

DISCUSSION

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One of the usual roles for a discussant is to point out common elements in a series of collected papers. That is not necessary in this case since all papers are related to the 1987 Census of Agriculture, and they are all important to either the conduct and evaluation of the 1987 Census or to plans for upcoming agricultural censuses.

It might be helpful to start with an explanation of my perspective in reviewing these papers. Even though my Agency is responsible for all ongoing official agricultural statistics, we are not in competition with the Census of Agriculture. We support the conduct of a good quality Census on a regular basis since county coverage of all agricultural commodities and farm characteristics is not feasible through any other means. In fact, the National Agricultural Statistics Service (NASS), did work cooperatively with the Census' Agriculture Division in list construction, editing, and evaluation of the 1987 Census. Thus, I hope to serve as an evaluator and not as a critic.

Also, it is important to point out two factors influencing the Census of Agriculture. First, the Agriculture Census is not a "census" in the sense that a complete list of all units is available and a complete and accurate report is received from each unit. Instead, the Census of Agriculture requires many of the features of large-scale sample surveys (nonresponse adjustment, duplication removal, imputation, etc.). Secondly, many "farms" do not consider themselves as farms and some nonfarmers will report themselves as farms. Thus, special care is needed in list development and in editing procedures. If it were not for these two factors, these papers might not be needed.

I found these papers to be well conceived and well prepared. I will comment on each of them in turn.

The Classification Tree Methodology approach used for cutting the size of the mail list was a very logical approach for meeting the mailing limitations imposed by the Office of Management and Budget. It probably was the best choice under the circumstances but it would have been interesting to include a discussion of any other alternatives which were considered.

Drawing evaluation samples from the "model drop file" was an extremely good decision. The results of that evaluation will be important in determining the success of the farm probability calculation approach. Those results may provide additional information on the effects of changes in agriculture since 1982 such as the "farm crisis," continued specialization within the farm sector, and changes in government farm programs.

The paper has a good explanation of the model development methodology. However, I felt that more explanation could have been included on the use of the half sample to prune the "trees" (tree refinement).

I do have one other comment or question on the classification tree approach. The approach worked here because results from earlier questions (1982) were available to use in tree development and refinement. Will the sample evaluation results or the regular mail results provide any information on what core set of questions would be most valuable if this approach must be repeated in the future?

The paper on Coverage Evaluation Estimation comes back to the earlier point that not all sample units can be found for the Agriculture Census and there are also overcounts present. It is essential to estimate the extent of incompleteness and overcounting and I applaud Agriculture Division for devoting a strong effort to it. The key question is whether any evaluation effort can ever determine the "whole Truth."

There are several truths that are known about Agriculture Census coverage. The amount of incompleteness varies by State due to differing mixtures of types of farms, sizes of farms, literacy rates, attitudes toward government, etc. Overcounted farms are likely much different than farms that are missed starting with the fact that they are usually larger. The goal of coverage evaluation is to provide as much quantifiable information at the lowest geographic level possible.

Just two days before this meeting, NASS released the first report which reviews the United States current agricultural statistics in light of the 1987 Census of Agriculture results. This report contained final estimates of Land in Farms and Number of Farms by States for the period 1979-87. All available 1987 Census of Agriculture coverage information was used. The relationship between Census numbers and official NASS estimates in this report does vary by State based on interpretation of incompleteness and overcounting.

The coverage evaluation paper praises the NASS area frame sample as an independent basis for coverage evaluation. It is a proper frame for this purpose and additional screening work was done on Agriculture Division's behalf to increase sampling rates in heavily populated areas. However, the paper perhaps could have gone farther in describing the use of the area frame data. As stated, all area frame records not on the Census mail list were mailed a Census form. I assume that stringent followup procedures were used to ensure a report for each of these records but those procedures are not described.

The paper on the 1985 and 1986 Census of Agriculture tests illustrates the need for more cognitive research. In one followup test, 11 of 60 people did not even open the envelope containing the survey form and only 15 of the remaining sample started to fill it out. We need to know what it takes to get people to open envelopes and to fill out survey forms. This may be even more important in the future since some direct mail operations have started using mailings which look like government payment envelopes or telegrams. Adverse reactions to these approaches may make respondents even more likely not to respond to inquiries in the future.

Cognitive research should not focus only on nonrespondents. Why did other individuals open, complete, and mail survey forms promptly? Can additional efforts focus on further developing the factors that lead to positive action?

This paper indicates the need to have adequate money and staffing to get closer to the goal of a complete census. One of the tests set out to contact 120 people but only one week was available for the testing. Over 40 percent (51) of the 120 people could not be found during that week. Since they couldn't be found quickly, they almost surely differ in some way or

other from the 69 contacted and we cannot fully accept the results from the 69 interviews conducted.

This paper also illustrates the need for extreme care in planning and conducting tests. Results were invalidated in one comparison test since different mailing request statements were inadvertently used. Agriculture Division personnel are to be applauded for their "truth in advertising" in reporting those facts rather than just including the results as calculated.

The paper on Screening for Agricultural Activity again points out the need for more cognitive research and for full attention to consistency in planning operations. For example, it shows that asking for a range of responses in one questionnaire but an absolute number in another screening questionnaire invalidates comparisons.

The concept of screening to reduce response burden sounds good and Office of Management and Budget guidelines under the Paperwork Reduction Act define certain actions which must be taken. However, I feel that practical experience has shown that asking a few additional direct questions is not really a "burden" to respondents. It probably takes less time to answer a series of direct questions about different commodities than to grasp the ramifications of a complicated instruction that groups many commodities together. Perhaps statistical agencies should be more proactive in determining a true definition of response burden.

I do have one major concern with this paper. It deals with the National Content Test (NCT) for the next decennial census. Farming operations are a rare item in the population at large and the NCT reinterviewing found only 105 of 2,789 operations as inscope for agriculture. (See table.)

The paper uses the classic misclassification approach of counting the off diagonal answers and dividing by the total units to derive an "error rate" of 2.6 percent. However, I contend that, since the purpose of an agricultural activity screener is to find those few operators with agriculture, the appropriate error rate is 58.1 percent based on the fact that only 44 out of the 105 inscope (for agriculture) operators were picked on the NCT. Census officials need to determine if the screener should even be used.

This paper also includes some interesting results on the problems associated with the use of optical mark reader forms. This section should be read carefully since it deals with the cognitive aspects of what respondents will report.

In conclusion, these papers cover important aspects of the Agriculture Division's efforts to provide the best Census data available under tight budget and personnel limitations. All of these results should be studied carefully in planning upcoming Census activities.

This discussion covers personal views of the discussant and does not necessarily reflect views of the U.S. Department of Agriculture or the National Agricultural Statistics Service.

National Content Test Error Rate

Actual	NCT		Totals	Error Rate Percent
	In-Scope	Out-of-Scope		
In-Scope	44	61	105	(58.1)
Out-of-Scope	11	2,673	2,684	
Totals	55	2,734	2,789	2.6