



**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](mailto: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.*

## Random Inspections Reveal Import Risks



James Tourtellotte, U.S. Customs and Border Protection

Between 1998 and 2007, U.S. agricultural imports increased in value by 70 percent, U.S. wildlife imports jumped 108 percent, and foreign passenger arrivals in the U.S. rose 80 percent. While providing many benefits, increased trade and travel raise the risk of imported foods, plants, and wildlife bringing non-native agricultural pests and/or pathogens into the U.S.

Border inspection of passengers and cargo is the frontline in comprehensive risk management. The U.S. Customs and Border Protection branch of the U.S. Department of Homeland Security inspects passengers and most cargoes for invasive species at ports-of-entry. Cargo inspections, however, can slow supply chains and damage perishable goods. Passenger inspections cause inconvenient delays. Therefore, inspectors primarily concentrate on the riskier "pathways" (the commodity origin and passenger origin upon which risk analysis is based). Other, less risky pathways into the U.S. are

subject to less scrutiny and fewer inspections. Regular and more rigorous random inspections of selected cargo and passengers can reveal which pathways are riskier.

ERS researchers, using data from USDA's Animal and Plant Health Inspection Service on cargo inspections and a variety of risk and uncertainty scenarios, developed a model to determine the optimal number of random inspections and the most effective allocation of inspection resources at a given port. Model results showed that more frequent random inspections of seemingly low-risk cargoes and passengers may enable inspectors to identify when low-risk pathways might become more high-risk. To reduce uncertainty about which pathways are high risk, ports can devote greater resources to random inspections in cases when the inspection track record is short and therefore uncertain.

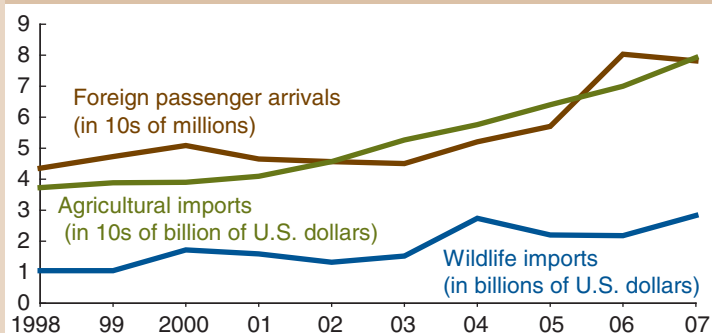
The variable nature of import risk points to the benefits of continually updating the underlying knowledge of the riskiness of different pathways and periodic reallocations of inspection effort and resources. Inspecting a portion of all passengers and cargo pathways, including those presumed to be less risky, might reveal underlying risks across pathways that were previously unknown. **W**

**Peyton Ferrier, pferrier@ers.usda.gov**  
**Michael Springborn**

**This finding is drawn from . . .**

"Illicit Agricultural Trade," by Peyton Ferrier, in *Agricultural and Resource Economics Review*, 37(2): 1-10, 2008.

**U.S. agricultural and wildlife imports and number of passengers increased in 1998-2007**



Source: USDA, Economic Research Service analysis of data from USDA's Animal and Plant Health Inspection Service, U.S. Census Bureau, and U.S. Fish and Wildlife Service.