



AgEcon SEARCH

RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

No endorsement of AgEcon Search or its fundraising activities by the author(s) of the following work or their employer(s) is intended or implied.



**CARIBBEAN
FOOD
CROPS SOCIETY**

39

**Thirty Ninth
Annual Meeting 2003**

Grenada

Vol. XXXIX

Number 1

PEST TARGETING EFFORTS AND THE DEVELOPMENT OF AN OFFSHORE PEST INFORMATION SYSTEM (OPIS)

R.J. Balaam¹ and C.P. Schwalbe². Pest Detection and Management Programs, USDA APHIS PPQ, ¹61 Britton Road, Stockton, NJ 08559, and ²4700 River Road, Riverdale, MD 20737

ABSTRACT: International trade is rapidly expanding and the relevance of international borders as barriers to pest movement is diminishing. As trade expands, so does the risk of accidentally or intentionally spreading exotic plant pests. The Offshore Pest Information System (OPIS) is a process designed to collect, analyze, communicate, and use relevant international information concerning pests that are not known to occur in the U.S. Using OPIS will enable USDA, Animal and Plant Health Inspection Service (APHIS) to meet its mission. That mission is to “safeguard American resources from exotic invasive pests and diseases.” By using OPIS, the Agency can quickly and effectively respond to imminent pest threats. OPIS requires information collection, synthesis, communication, and supporting research. Exotic pests of concern to the U.S. have been ranked by order of importance by numerous professional societies and other sources. These rankings allow APHIS to focus on significant pests or pathways. Disclosure of these pests and their pathways helps U.S. trading partners to become aware of U.S. concerns, and to desire to work with those countries to keep such pests out of their countries as well. U.S. safeguarding response may be triggered by outbreaks of a pest, pesticide resistance, and loss of a pesticide or its cancellation.

The OPIS consists of the following components:

- (i) Global Pest and Disease Database: a reference tool on pests.
- (ii) Target pest list—A list that is reviewed and updated periodically.
- (iii) Pest/Pathway status in foreign countries: monthly reports on target pests.
- (iv) Pest interception data from U.S. ports: information reported into the system.
- (v) Communication through monthly or emergency pest alerts and news releases.
- (vi) Initiation of protective and mitigation measures: actions by U.S. and foreign countries

KEY WORDS: Pest surveillance, foreign pests, information collection, information reporting, targeted pests

INTRODUCTION

The mission of USDA’s Animal and Plant Health Inspection Service Plant Protection and Quarantine Program (APHIS PPQ) is to safeguard agricultural and natural resources from the risks associated with the entry, establishment, and spread of animal and plant pests and noxious weeds for the overall benefit of the United States, the world’s environment, and domestic and international trade.

A stakeholder review of the USDA’s plant safeguarding system in 1999 found that a “broad range of highly reliable information on international pests is needed to enable APHIS PPQ to effectively safeguard America’s plant resources.” Likewise, the Animal Health Safeguarding Review found in 2001 “that the U.S. cannot achieve exclusion, detection, assessment of risk or eradication, and control of foreign animal diseases without adequate, scientifically sound, rapidly accessible, and completely communicated international animal health information.” Both Reviews recognized the importance of identifying pest threats.

The International Services (IS) program of the USDA's Animal and Plant Health Inspection Service (APHIS) provides foreign services to the various units of APHIS. International Services employees in foreign countries assist U.S.-based safeguarding entities by providing inspection and information-gathering activities intended to protect U.S. plant and animal resources from foreign threats and to facilitate the movement of goods from foreign countries into the U.S. with minimal risk of pest and disease introduction. The Plant Protection and Quarantine Program and the Veterinary Services Program of APHIS provide guidance to the International Services Program on how to provide those offshore plant and animal protection services.

DESCRIPTION OF OPIS

The Offshore Pest Information System is designed to identify for International Services and our trading partners a maximum number of targeted plant pests and animal diseases which the Agency has determined represent a current and significant threat to the U.S. agricultural and natural resources. The components of an effective safeguarding system include offshore risk management, port-of-entry exclusionary measures, quarantines, pest detection, and emergency response. One of the most important of these is pest detection. The OPIS provides for the detection of pests on a global scale for specific targeted plant and animal pests. Communication of this information through the designed system complements the other components of the effective safeguarding system.

There are four basic elements of the OPIS. The first element is to collect the information. This data collection element of the system is used to collect and report into the system changes in pest distribution patterns, pest outbreaks, new trade patterns, and other factors which could threaten U.S. plant and animal resources. Data are collected by accessing the following sources:

- Collecting data from open sources on the internet.
- Monitoring and analyzing documents reporting the status of target pest populations in foreign countries and the pathways through which these pests could enter the U.S.
- Reporting by in-country safeguarding officers.

Such data collection or monitoring also facilitates pest risk mitigation in those countries of origin to reduce the risk of its spread into the United States.

The second element of the system is synthesizing and evaluating the collected information. The collected information must be credible and corroborated in order to protect those countries whose trade could be negatively impacted by the data. Also, since significant APHIS policy changes could be made on the basis of the information, there is a need to ensure its accuracy before costly U.S. safeguarding decisions are made.

The third element of the system is communicating the information. In cases where the information reveals a significant threat to the U.S. animal and plant resources or to our ability to conduct effective trade, the information must be disseminated with appropriate recommendations to safeguarding officials. Communication will thus result in pest detection or mitigation at coastal ports-of-entry or interior U.S. sites. This element focuses on the commodity inspection and pest detection activities of APHIS and its cooperators in priority areas with specific uniform processes developed with national and/or regional guidance from APHIS.

The fourth element of the system is supporting it with research and data collection. The basic pest information necessary to effectuate this system includes the following:

- Biological and taxonomic information.

- Control strategies or options.
- Geographic distribution of the pest.
- Known hosts or pathways.

Much of this type of information is already available. All that needs to be done is to retrieve the information and collate it in a simple, easy-to-use system. The development and continued repopulation of such a database is a major input and significant output of the pest information system. Pest risk analyses can be developed and improved by using information that is current and pertinent.

With the assistance of several professional scientific societies and industry groups, the USDA APHIS has developed a target pest list. This list is composed of more than 600 insects, mites, pathogens, nematodes, mollusks, and weeds that the cooperating groups identified as the most threatening to U.S. plant and animal health. Approximately 100 pests have been identified as “priority” targets. Disclosure of these pests of concern by the U.S. helps U.S. trading partners become aware of American concerns and the desire to work with those countries to keep such pests out of their countries as well; this awareness helps both the U.S. and its trading partners.

Information on the density and distribution of priority target pests is collected regularly in the foreign countries where they are known to occur. New detections of these organisms are also monitored and reported. As current status information is collected and reported on these priority target pests and diseases, safeguarding personnel in the U.S. and elsewhere adjust pest-and disease-risk management options. These options may include modifying the following:

- Initiating offshore pest management or risk mitigation.
- Organizing early-detection surveys for these pests and diseases in the U.S.
- Improving port-of-entry inspection procedures.
- Re-evaluating existing phytosanitary policies.

The information relevant to these pest issues is a basic item in the toolbox of those responsible for producing and protecting the health of a nation’s plant resources. If a wood boring beetle population in a particular foreign country is at epidemic proportions, shipment of beetle host commodities into the U.S. could be a major pathway of borers into the U.S. Armed with this information, safeguarding officials can focus their port-of-entry inspection activities or even restrict the importation of such host commodities on the basis of phytosanitary principles. Information derived from U.S. port interceptions is also used to supplement offshore information.

To ensure timely, accurate, and secure management of this international pest and disease information, a web-based reporting and reference system has been developed. The system identifies and communicates to those who have a need to know, the target pests and diseases that have been identified by APHIS as a current potential threat to the U.S. Offshore safeguarding officers and others can report their findings immediately through the secure electronic system.

Reported information is evaluated by key scientists and policy making officials within APHIS to determine credibility, spatial and geographic impact on American plant and animal resources, and to determine risk mitigation procedures or policies to be undertaken by safeguarding officials here in the U.S. Following this analysis, the collected information and appropriate mitigation or advisory measures are electronically reported through a secure system as ranked pest alerts or pest news items to federal and state safeguarding officials for subsequent commodity inspection, pest detection or quarantine activities.

The electronic system provides a link to basic pest information contained in a USDA APHIS Global Pest and Disease Database. The information contained in this database includes

geographic distribution, host commodities, animals, or other material, and taxonomy and identification information. The offshore pest and disease status information reported by safeguarding officials is also stored electronically for use by risk assessors and policy makers when needed for future decision-making.

During 2003-2004, APHIS will conduct a pilot program of the OPIS in three countries or regions. The Caribbean region has been determined to be a significant threat of exotic pest introduction because of its proximity to the U.S., developing pest populations, and existence of potential pathways identified by present or planned trading activities. Safeguarding officers will be hired by APHIS and placed in the Caribbean region specifically to cooperate with foreign officials to monitor the populations of the target pests and diseases in that region or in regions with which they conduct trade.

The Caribbean region is strategically suited for management of pest and disease risks threatening the southern U.S. Approximately 14 priority target pests and diseases have been identified as occurring in the Caribbean region. Several mutual benefits are anticipated from the pilot program in the Caribbean region. Included among those benefits is increased communication about specific pests with potential for disrupting U.S. - Caribbean trade. An example outcome of a pest monitoring system in the South American and Caribbean region would be the implementation of Caribbean regional exclusion measures designed to impede the northward spread of soybean rust from South America. Another mutual benefit from such a system would be the facilitation of pest mitigation or pest management programs for pests of concern. This benefit has already been demonstrated in at least one Caribbean country through the development and establishment of a biological control program for pink hibiscus mealybug.

REFERENCES

- Safeguarding American Plant Resources, A Stakeholder review of the APHIS-PPQ Safeguarding System, July 1999, National Plant Board.
- The Animal Health Safeguarding Review, Results and Recommendations, October 2001, National Association of State Departments of Agriculture Research Foundation.