

## Peer Review Plan

Preliminary Title: Climate Change, Heat Stress, and Livestock Production

Type of Report  
(ERR, EIB, EB,  
SOR,)

ERR

Influential Scientific Information

Agency: Economic Research Service  Highly Influential Scientific Assessment  
USDA

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Subject of Review: In the United States, climate change is likely to increase average daily temperatures and the frequency of heat waves, which can reduce meat and milk production in animals. Methods that livestock producers use to mitigate thermal stress – including modifications to animal management or housing – tend to increase production costs. Dairy cows are particularly sensitive to heat stress, and the dairy sector has been estimated to bear over half of the costs of current heat stress to the livestock industry. In this report we use operation-level economic data coupled with finely-scaled climate data to estimate how the local thermal environment affects US dairies' effectiveness at producing outputs with a given level of inputs. We use this information to estimate the potential decline in milk production in 2030 resulting from climate-change induced heat stress based on four climate model scenarios.

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: 02/04/14 End: 04/17/14 Completed: 06/02/14

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

