Agricultural Resource Management Survey

Program Changes

USDA's National Agricultural Statistics Service (NASS) and Economic Research Service (ERS) jointly conduct an Agricultural Resource Management Survey (ARMS) that collects production practices and cost of production data on selected commodities. Conducted in three separate phases, the survey also collects detailed whole farm financial information from a representative sample of farms and ranches across the country. The results of this survey are the only source of information available for objective evaluation of many critical issues related to agriculture and the rural economy.

In 2008, the Committee on National Statistics of the National Research Council released the findings and recommendations of an independent review of the ARMS program. NASS and ERS requested the review as part of the agencies' ongoing effort to improve the program.

Following are some of the key changes to ARMS that NASS and ERS implemented as a result of the committee's recommendations. The full program changes document is available on NASS website at: http://www.nass.usda.gov/Surveys/ARMS_Progress_Report.pdf

DATA COLLECTION & INTEGRATION

- NASS has conducted ground-breaking research on the propensity of some groups to not respond. NASS continues this research to identfy the effect on data quality and to identify ways to increase response.

- NASS and ERS successfully aligned the concepts and questions on the 2012 ARMS and the 2012 Census of Agriculture and thereby shortened the form.

DATA ANALYSIS

- Both agencies have hired and continue to recruit new staff with skill sets directly related to ARMS data analysis.

- ERS is developing an ARMS User's Guide, which combines existing documentation, memos and programs with new material and an annotated table of contents along with an executive summary.

SURVEY MANAGEMENT & QUESTONNAIRE DESIGN

- NASS will conduct an annual review of ARMS and update the members of the the NASS Advisory Committee on Agriculture Statistics at its annual meeting.

- NASS is working on a cross-agency USDA initiative to synchronize administrative data. As these become available, NASS will assess their use, as well as use of its geospatial data, in ARMS and other survey programs.

ARMS Research Plan Timeline

In addition to the progress NASS and ERS have already made, the agencies have also developed the following research plan timeline. The research that the agencies will conduct will help ensure that ARMS continues to evolve and improve. The ARMS research results will also help both agencies further improve the general foundation for statistical and survey research. The detailed research plan is available online at: www.nass. usda.gov/Surveys/ARMS_Progress_Report.pdf

2012
- Testing – Annual questionnaires are routinely pretested to ensure that respondents can understand and answer ARMS items. For 2012, conduct cognitive tests for soybeans and wheat.
- Nonresponse bias analysis – Annual studies are now part of the operational process by NASS statistical methods staff; in 2012, evaluate 2011 data.
- Test iterative sequential regression imputation methodology.
- Large and complex farm project – Initial planning has begun and continues.
- ERS and NASS will collaborate on research to explore the implications of expanding the value codes used in ARMS.
- ERS and NASS will analyze differences in questionnaire reporting for specific items related to mode of data collection (mail versus personal interview).

2013
- Large and complex farm project -- Begin testing for ARMS and Census of Agriculture.
- Testing – Annual questionnaires are routinely pretested to ensure that respondents can understand and answer ARMS items. For 2013, conduct cognitive tests for vegetables, rice, and peanuts.
- Nonresponse bias analysis – In 2013, evaluate bias in 2012 data.
- Parallel test iterative sequential regression imputation methodology.
- Begin computer audio-recorded interviewing (CARI) system development, integration, and testing.
- Develop three-phase response rate for ARMS.

2014
- Begin animated graphical Internet displays for ARMS work.
- Testing – Annual questionnaires are routinely pretested to ensure that respondents can understand and answer ARMS items. For 2014, conduct cognitive tests for cotton and oats.
- Nonresponse bias analysis – In 2014, evaluate 2013 data.
- Initiate research on linking ARMS data to administrative data available through USDA's Acreage/Crop Reporting Streamlining Initiative (ACRSI).
- Complete historic census data conversion for complex analysis.
- Implement iterative sequential regression imputation methodology.

2015
- Begin to implement computer-assisted personal interviewing (CAPI) for ARMS questionnaires with table in Blaise IS (Internet Services) software for 2015 data.
- Testing – Annual questionnaires are routinely pretested to ensure that respondents can understand and answer ARMS items. For 2015, the questions/commodities to be cognitive tested are still to be determined. Conduct census and ARMS evaluation for census year.
- Assess the coordination effort to synchronize ARMS questions with the 2012 Census of Agriculture report form. Use data from both the census of agriculture and ARMS to determine edit and imputation rates and evaluate nonresponse.
- Nonresponse bias analysis – In 2015, evaluate 2014 data.

2016
- Use CARI for quality control in ARMS.
- Testing – Annual questionnaires are routinely pretested to ensure that respondents can understand and answer ARMS items. For 2016, the questions/commodities to be cognitive tested are still to be determined.
- Nonresponse bias analysis – In 2016, evaluate 2015 data.
- Automate collection of ARMS paradata.