Economic Research Helps Manage Invasive Species

Trade is essential to U.S. agriculture. U.S. exports account for as much as 30 percent of total farm receipts. Increased movement of people and products across international borders heightens the risk of introducing invasive species—such as the longhorn beetle or the imported fire ant—that can reduce crop and livestock production or harm natural resources and amenities.

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In response, ERS initiated the Program of Research on the Economics of Invasive Species Management (PREISM) in 2003, whereby ERS funds several extramural research projects each year and conducts inhouse research (see "Public Information Creates Value," on page 10). PREISM research focuses on three general themes: international dimensions of invasive species prevention and management; development and application of methods to analyze important invasive species issues, policies, and programs; and analysis of economic, institutional, and behavioral factors affecting decisions to prevent or manage invasive species.

As global trade in agricultural products continues to grow, so too does the need to develop policy tools to address the potential spread of invasive species. Do international market failures propagate invasive species? Is public enforcement of trade-related regulations effective? How are firms reacting to trade-related regulation? PREISM research projects are examining such issues, as well as how to regulate invasive species introduced through maritime trade and the effects of invasive species on international trade in forest products.

Decisionmakers need practical tools and analysis to evaluate alternative strategies for managing invasive species. The application of economic and data management tools and techniques can inform USDA decisions and actions related to invasive species prioritization, detection, monitoring, management, and regulation. One PREISM study focuses on three important diseases: foot-and-mouth disease, classical swine fever, and highly pathogenic avian influenza. A resultant model will rapidly estimate the market impacts of disease-related animal cull, export market disruption, or adverse consumer reaction following an outbreak. Such cost-benefit analysis can be used by USDA in rulemaking and evaluation of alternative control and surveillance procedures.

Public and private sector institutions are motivated by different incentives and thus are likely to take different actions to prevent and manage invasive species. Understanding the interactions between public and private sector institutions will also inform policy design. Another PREISM-funded study evaluates how agronomic, ecological, and economic factors influence State-level noxious weed lists and how different lists affect interstate seed and commodity trade.

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This finding is drawn from . . .

The ERS Briefing Room on Invasive Species Management: www.ers.usda.gov/briefing/invasivespecies/

For information about the fiscal year 2006 program, see: www.ers.usda.gov/briefing/invasivespecies/preism.htm