

Peer Review Plan

Preliminary Title: Economic Impacts of Foreign Animal Disease
 Influential Scientific Information

Agency: Economic Research Service Highly Influential Scientific Assessment
USDA

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Subject of Review: This report presents a modeling framework in which epidemiological model results are integrated with an economic model of the U.S. agricultural sector to estimate the economic impacts of livestock disease outbreaks. The framework overcomes several problems inherent in previous modeling frameworks: (1) The framework includes effects on all the major agricultural products along vertical market chains from downstream livestock products to upstream animal agriculture and crops. (2) These effects on aggregate supply, demand, and trade resulting from disease shocks generated in an epidemiological framework are estimated on a dynamic intra-year basis for 20 quarters. Epidemiological model results indicate that relatively few animals are destroyed as a result of the example disease outbreak. However, economic model results show large trade-related losses for beef, beef cattle, hogs, and pork. Swine and pork sectors recover shortly after the export restrictions end, while effects on beef and cattle sectors last longer due to disease mitigation measures on the longer cattle production cycle. Other sectors experience small losses or, in some cases, small gains. Because the loss of exports extends beyond the duration of an outbreak, control strategies that reduce the duration dominate by lowering the losses. Ring destruction at 1 km always reduces the duration of the simulated outbreak to less than 1 quarter. Total losses to capital and management over 16 quarters amount to between \$2,773 million and \$4,062 million. Consumers benefit from falling prices during the quarters in which embargoed exports increase 31 domestic meat supplies. Seven quarters are required before production of all commodities increases to the point where both domestic consumption and trade return to pre-disease levels.

Purpose of Review: The purpose of the review is to ensure the high-quality of the economic analysis, transparent explanation of methods, objective interpretation of results, and effective communication to the intended audience.

Type of Review: Panel Review Individual Reviewers
 Alternative Process (Briefly Explain):

Timing of Review (Est.): Start: 05/03/07 End: 07/17/07 Completed: 05/28/08

Number of Reviewers: 3 or fewer 4 to 10 More than 10

Primary Disciplines/Types of Expertise Needed for Review: Economists

Reviewers selected by: Agency Designated Outside Organization
Organization's Name:

Opportunities for Public Comment? Yes No
If yes, briefly state how and when these opportunities will be provided:
How:

When:

Peer Reviewers Provided with Public Comments? Yes No
Public Nominations Requested for Review Panel? Yes No

