The National Academies of
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Using Models to Estimate Hog Production
A CNSTAT Workshop

Wednesday, May 15, 2019
National Academies of Sciences Building, Members' Room
2101 Constitution Ave. NW
Washington, DC 20418

Agenda

The USDA's National Agricultural Statistics Service (NASS) has developed hog models that combine information from surveys, administrative data, and expert opinion to produce the requisite estimates with the goal of replacing current methods that lack transparency and measures of uncertainty. The purpose of the workshop is to discuss the appropriateness of these models and possible improvements or alternative approaches. Issues for discussion at the workshop include the appropriateness of the modeling techniques developed by NASS, the extent to which the model's assumptions can be validated, the robustness of the estimates to a failure of one or more assumptions, and other technical issues of model specification. In addition, the workshop will consider the suitability of the data that feed into the model and the properties of desirable estimates of uncertainty.

Informal discussion with NASS staff and participants (breakfast provided outside the Members' Room)

WELCOME AND INTRODUCTIONS

8:30 - 8:40 AM   Eric Slud, *planning committee chair and workshop moderator*
8:40 - 8:50   Brian Harris-Kojetin, *director of CNSTAT*
8:50 - 9:00   Linda Young, *chief mathematical statistician and director of research and development, NASS*

Session 1 - Motivation and Overview (9:00 - 9:40); Moderator **Kathy Ensor**

9:00 - 9:30   Nell Sedransk, *NIST, Overview and Introduction to Hog Inventory Models*
9:30 - 9:40   Discussion

Session 2 - Survey Processes, Data Sources (9:40 - 10:05); Moderator **Ron Plain**

9:40 - 9:55   Emilola Abayomi, *NASS, The Hog Inventory Survey*
9:55 - 10:05   Discussion

Session 3 - Setting Official Estimates: The Hog Board (10:05 - 10:30); Moderator **Chris Wikle**

      10:05 - 10:20   Seth Riggins, *NASS, Quarterly Hogs and Pigs Report* (via webcast)
      10:20 - 10:30   Discussion

BREAK 10:30 - 10:40 (informal discussion and further Q&A with presenters; refreshments available outside the Members' Room)

Session 4 - Modeling Efforts (10:40 - 11:20); Moderator **Lee Schulz**

      10:40 - 11:10   Gavin Corral, *NASS, Statistical Modeling Efforts*
      11:10 - 11:20   Discussion

Session 5 - Web Scraping Efforts (11:20 - 11:45); Moderator **Kathy Ensor**

      11:20 - 11:35   Yijun Wei, *NASS, Web Scraping Efforts to Identify Disease*
      11:35 - 11:45   Discussion

WORKING LUNCH 11:45 - 12:45 PM (deliberate on morning presentations and discussions)

Session 6 - Model Innovations (12:45 - 1:45); Moderator **Ron Plain**

      12:45 - 1:15   Luca Sartore, *NASS, Modeling Swine Population Dynamics*
      1:15 - 1:45   Discussion

Session 7 - Discussion: Detection and Monitoring of Outbreaks (2:00 - 2:45); Moderator **Eric Slud**

      2:00 - 2:20   Matthew Branan and Kamina Johnson, *APHIS, Detection and Monitoring Outbreaks: APHIS Efforts*
      2:20 - 2:35   Panel Discussion (Lee Schulz, Andrew Lawson, Michael Schweinberger)
      2:35 - 2:45   Discussion

BREAK 2:45 - 3:00 (informal discussion and further Q&A with presenters; refreshments available outside the Members' Room)

Session 8 - Discussion: Current Modeling Efforts: State Space Models, Models of Biological Processes (3:00 - 3:45); Moderator **Eric Slud**

      3:00 - 3:20   Panel Discussion (Kathy Ensor, Chris Wikle)
      3:20 - 3:45   Discussion

Session 9 - Discussion: State-level Models and Data Sources (3:45 - 4:30); Moderator **Chris Wikle**

       3:45 - 4:05   Panel Discussion (Eric Slud, Gauri Datta, Ron Plain)
       4:05 - 4:30   Discussion

Session 10 - Discussion: Visions for the Future; Moderator **Eric Slud**

       4:30 - 5:00   Open discussion

PLANNED ADJOURNMENT 5:00 PM

PLANNING COMMITTEE FOR THE WORKSHOP ON USING MODELS TO ESTIMATE HOG PRODUCTION

Eric Slud (Chair), *U.S. Bureau of Census and University of Maryland*
Katherine Bennett Ensor, *Rice University*
Ronald Plain, *University of Missouri, Emeritus*
Lee Schulz, *Iowa State University*
Christopher Wikle, *University of Missouri*

Nancy Kirkendall, *Study Director*
Anthony Mann, *Program Associate*
Brian Harris-Kojetin, *Director, Committee on National Statistics*

INVITED DISCUSSANTS

Matthew Branan, *Animal and Plant Health Inspection Service*, *USDA*
Gauri Datta, *U.S. Census Bureau*
Kamina Johnson, *Animal and Plant Health Inspection Service*, *USDA*
Andrew Lawson, *Medical University of South Carolina*
Michael Schweinberger, *Rice University*

COMMITTEE ON NATIONAL STATISTICS

The Committee on National Statistics was established in 1972 at the National Academies of Sciences, Engineering, and Medicine to improve the statistical methods and information on which public policy decisions are based. The committee carries out studies, workshops, and other activities to foster better measures and fuller understanding of the economy, the environment, public health, crime, education, immigration, poverty, welfare, and other public policy issues. It also evaluates ongoing statistical programs and tracks the statistical policy and coordinating activities of the federal government, serving a unique role at the intersection of statistics and public policy. The committee's work is supported by a consortium of federal agencies through a National Science Foundation grant, a National Agricultural Statistics Service cooperative agreement, and several individual contracts.