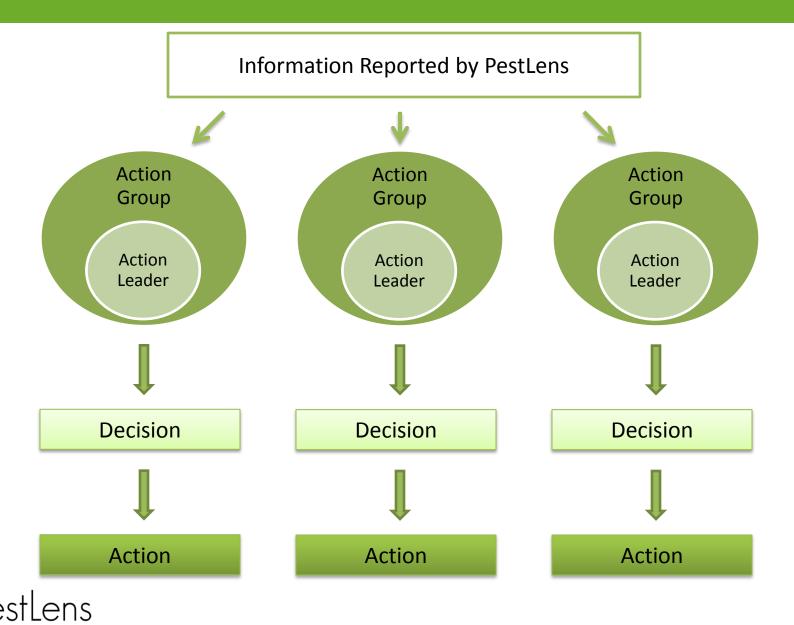
8ouroe: Plant Disease Event: New Location

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 (TYLCKaV). This is the first report of TYLCKaV in Laos. TYLCKaV infects eggplant and S. lycopers/cum (tomato) and is vectored by the whitefly Bemisla tabaci (Hemiptera: Aleyrodidae), which has a restricted distribution in the United States. TYLCKaV 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 3/5/14).

References:

Tang, Y. F., Z. F. He, Z. G. Du, and L. H. Lu. 2014. First report of Tomato yellow leaf curl Kanchanaburl virus infecting eggplant in Laos. Plant Disease 98(3):428. Last accessed March 6, 2014. from http://apsiournals.apsnet.org/doi/abs/10.1094/PDI8-07-13-0698-PDN.

Designated "Action Groups"



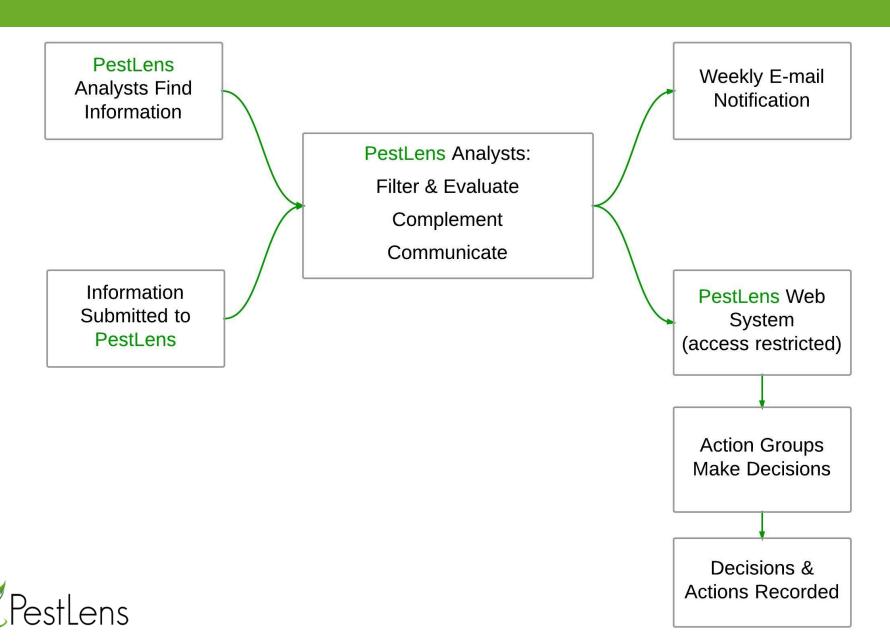
Web System



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

My PestLens Reports About User Profile Logout Home Search Contribute 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



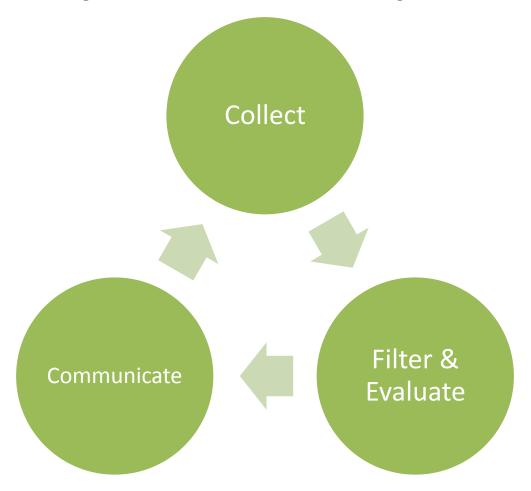
Lessons Learned

- 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.





Expertise & Technology

Human expertise is as crucial as technology.









Presentation

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:

 HDOA. 2014. Destructive beetles found on Oahu coconut trees. Hawaii Department of Agriculture (HDOA). January 9, 2014. Last accessed January 16, 2014, from http://hdoa.hawaii.gov/blog/main/destructive-beetles-found-on-oahu-coconut-trees/.



Web Development

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?



Questions & Discussion



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