

Planning and Preliminary Operations

PRELIMINARY PLANNING

Initial Considerations

The Bureau of the Census is one of the principal statistical agencies of the Federal Government and, as such, has the responsibility for providing data for Congress, other agencies of the Federal Government, various State agencies, and the general public. These data are used in setting Government policy, in academic research, and in business; they must be both timely and reliable, and must be collected and tabulated as economically as possible while imposing minimum burden on respondents. The planning of any census necessarily involves balancing respondent burden and data needs, timeliness of publication and detail of tabulation, data availability and cost, and so on, and the task is further complicated by the Bureau's concern, and legal obligation, to maintain respondents' privacy and the confidentiality of data relating to them. In the census of agriculture the Bureau asks farmers and operators of certain agriculture-oriented businesses for information they would not normally provide to anyone, with the possible exception of the Internal Revenue Service in tax matters. In order to collect complete and reliable data, respondents must be assured that their responses will be held in the strictest confidence, and that the Bureau's published tabulations will contain no information that could be used to identify a specific operation or operator.

Advance Planning

The 1974 census suffered in some instances from the necessarily *ad hoc* nature of its planning because of uncertainty and suspension of work while a proposal to delay the enumeration until 1978 (so it could be concurrent with the economic censuses) was debated and ultimately rejected. (See page 2.) The resultant lack of time for some phases of the planning and testing program was keenly felt, and revealed itself in the quality of some of the results. While the intercensal period following the 1974 operation was shortened from 5 years to 4, the problems encountered in the 1974 census were alleviated with respect to the 1978 operation. This was largely because the advance knowledge of the shortened period enabled the Bureau to compensate for it in its planning development, and there was no lost motion as a result of having to close down and then restart planning and preparatory activities. There

would be a similar "short" interval between the 1978 and 1982 censuses, so that the agriculture and economic censuses could be carried out simultaneously for 1982.

The Bureau established a 1978 Census Planning Staff in early 1976, while many of the Agriculture Division personnel were still heavily involved in completing the 1974 census, to begin planning and testing for the 1978 program. Two major points received special emphasis in this stage of the program: (1) lowering respondent burden by reducing the content of the report forms and increasing the use of sampling for certain data, and (2) increasing coverage by improving the mailing list and establishing a program to obtain data for places not normally included in mail lists which would be missed by a mailout/mailback census.

Planning also had to consider the fact that the 1978 agricultural census would include censuses of irrigation, drainage, and horticultural specialties, as well as the usual enumerations of agricultural production and agricultural services, plus a series of three follow-on surveys in 1979.

Reduction of respondent burden was of crucial importance because of the considerable volume of complaints and the respondent resistance encountered in the 1974 census. Every effort was made to reduce the number of items on the report forms and to design the forms so as to impose the minimum response burden, while still collecting the required data. It was determined that selected county-level data could be collected from a sample of about 20 percent of farm operators. For data required only at the State or national level, smaller samples would suffice, and a series of follow-on surveys, using samples of agricultural operations selected from the 1978 census in-scope respondent lists, were designed to obtain these data.

With regard to coverage improvement, studies of the 1974 census indicated that 10.7 percent of all farms were not enumerated in the census. Farms missed in the census were usually small and accounted for less than 3 percent of the total value of agricultural products sold and for less than 6 percent of the land in farms. However, for farm programs and legislative use, the total farm count is very important, and the coverage, in terms of number of farms, had to be improved. Therefore, significant changes were made to the data collection procedures, including an attempt to compile a complete mail list and the use of a direct-enumeration area sample to supplement the mail list. A Farm and Ranch Identification Survey was conducted the year before the census to determine the status of addresses on

selected lists and to identify successor operators and new tenants. The area sample survey provided U.S., regional, and State-level estimates of the number and statistical characteristics of farms not on the mail list (i.e., those "missed" in the compilation effort through their absence from any source list). These two surveys are described on pages 20-25 and 38-41.

DETERMINATION OF CONTENT

The overall responsibility for determining the questions to be included on the census report forms is vested in the Secretary of Commerce, who normally delegates this authority to the Director of the Bureau of the Census. The actual content and design work was done by the Bureau's Agriculture Division, with the assistance of the Forms Design Branch of the Administrative Services Division, and with the advice and counsel of the Bureau's advisory committee on agricultural statistics, other government agencies, and other interested persons and organizations.

In setting the content of the report forms for any census, the Bureau must decide, within the authority granted by Congress, whether items meet high-priority needs, and whether each inquiry can be answered with reasonable accuracy by respondents. Further, there are limits to both the number and kind of questions that the Bureau can readily expect farmers to answer. While response is required by statute, the Bureau does not usually employ the coercive powers of the law to try to obtain it. This would be unproductive and would have unfortunate consequences in terms of the public's perceptions of the Bureau of the Census. For all of these reasons, the Bureau makes every effort to restrict to the absolute minimum necessary the number, complexity, and sensitivity of the questions asked on the census report form.

Selection of the inquiries for 1978 began with consideration of the report forms used in the 1974 enumeration. The Bureau's objective was to eliminate all items that were not of the highest priority for the 1978 enumeration. Accordingly, many items included in the 1974 forms were omitted or simplified for the 1978 census. Several new questions were added, principally to the sample version of the report form and the general design of both the sample and nonsample forms was refined as a result of the content protests of July 1977 and January 1978. (See pages 9-13.)

CONSULTATION ON 1978 CENSUS PROGRAM

General Information

The Bureau of the Census is a statistical agency, and a normal part of its program for the planning of each of its various censuses and surveys is consultation with data users as to the kind and level of detail of data that are necessary. Regular contact with data users is maintained through a number of census advisory committees, each composed of representative individuals or organizations from a particular sector of the data-user community. The Census Advisory Committee on Agricultural Statistics is the principal focus of interest for those

involved with the agricultural economy, and was an integral part of the planning process of the 1978 census. Various other user groups, from both inside and outside the Federal Government, were also consulted in determining the content for 1978.

The cooperation of data suppliers is imperative if accurate and timely statistics are to be produced from any census or survey, hence the second part of the Bureau's consultation program involved a series of meetings with farmers to obtain opinions and advice on the design of the census report forms and the data-collection methodologies to be used.

These efforts to consult with, and obtain the cooperation of, both data users and data suppliers, are described briefly below.

Census Advisory Committee on Agriculture Statistics

This Committee was chartered as a permanent advisory body to the Bureau of the Census in 1962; prior to that an agricultural advisory committee had been organized before each agriculture census and disbanded as soon as the data were published. During the 1978 census period (from mid-1976 to the end of 1981) the Committee met in December 1976; in May and October of 1977, 1978, and 1979; in April and October of 1980; and in October 1981. The Committee heard the Bureau's plans for the collection, processing, and publication of the census data, and offered its advice regarding priorities of data items to be requested, data-collection methodologies, the ability of farm operators and others to provide the data requested, and the tabulations to be made and published. The Committee was composed of representatives of the following organizations:

- Agricultural Publishers Association
- American Agricultural Economics Association
- American Farm Bureau Federation
- American Farm Bureau Women's Committee
- American Feed Manufacturers Association
- American Meat Institute
- Conference of Consumer Organizations
- Farm and Industrial Equipment Institute
- Federal Statistics Users' Conference
- Irrigation Association (from 1978)
- National Agricultural Chemicals Association
- National Agri-Marketing Association
- National Association of State Departments of Agriculture
- National Association of State Universities and Land-Grant Colleges
- National Council of Farmer Cooperatives
- National Farmers Organization
- National Farmers Union
- National Food Processors Association (until 1978, the National Cannery Association)
- National Grange
- Rural Sociological Society
- U.S. Department of Agriculture
 - Economics, Statistics, and Cooperatives Service (ESCS)

For a list of the individuals who served on this Committee during the census period see appendix C. The meetings of the

Committee were open to the public and representatives of Statistics Canada, the U.S. Office of Management and Budget, U.S. Department of Agriculture (USDA), the Bureau of Economic Analysis, and other private and government agencies, often attended as observers. Attendees from other agencies and members of the public were given an opportunity to comment on the Bureau's plans and programs during periods reserved at each meeting for public questions and discussion.

Interagency Consultation

The Federal Government is the single largest user of the statistical data produced from the agricultural census. The primary mechanism used by the Bureau for governmentwide consultation with data users during the planning phase of the 1978 census was the Interagency Committee for Planning the 1978 Census of Agriculture, which included representatives from the following agencies:

- U.S. Department of Agriculture
 - Statistical Reporting Service (later part of ESCS)
- U.S. Department of Commerce
 - Bureau of Economic Analysis
- Commodity Futures Trading Commission
- U.S. Department of Defense
 - Civil Defense Preparedness Agency
- Environmental Protection Agency
- Federal Energy Administration
- Federal Reserve System
- General Services Administration
 - Federal Supply Service
- U.S. Department of Housing and Urban Development
 - Division of Housing and Community Analysis
- U.S. Department of Interior
 - Bureau of Indian Affairs
 - Office of Territorial Affairs
 - Water Resources Planning Coordinator
 - Office of Environment and Planning Coordination
 - Bureau of Reclamation
- U.S. Department of Labor
 - Bureau of Labor Statistics
 - Occupational Safety and Health Administration
- Office of Management and Budget
- Small Business Administration
- U.S. Department of Transportation
 - Transportation Information Policy Division
- U.S. Department of the Treasury
 - Internal Revenue Service
 - Office of International Affairs

This Committee had only one formal meeting, in December 1976, after which its business was conducted largely through meetings among individual members and correspondence. The Bureau asked agencies represented on the Committee to submit their data requests not later than January 24 and February 24, 1977 for county-level and State-level items, respectively. The requests, and the agencies' justifications for them, were used in

the development of the 1978 report forms and the tabulation and publication programs.

The USDA is the largest user of census of agriculture data within the Government, and since its programs require continuous close contact with all parts of the agricultural economy, the Department was able to provide a great deal of help to the Bureau in the preparation of the census mailing list (by supplying source lists), publicizing the enumeration, assisting respondents in completing the report forms, and so on. In 1976, the USDA created its own in-house committee to coordinate its recommendations for census content and its requests for tables in the census publications, computer data tapes, and special tabulations. The following agencies within the Department were represented on this committee:

- Agricultural Marketing Service
- Agricultural Research Service
- Agricultural Stabilization and Conservation Service
- Animal and Plant Health Inspection Service
- Cooperative State Research Service
- Economic Research Service (later part of ESCS)
- Extension Service
- Farmer Cooperative Service
- Farmers Home Administration
- Federal Crop Insurance Corporation
- Food and Nutrition Service
- Foreign Agricultural Service
- Forest Service
- National Agricultural Library
- Packers and Stockyards Administration
- Rural Development Service
- Rural Electrification Administration
- Soil Conservation Service
- Statistical Clearance Officer

Ad Hoc Conference on Report Form Content

As part of its effort to improve response rates and reduce respondent burden in the 1978 census, the Bureau held a conference with data users and farmer representatives in September 1976 to consider the content of the 1978 report forms. Some 42 associations, companies, and other groups were invited to send representatives to a meeting at the Bureau's Suitland headquarters to discuss data needs and make recommendations on report form content and format and on enumeration techniques to be used. Participating organizations were as follows:

- Agway Incorporated
- American Association of Nurserymen
- American Cyanamid Company
- American Farm Bureau Federation
- American Meat Institute
- Atchison, Topeka, and Santa Fe Railroad
- Conference of Consumer Organizations
- Data Resources, Inc.
- Farm Progress Publications

International Harvester Company
 Michigan State University
 Department of Agriculture
 National Association of State Departments of
 Agriculture
 National Canners Association (later the National
 Food Processors Association)
 National Council of Farm Cooperatives
 National Farmers Organization
 National Grange
 Northrup, King and Company
 Ohio Grain, Feed and Fertilizer Association, Inc.
 Oregon State University
 Department of Agricultural Economics
 Ralston Purina Company
 Rocky Mountain Farmers Union
 Sheep Industry Development Program
 U.S. Department of Agriculture
 Economic Research Service and Statistical
 Reporting Service (later combined in ESCS)
 University of Central Arkansas
 Department of Sociology
 University of Florida
 Department of Food and Resource Economics
 Upjohn Company
 Wisconsin Farmers Union

The principal areas of discussion at the conference were (1) the proposed use of a screening form (in the Farm and Ranch Identification Survey) prior to the census mailing, (2) the possible uses of sampling in the census itself, and (3) data needs, particularly at the county level. At the end of the conference the general conclusions researched by the participants were that (1) there was neither strong support for, nor strong opposition to, the proposed screening operation; (2) the report form to be used to collect the 100-percent data items for county-level data should request an absolute minimum of information, and should expressly exclude expenditure and energy items and other data that could be obtained on a sample basis; and (3) any additional data desired for State and/or national statistics should be collected in a sample of the census universe or in follow-on surveys.

Meetings With Farmers

One of the principal problems with the 1974 enumeration was the reluctance of some farmers to respond to the census. Evaluation of the census revealed that this resistance was due to a number of factors, including the length and complexity of the report forms, a general suspicion on the part of farmers that the data collected would be "used against them" by regulatory agencies or agribusiness firms, and an overall distrust of Government.

While development of a shorter, simplified report form could do much to reduce respondent burden and improve the farmers' ability to supply the data requested, the distrust expressed of the census and the Government presented a more difficult

problem. In an attempt to correct, or at least lessen the severity, of this situation, the Bureau instituted a series of public meetings throughout the country between members of its staff (usually the Associate Director for Economic Fields and representatives of the Agriculture Division) and groups of farmers. More than 40 such meetings were held between July 1976 and December 1978, generally with the sponsorship of the local Member of Congress or Senator, or an agricultural organization. These local meetings gave Bureau personnel an opportunity to talk with farmers about the need for census data and the protection given to the individual records collected in any census operation. More importantly, perhaps, these meetings gave farmers a chance to meet some of the Bureau's staff and to voice their comments and complaints regarding the Government in general and the census in particular. It was felt that the personal contact between the Bureau and farmers, while it could not and did not completely solve the problem of deliberate nonresponse, did a great deal to improve relations.

JULY 1977 CONTENT TEST

Preparation

Background information—Preparation for the 1978 Census of Agriculture included the design and testing of a new version of the data-collection form A1. A two-phase test program was planned, with the first phase, involving the evaluation of five variations of the basic A1 design, to be carried out in mid-1977. This test was intended to determine:

1. If there would be significant differences in the response rates among five different report form formats.
2. Whether the type of mailout envelope used would influence response rates.
3. The quality of data reported for new items not included in earlier censuses, and to measure the respondent burden created by these items.
4. Overall response rates compared to the 1974 census.
5. Reasons for nonresponse, and to obtain suggestions from respondents for improving the report form design.

Sample design—The general plan called for test versions of the report form to be mailed to a sample of farms drawn from the 1974 census list of in-scope cases with sales of less than \$500,000. Some 5,800 addresses were selected by a random sampling of the 1974 national lists, stratified by 1974 standard industrial classification (SIC) code (type of farm), and total value of sales. A further sample of 2,900 addresses was selected, in ZIP-code clusters, for the following counties: Allegan, Mich., Canyon, Idaho, Chautauqua, N.Y., Doña Ana, N. Mex., Fresno, Calif., Sampson, N.C., Smith, Miss., Winnebago, Ill., and Worth, Ga. The "national" sample was to be used for evaluating rates and quality of response. For addresses in the cluster sample, members of the Bureau's staff visited and interviewed about 1,100 respondents and nonrespondents about the content and design of the report forms.

Report forms—The July operation tested five versions of the basic report form A1. These varied in size, color of paper, and arrangement of instructions, as follows:

Form	Characteristics
77-A1(A)-T2	12" x 8" 8-page booklet printed on white stock with black ink and shading; instructions on a separate sheet.
77-A1(B)-T2	13" x 20" sheet, folded to a 13" x 10" 4-page folder, printed on buff stock with black ink and shading, with instructions in a separate folder.
77-A1(C)-T2	13" x 21" sheet, folded to a 13" x 10½" 4-page folder, printed on yellow stock with black ink and shading; instructions on a separate sheet.
77-A1(D)-T2	14" x 24" sheet, folded to a 14" x 8" 6-page folder, printed on salmon colored stock with black ink and shading; instructions on a separate sheet.
77-A1(E)-T2	17" x 20" sheet, folded to a 17" x 10" 4-page folder, printed on blue stock with black ink and shading, and with instructions on the last page.

While the format and specific wording used for the basic items differed somewhat among the versions of the form, all requested inventory and production items, acreage and location, income from agricultural services, characteristics (including race and Spanish origin) and principal occupation of the operator, and so on. In addition, a number of data items were tested by inclusion in only one of the five test forms. The test sections in each version were as follows:

Form version	Test section/data
77-A1(A)-T2	Section 19, total expenditures for energy and petroleum products for the farm business; and section 20, grain storage facilities.
77-A1(B)-T2	Section 18, machinery and equipment in use, and estimated total value of all machinery and equipment.
77-A1(C)-T2	Section 19, use of commercial fertilizers and/or lime; section 20, value of direct sales to consumers; and section 21, estimated total value of land and buildings.
77-A1(D)-T2	Section 18, use of insecticides, other herbicides, fungicides, other pesticides, lime, and other chemicals; section 19, contracts and forward price agreements made, and which products were involved.
77-A1(E)-T2	Section 18, selected production expenses for all agricultural operations.

Two different types of skip instructions also were tested. Forms A and C contained one set before the crops sections, providing instructions for completing the remainder of the form based on whether or not any crops were grown. If crops were not grown, instructions were provided for livestock. Forms

B and D had separate instructions ahead of the crops and livestock sections of the form. Form E did not contain skip instructions.

The possible effect of mailout envelope size on response was also to be checked in the test, and four separate mailing envelopes were used for the mailing packages. Two white 4½" x 10½" envelopes (forms BC-354 and BC-441) and two large-format (9" x 12") manila envelopes (forms BC-491 and BC-2016) were used. No special messages or logos appeared on these envelopes beyond the normal Bureau address and postal frank.

Mailout and Response

Mailout and followup—The mailing packages were prepared and the address labels applied at the Jeffersonville, Ind., facility. The initial mailout carried first-class postage and took place on July 25. The contents of the various packages, and the number of each test report form mailed, are given in table 1.

By mid-August a response rate of 27.5 percent, including some 200 postmaster returns (PMR's—packages returned by the postal service as undeliverable), had been achieved and a followup mailing was done. On August 19, form 77-L2-T2 followup letters requesting prompt response were mailed to approximately 6,300 nonrespondent addresses and PMR packages were remailed. Three weeks after the followup letters were mailed, an overall response rate of 48.2 percent had been achieved. This was a somewhat better rate of response than had been attained 6 weeks into the 1974 census, but since the test sample was drawn from the 1974 in-scope list, a significantly higher rate of response had been anticipated. The 48.2-percent response rate prompted the Bureau to plan the first mail followup of the census proper for 3 weeks after the initial mailing, rather than 4, in the hope of stimulating a higher, and earlier, response to the census. The response rates achieved for each of the report form test versions showed that there was no significant difference in the respondents' preferences among the five versions. (See table 2.)

Field interviews—During the week of August 22, subject-matter staff from the Suitland office visited 1,100 of the 1,900 addresses in the cluster sample and interviewed respondents and nonrespondents for their comments and opinions about the report forms. Both respondents and nonrespondents were generally very cooperative with the interviewers.

Processing and Analysis

Processing—Upon receipt in Jeffersonville, Ind., the test forms were batched into work units of approximately 100 each, by type of form. Automatic equipment "read" the bar codes on the mailing labels and checked in respondent addresses. Report forms were then sent for editing. The clerical edit was concerned primarily with ensuring that the data on the forms were keyable, and was not intended to analyze questionable entries or alter the data on the forms any more than was absolutely necessary. Accordingly, the clerks made no effort to change

Table 1. Contents of Initial Mail-Out Packages

Report form	Instruction sheet	Cover letter	Outgoing envelope	Return envelope	Number mailed
Total					8,701
77-A1(A)-T2	77-A10-T2	77-(L1)-T2	White BC-354 or manila BC-491	BC-354 or BC-213	1,746
77-A1(B)-T2	77-A11-T2	77-(L1)-T2	White BC-354 or manila BC-2016	BC-354 or BC-76	1,720
77-A1(C)-T2	77-A12-T2	77-(L1)-T2	White BC-354 or manila BC-2016	BC-354 or BC-76	1,746
77-A1(D)-T2	77-A13-T2	77-(L1)-T2	White BC-441 or manila BC-491	BC-1266 or BC-213	1,745
77-A1(E)-T2	77-A14-T2	77-(L1)-T2	White BC-441 or manila BC-2016	BC-354 or BC-76	1,744

Table 2. July Content Test Response After 6 Weeks

Form	Total mailed	Receipts	Percent response
Total	8,701	4,196	48.2
77-A1(A)-T2. . .	1,746	841	48.2
77-A1(B)-T2. . .	1,720	815	47.4
77-A1(C)-T2. . .	1,746	840	48.1
77-A1(D)-T2. . .	1,745	851	48.8
77-A1(E)-T2. . .	1,744	849	48.7

apparently erroneous data, although such mistakes as multiple entries for an item were corrected by adding the entries together and entering the single sum. Upon completion of the clerical edit, the forms were sent to the data-entry unit, where each response was keyed to magnetic tape.

After data entry, the data tape and the report forms from the cluster sample were sent to Suitland. The cluster-sample forms were analyzed, i.e., comments read, etc., while the data tape was used in the preparation of analytical tabulations.

Analysis and results—There was no significant difference in the response rates achieved for the various test versions of the report form, as already noted, or among the various kinds of mailout envelopes used. With respect to the general characteristics of the report forms, it was found that skip patterns were more frequently used correctly on the "B", "C", and "E" versions. Field interviews also revealed that about half of the respondents were able to complete their forms in 30 minutes or

less, while the overall average time was approximately 37 minutes. Nonrespondents who were interviewed showed no great resistance to completing the report forms; their principal reasons for nonresponse were that they were too busy with farm work to complete the forms, or that they had set the forms aside and had forgotten them. This suggested that while the response rate for the test (approximately 50 percent with one followup) was not as high as anticipated, a publicity program and the normal followup operations would encourage a much higher rate of response.

Analysis of the quality of response achieved for specific items indicated that some instructions on the forms and/or instruction sheets needed to be clarified. This was particularly evident in responses received for the items on "Acreage and Location in 1976," and "Location of Agricultural Operations." Respondents also experienced some confusion in reporting item codes for various crops, particularly on the "B" and "D" versions, in which the codes were listed in the instructions rather than on the report form. The irrigation item also proved troublesome, with almost half of the respondents in California and New Mexico (States with extensive irrigation) incorrectly reporting irrigated-land use.

Among the sample items tested in the various versions the item on total value of land and buildings (section 21 of the "C" version) caused confusion to respondents as to whether assessed or current market value was being requested. Section 20 of version "C", asking the value of direct sales to consumers, also posed problems; operators suggested that clarification of the term "consumer" was necessary.

Comments from respondents—Aside from comments directed at problems found with specific items, respondents were generally gratified at the brevity of the test form as compared to

the 1974 form. While there were the inevitable comments that the forms did not enable an operator to accurately report a particular type of agricultural operation or business arrangement, the overall attitude seemed to be that all of the versions tested were great improvements over the 1974 census report form.

JANUARY 1978 CONTENT TEST

Background Information

The second phase of the report-form testing program involved mailing variations of the proposed final versions of the forms to a nationwide sample of farm operators. The adoption of a sample methodology for collecting some of the agricultural census data reflected the Bureau's concern for reducing respondent burden. While the first content test had been concerned with overall design and the reportability of specific items, the second test was to check that no problems were created by the changes made to the final sample and nonsample report forms.

Two report forms had been used in the 1974 census—the A1 "long" form for farms with annual sales of \$2,500 or more, and the A2 "short" form for farms with sales under \$2,500. There was considerable variation in the data items requested on each form, although both included inquiries on basic acreage, inventory, and production data, and the A1 was over twice as long as the A2. For the 1978 census, the Bureau planned to use two forms as well. The 78-A1(N) ((N) for "nonsample") would request data that could not be obtained on a sample basis if county-level tabulations were to be produced, and would be mailed to approximately 75 percent of the addresses on the census list. The second form, the 78-A1(S) ((S) for "sample"), included an extra page of items, also required for county-level tabulations. These items, however, could be asked on a sample basis. The A1(S) would be mailed to the remaining 25 percent of the addresses on the census mail list. The principal objectives of the January 1978 test were to—

1. Verify the final wording and format of the 1978 census report forms
2. Test the use of the "AGRICENSUS USA" logo and a printed message on the outgoing envelope
3. Determine if respondents would like to receive a file copy of their report form
4. Determine if respondents would like to receive a preliminary census report for their county.

Report Forms

Two versions of the nonsample questionnaire, forms 77-A1(N1)-T3 and 77-A1(N2)-T3, were used in the January test. These versions were identical in content: each requested data on acreage; major field crops; dry hay, grass silage, haylage, or green chop; fruit and nut trees and vines; vegetables; nursery and greenhouse products; berries; gross value of crops sold; land use; land irrigated; inventory and sales of cattle and calves; hogs and pigs, sheep or lambs, and other poultry, livestock, and animals; income from custom work and other services; whether any crops or other products were sold directly to

individuals for human consumption; type of organization; characteristics of the operator; and whether any land enumerated was foreign-owned. Each of the forms was a 4-page 10½" x 14" folder, printed in black and red ink on yellow stock; the only difference in the forms was that the "N1" version was a left-hand fold, while the "N2" was a right-hand fold.

The sample versions tested, the forms 77A1(S1)-T3 and 77A1(S2)-T3, were also identical in content, including all of the items from the nonsample forms. In addition there were sections requesting data on the use of commercial fertilizer or lime; use of chemicals (herbicides, pesticides, etc.); machinery and equipment; grain storage facilities; expenditures for energy; selected production expenses and estimated market value of land and buildings. Once again the forms were printed in black and red ink on yellow stock with 10½" x 14" pages. The "S1" was a 6-page folder with pages 4 and 5 on a single-column half (i.e., 5¼" x 14") page; the "S2" was a 5-page stapled booklet with three separate sheets (the reverse of page 5 was left blank).

Sample Selection

A nationwide random sample of approximately 5,300 addresses was selected for the test from the 1974 census in-scope list. This sample then was broken into four equal subsamples, with one of the four test versions of the sample/nonsample forms to be mailed to the addresses in each subsample.

Mailout and Processing

Adhesive address labels were prepared and shipped, together with report forms and other mailout materials, to Jeffersonville for the assembly of the mailing packages. Each package contained the appropriate report form, an information sheet giving instructions for completion, a cover letter (form 77-A1(L)-T3) explaining the reason for the test, and a form BC-2344 return envelope. Three different outgoing envelopes were used; a plain white form BC-477 window envelope; a BC-477 overprinted with the census logo and the message, "U.S. CENSUS BUREAU REPORT—Please complete and return within 20 days," and one overprinted with the logo and "THIS IS YOUR CENSUS OF AGRICULTURE REPORT FORM—Please complete and return within 20 days."

Mailout was completed by January 30. No followup mailings were undertaken.

After 4 weeks a response rate of 44.9 percent had been attained, comparing favorably with the July Content Test and the 1974 census. The report forms were returned to Jeffersonville, where they were batched into work units of approximately 100 each, by type of form, as they arrived. Clerical and computer processing for the report forms was essentially the same as was done for the July 1977 test; there was a minimal clerical edit prior to data entry, and the Bureau produced analytical tables showing responses to each item by type of form.

Results

After 7 weeks, and without any follow-up work, 2,645 completed forms had been received, indicating an overall

response rate of 49.9 percent. Analysis of the test results showed that farmers had little preference between the two versions each of the nonsample and sample report forms, so the Bureau decided to use the A1(N1) and A1(S1) versions for the census proper. Response rates for the nonsample forms were 3.9 percent higher than those achieved for the sample forms. Results from the test indicated the use of the census logo and the printed message on the outgoing envelope had resulted in a 3-percent higher response rate than was achieved with the plain envelope, but that there were no significant differences in the results obtained between the two messages tested on the envelopes.

In general, respondents had little difficulty completing the report forms, although a few items still presented problems. One of these problem areas was section 21, which asked for data on foreign ownership of farm land. A number of inconsistent responses were received, as well as report forms on which no answer had been given, and it was decided that a lead-in question—"Was any of the land in this place held under FOREIGN OWNERSHIP or control in 1978?"—should be added. Changes

were also made to section 22 on the sample report form, "Commercial Fertilizer," and the wording of the items was changed to asked for (1) "Acres of cropland (excluding cropland pastured) which were fertilized in 1978," (2) "acres of pastureland and rangeland fertilized in 1978," and (3) "LIME—tons of lime and acres on which applied (Do not include land plaster or gypsum or lime for sanitation)." When the Bureau was informed that the Agricultural Stabilization and Conservation Service (ASCS) would be conducting a county-level survey of storage facilities in the principal grain-producing States, it was decided to delete section 25 of the sample items ("Grain Storage Facilities") to reduce unnecessary respondent burden.

With respect to the item asking respondents if they wished to receive a file copy of the census form, approximately 52 percent indicated that they would. Almost 65 percent of all respondents indicated that they would like to receive a report of census results for their county. It therefore was decided to include a file copy of the report form in each census mailing package and provide respondents with a report for their county on request after the data were tabulated.