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PLANNING

Considerations

The purpose of the agriculture census is to collect and publish data on agriculture in the United States. In planning and carrying out the census, the Census Bureau must weigh the data needs of the Federal Government and other users against the ability, and willingness, of agricultural operators to supply the information requested. Farmers and ranchers are among the most regulated and surveyed members of the American population; the census report form is not only one more questionnaire they are required by law to complete, but it often requests information similar to that collected by the U.S. Department of Agriculture (USDA) and/or other government agencies.

Costs are a major consideration as well. The Bureau adopted a mailout/mailback enumeration procedure for the 1969 census, partly because it was more economical than hiring a field staff of thousands of people to carry out a door-to-door enumeration. Mailing costs represent a significant portion of the cost of each census and there is continued interest in saving money by reducing the size of the initial mail list—by identifying and deleting “nonfarm” addresses from the list. Good, early, response in the data collection also reduces the costs of followup to nonrespondent addresses.

Once the data are collected, they are processed and tabulated, and the more detailed the tabulations and the more cross tabulations (by such factors as race, age, tenure, etc.), the better for data users; but processing and tabulation take time and cost money as well, and in the census neither time nor money are available in unlimited quantities. The more elaborate and detailed the tabulations and cross tabulations, the longer the period between the collection of the data and its publication, and timeliness in the publication of statistics is very important. Consequently, the volume of detailed tabulation and cross tabulation have to be limited to produce reliable statistics for publication within established time and budget constraints.

All this means the planning for any census must take a variety of factors into consideration—data needs, respondent burden, the ability of respondents to accurately report the data requested, cost, timeliness of publication, and such indirect influences as public attitudes toward government operations at a given time, government objectives (such as “paperwork reduction”) not directly related to the program being planned, and the economic climate of the Nation in general and the farm sector in particular.

Preliminary Planning

The first appropriations specifically for the 1987 Census of Agriculture operations were part of the Bureau’s fiscal 1985 budget, but preliminary planning began well before

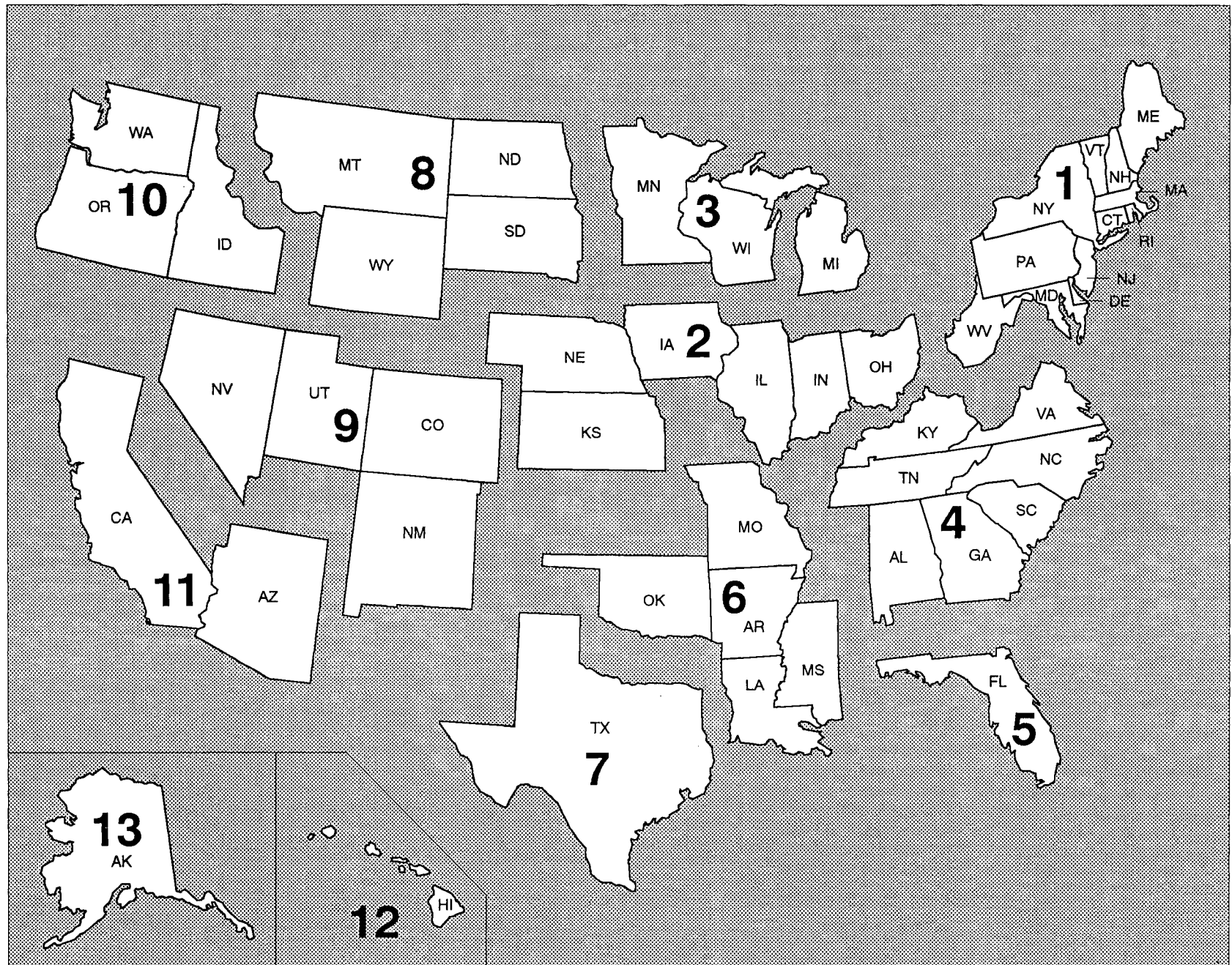
that. Agriculture Division staff began studies for the upcoming enumeration almost immediately after the data collection effort for the 1982 census closed in 1983. A variety of changes and modifications of the basic census program were considered in these early stages, along with plans for the censuses of irrigation (this census actually collected data from irrigation *organizations* (see the 1978 Census of Agriculture *Procedural History* for information on the previous census of irrigation organizations)) and horticultural specialties (required by law every 10 years), and for program sample surveys of farm and ranch irrigation and agricultural economics and land ownership.

The early plans for the 1987 program included the census of the 50 States, Puerto Rico, and the outlying areas, plus the decennial censuses of irrigation, drainage, and horticultural specialties. Congress abolished the census of drainage (see ch. 1) and the irrigation organizations census was canceled because of lack of funds. The Census Bureau planned to employ mail enumeration for the 50 States, and field interviewing elsewhere. The census of horticultural specialties would be carried out in the year following the census enumeration (with reference year 1988), using mail lists drawn from the census respondent list for the 50 States.

Preliminary plans did not call for major changes in the format or content of the report forms; as for 1982, regionalized data collection forms would be used, with relatively minor changes in the data requested. The report forms would collect basic inventory and sales data from all farms, while an approximate 25-percent sample of farm operators also would be asked to supply additional information on certain subjects, such as production expenditures, machinery and equipment, income from farm-related sources, and value of land and buildings.

The Census Bureau initially planned to carry out a farm and ranch identification survey, similar to the one prior to the 1982 census, to identify and remove nonagricultural operations from the mail list, but cost and response burden constraints prohibited such a preliminary operation. The Office of Management and Budget (OMB) addressed the cost of the mail census by issuing a directive in 1986 restricting the total size of the initial census mailout to 4.2 million addresses, and the number of regular census report forms that could be included to no more than 3.2 million. The OMB wanted the Census Bureau to use a short, screener report form¹ for addresses considered least likely to be farms. The agency adopted this plan, and mailed a two-page report form (the standard agriculture census report forms were four (nonsample) and six pages (sample) long) to approximately 900,000 addresses considered least likely to be farms.

¹Form 87-A0400 was designed as a data collection instrument, but with a “screener” section that enabled respondents that were not associated with agricultural operations to skip to the end of the report form without completing the data information sections.



The Bureau planned to expand the automated processing of census returns by introducing the use of minicomputers to carry out many of the clerical processing and preliminary editing tasks at both the Jeffersonville, IN, processing office and in the field office in Puerto Rico, which would also be responsible for preliminary handling of report forms from the other outlying areas. Plans for data publication also emphasized computerized data files; while the standard printed reports and magnetic tapes would be released, there also would be advance data on flexible diskette as well as advance reports accessible to users through various online systems. The Bureau also decided to release the volume 1 (*Geographic Area Series*) agriculture census data in the compact disc read-only memory (CD-ROM) format.

CONSULTATION ON THE CENSUS

General Information

The Census Bureau's mission is to furnish statistical data for use by public and private users. Thus one of its major concerns must be to determine which data are needed. Since the data must be supplied by individuals and/or organizations outside the agency itself, a second concern has to be the ability of respondents to provide the data requested.

The Bureau maintains regular contact with data users and suppliers to obtain suggestions and advice on census content, primarily through the Bureau's standing Census Advisory Committee on Agriculture Statistics. Other contacts include direct consultation with the Governors' offices, the 50 States' departments of agriculture, the land-grant universities, an interagency working group established to advise the Bureau on Federal agency data needs, and the Bureau's own outreach to data users.

Consultation With Governors, State Departments of Agriculture, and Land-Grant Universities

State governments are heavy users of agriculture census data and the Bureau routinely requests their assistance in publicizing the census. The Governors and State agriculture departments have a considerable interest in the content of the census questionnaires as well as in the completeness and accuracy of the enumeration. In January 1985, the Bureau mailed letters to the Governors' offices of each State as well as to their respective departments of agriculture, and land-grant universities, requesting advice and suggestions on data content for the 1987 census. By March 1985, written responses had been received from nearly half the Governors' offices and from over 35 of the State agriculture departments and about 30 land-grant universities, and the Agriculture Division began a telephone followup to those that had not replied. Most of the "nonrespondents" indicated that they had no requests for additional data or significant changes to the report forms.

The Bureau established the proposed final content of the data report forms in August 1985, and in the following October, reports on the final content and planned format and design of the report forms were sent to all the offices and agencies that had requested changes for the 1987 census.

Interagency Working Group

The Federal Government is the principal user of the agriculture census statistics. In January 1985, the Bureau contacted 19 Federal agencies that make significant use of the census, requesting them to appoint representatives to take part in a working group to review their agencies' data needs. The working group met only once, on February 9, 1985, to discuss the 1987 census report forms and make recommendations on content, but Bureau staff met separately with agency representatives to consider detailed questions and to better understand their requests. The following offices participated:

- U.S. Department of Agriculture
- U.S. Department of Commerce
 - Bureau of Economic Analysis
 - Economic Development Administration
- Congressional Budget Office
- Library of Congress
 - Congressional Research Service
- Office of Technology Assessment
- U.S. Department of Energy
 - Energy Information Administration
- Environmental Protection Agency
 - Office of Pesticide Programs
- Farm Credit Administration
- U.S. Department of Health and Human Services
 - National Center for Health Services Research and Health Care Technology Assessment
- U.S. Department of the Interior
 - Bureau of Land Management
 - Geological Survey
- U.S. Department of Labor
 - Bureau of Labor Statistics

The Census Bureau had a separate meeting with representatives of several Department of Agriculture agencies on February 20, 1985, for additional consultation on data content, and the staff met separately with officials of these offices for detailed discussions.

The Census Advisory Committee on Agriculture Statistics

The Census Bureau first established an Advisory Committee on Agriculture Statistics for the 1940 agriculture census. From 1940 through 1959, the Committee remained a temporary organization, assembled before each census and disbanded once the data from that operation were published. (Before 1940, any advice to the Bureau on the

agriculture census or associated programs came from the General Advisory Committee that reviewed all of the agency's programs.) The Bureau obtained a permanent charter for the Committee in 1962, establishing it as one of the agency's five ongoing advisory bodies. As before, agricultural organizations would be selected and invited to participate in the census program in an advisory capacity. Each would send a member to the new Committee, subject to the approval of the Director of the Bureau of the Census and the Secretary of Commerce.

The member organizations and their representatives for the 1987 census period (October 1, 1985, through September 30, 1990) were:

Organization	Representative
Agricultural Publishers Association	James D. Rieck (from 1986) Richard J. Pommrehn (to 1986)
American Agricultural Economics Association	Jerald J. Fletcher (from 1989) Darrel L. Good (to 1989)
American Farm Bureau Federation	Terry L. Francl (from 1987) Ronald J. Herr (to 1987)
American Feed Industry Association	Norman Coats
American Meat Institute	Jens Knutson (from 1986) Dewey Bond (to 1986)
Association of Research Directors, Inc.	Sidney Evans
Conference of Consumer Organizations	William Fasse
Farm and Industrial Equipment Institute	David W. Maaske (from 1987) Stanley Pendlum (to 1987)
Federal Statistics Users Conference	John T. Wilkins
The Irrigation Association	Robert C. Sears (from 1987) H. Gene Koch (to 1987)
National Agri-Marketing Association	Allan J. Hietala (from 1988) Orville M. Thompson (to 1988)
National Agricultural Chemicals Association	Jarrad D. Blank (from 1986) Dudley Clark (to 1986)
National Association of State Departments of Agriculture	Thomas W. Ballow
National Association of State Universities and Land-Grant Colleges	B. F. Stanton

Organization	Representative
National Cattlemen's Association	John Ross
National Council of Farmer Cooperatives	Joseph D. Coffey
National Farmers Organization	Willis Rowell (from 1988) Robert Pangburn (1986-87) Dave Kozishek (to 1986)
National Farmers Union	Ivan W. Wyatt (from 1987) John Stencel (to 1987)
National Food Processors Association	Regina Hildwine
The National Grange	Leroy Watson
Rural Sociological Society	Ronald C. Wimberley
U.S. Department of Agriculture, National Agricultural Statistics Service*	Charles E. Caudill (from 1987) William Kibler (to 1987)

*The Statistical Reporting Service (SRS) until 1987.

Statistics Canada, the Office of Management and Budget, the U.S. Department of Agriculture, and the Bureau of Economic Analysis, as well as other Government agencies, private organizations, and the public, frequently sent observers to the meetings. Outside observers and the public could offer comments and recommendations to the Census Bureau and the Committee during periods of each meeting set aside for public comment. Census staff prepared and published minutes of each meeting, including any Committee recommendations and the Bureau's responses.

During the 1987 agriculture census period the Committee met six times, as follows:

Date	Location
November 19, 1985	Suitland, MD
June 19, 1986	Suitland, MD
May 7, 1987	Suitland, MD
May 18, 1988	Clarksville, IN
May 24, 1989	Fresno, CA
April 18, 1990	Alexandria, VA

The Committee served as the Census Bureau's primary contact with users outside the Federal Government and provided advice and recommendations on data needs, the ability of respondents to supply data requested, data collection methodology, content and format of report forms, and publicity for the census. With regard to program and policy matters affecting the 1987 agriculture census, the members addressed a number of specific concerns, advising the Bureau to—

1. Change the scope and content of the 1987 irrigation census to match that of the 1979 Farm and Ranch Irrigation Survey (FRIS).

2. Retain the farm definition adopted for the 1978 and 1982 censuses (i.e., any place that had, or normally would have had, total annual sales of agricultural products of \$1,000 was considered a farm).
3. Try to publish 1987 agriculture census data at the five-digit ZIP Code level.
4. Include a survey of farm finance in the 1987 census program.
5. Investigate the possibility of developing computer software for use with the new CD-ROM products.
6. Make no attempt to define a "commercial farm" in its statistics, but provide data for an array of sales classes so users could make their own "breaks" as needed.
7. Ensure that the 1987 census mail list be of adequate size to maintain previously attained levels of completeness.

REPORT FORM DESIGN

The Regionalized Report Forms

The Secretary of Commerce has the official responsibility for determining the content of all census report forms, but delegates this task to the Bureau of the Census. The actual design of the 1987 Census of Agriculture report forms was done by the Bureau's Agriculture Division, assisted by the Forms Design Branch of the Administrative and Publications Services Division (APSD).

The Bureau tested the general design of the report forms in the 1986 content test, using the results to refine the design before finalizing the questionnaire content.

As noted earlier, the 1987 census employed the same "regionalized" format for the regular census questionnaires as was used in the 1982 enumeration. Working from a "base" of standard data to be requested from all agricultural operations, the staff developed separate versions of the sample and nonsample report forms for use in each of 13 geographic regions of the United States. All versions had identical formats and layouts, consisting of a core of standardized nonsample and sample inquiries asked of all agricultural operations in all regions (i.e., acreage, total value of sales, location, and so on), and a set of production, inventory, and sales items (e.g., field crops, fruits, nuts, etc.) that applied specifically to agricultural operations in each region. (The regions are shown on the map on p. 9.) Specific form numbers and ink colors identified the region and type of form to help with sorting and processing. The numbering system used was the same as was adopted for the 1982 census; i.e., the prefix "87-A" identified the report form as a 1987 agriculture questionnaire, and was followed by four digits, the first two identifying the report form as a nonsample (01), sample

(02), or "must" (03) form, and the last two, the geographic region covered by that particular form—01 through 13. A composite form, "014," served as an informational document.

The Short Form

The OMB directive regarding the reduction in the size of the mail list and reduced respondent burden (see p. 8) compelled the Bureau to develop a short (two-page) form, 87-A0400, for use in the census as well. This questionnaire was not regionalized; it asked whether agricultural operations of any scale were taking place and, if so, requested some limited information on those operations. The Bureau mailed this form to addresses on the census mail list that were least likely to represent census farm operations. It was intended to collect enough information on very small agricultural operations to enable the Bureau to determine whether they qualified as census farms, and if so, to impute census data not specifically requested on the form.

The short form was tested in December 1986 in a mailout to approximately 3,100 addresses selected from the 1982 census mail list. The responses received were used to modify the form. (See below for details of this test.)

Appendix F describes the changes in the general content of the report forms and displays facsimiles of representative census questionnaires and other forms.

THE 1985 CONTENT TEST

General Information

The Census Bureau routinely carries out precensus tests of report form content and format and general census procedures to refine plans for each enumeration. Plans for the 1987 census originally called for minimum changes in census content and enumerative procedures because of the generally good results obtained by the methods and report form designs used in the previous two agriculture enumerations. Nevertheless, requests for content changes and the continuous attempt to improve coverage and data quality led to proposals for new data items. Adding new items required the deletion of others to maintain the approximate length and response burden of the 1982 census. The Bureau completed preliminary design work on the basic report form in the summer of 1985. Two versions were prepared for testing. Each version included all the items on which the Bureau proposed to request data from a sample of agricultural operations. The test, between December 1985 and the end of March 1986, of the new report forms evaluated the following factors:

- The collectability of new data items requested by users
- Alternative mail followup procedures, particularly the use of a short questionnaire to follow up "hardcore" nonrespondents

- The effect on quality of response of alternative questionnaire formats
- Alternative keying methods

Report Forms

The Bureau tested two proposed formats for the sample questionnaire, forms 85-A1 and 85-A2. The A1 form was virtually identical in size and format to the 1982 sample forms—it was an 11" x 14" six-page folder printed in black ink on white stock with a blue screening shading. Since a major part of the test was to obtain information on the collectability of several new data items, the A1 was used as the principal vehicle and as a control for the A2. Approximately 40,000 addresses (see Sample Selection below) received A1 report forms in the pretest. The A2 form was an 8 1/2" x 11" 12-page booklet, printed in black ink on white stock with yellow shading. The last page of each form contained information on the need for the census and the confidentiality of the data.

The principal content changes to the report forms were as follows:

Section 1. Acreage in 1985	Data on grazing permits issued on a per head basis were requested by the agency issuing each permit.
Section 2. Crops	The wheat item was broken out into separate requests for data on winter wheat, durum wheat, and spring wheat other than durum.
Section 5. Nursery and Greenhouse Crops	Separate items requested data on flowering and foliage plants.
Section 7. Fruit Trees	The list item for cherries was broken out into cherries, sweet, and cherries, tart.
Section 9. Gross Value of Crops Sold	A separate item for barley was added under cash grains.
Section 12. Land Irrigated	Item on source of water used for irrigation was deleted.
Section 16. Animal Specialties	Several items were deleted from the Other Livestock listing.

In addition, all questions on expenditures were combined into a single section (21 on the A1, 24 on the A2) on Production Expenditures, and new items on rent paid, property taxes paid, and other production expenses were added to the section. Two new sections were added to the form:

1. Section 10, Government CCC Payments (Government CCC loan data were collected in the 1982 census in a section combined with customwork).

2. Section 26, Income From Farm-Related Sources in 1985.

A third report form, an optical mark-reader (OMR) form, was developed to use in followup of respondents. It requested certain basic data and asked the respondent to fill in circles on the form with a pencil. An optical scanner read the filled circles and entered the data directly to a computer data file.

Sample Selection

The Bureau selected a national sample of approximately 44,000 farms for the 1985 Content Test. The sample was randomly selected from 1982 census farms with total value of products sold (TVP) less than \$500,000, 1982 farms whose sizes were unknown at mailout (mail size code 13), and 1982 nonrespondents with mail size code 13. The sample was divided into five panels for testing response to various mail enumeration methods. Panels 1-4, including about 40,000 of the sample addresses, received the folder style test forms, while panel 5 (approximately 801 addresses) received a booklet style test form. Panels 1-4 also were used for other test variations; panels 1 and 2 had no pretest contact, while panels 3 and 4 did; all addresses in panels 1 and 4 received a thank you/reminder card after the initial form mailout. All respondents received another report form in the mail 4 weeks after the initial mailout.

A sixth "panel" consisted of about 3,100 addresses from six cluster counties, which would be subjected to personal interviews following the mail test to determine the reasons for respondents' inability or refusal to answer particular items. The specific counties in this cluster sample were selected on the basis of their agricultural characteristics—as reported in the 1982 census—and to provide for some geographic dispersal. The counties were:

Adams County, PA	Fresno County, CA
Brown County, SD	Sampson County, NC
Dawson County, TX	Yakima County, WA

Mailout and Followup

Mailing packages—Four types of mailing packages were used for the pretest:

1. A preview package, sent to some 21,000 addresses before the regular test mailing, consisted of a letter and two statistical brochures to illustrate the kinds of data collected in the census
2. A data collection package containing the appropriate report form, a cover letter, an information sheet, and return envelope, used for the initial mailout and one followup mailing
3. A reminder card used for the first followup mailout only
4. A followup letter/card package

Mailout and mail followup—The data collection program for the pretest consisted of a preview mailing to addresses on panels 3-5, the initial mailout, and three followup mailings. The initial mailout comprised packages for the five panels and the cluster counties, or 43,936 packages. The details of the mailings are shown in Table 2-1.

The content test included a final followup mailing on April 10 to the remaining nonrespondent addresses in panels 1-5. This final mailout was used to close out the mail test for the A2 booklet form, and to test response to a proposed optical mark-recognition (OMR) form compared with the regular report forms. The staff mailed A1 report forms to approximately two-thirds of the nonrespondent addresses in panels 1-4 (9,128 in all), half with promotional flyers and half without. The remaining nonrespondents (4,452 addresses) were sent the OMR form, half with and half without the flyer.

Field interviews—A sample of 100 respondents in each cluster county were reinterviewed with the object of determining their ability to provide the data requested, and the reasons for nonresponse to specific sections of the report form. The Bureau selected addresses for reinterview based on an inconsistency/nonresponse analysis of the first 175 report forms keyed for each county. The Agriculture Division staff identified sections or items containing responses inconsistent with data reported elsewhere on the form, or else left blank. The Agriculture Division organized staff members in teams of interviewers—one team of five or six for each county—and team leaders distributed the report forms for the assigned county to his or her team. The field teams visited assigned addresses to interview the person who originally had completed the report form, even if that person was not actually the farm operator. When personal visits were impossible, respondents were interviewed by telephone.

Telephone interviews—A telephone interview operation tested the ability of the OMR form to accurately classify addresses as agricultural operations. The Bureau selected a sample of 600 addresses that received the OMR form in the last followup for a telephone reinterview. Between May 12 and May 22, 1986, interviewers contacted and completed interviews with 581 respondents. The Agriculture

Division staff compared the results of the interviews to the status assigned from the information on the corresponding OMR form. The interviews showed the OMR form was not a reliable means of collecting data needed to accurately classify farms.

Response rates—Final closeout for the test was May 14; at that time, the mail test had achieved a 74-percent overall response rate, excluding postmaster returns (PMR's). The response rate for the OMR form was 24.6 percent (with no followup after the single mailing of the forms on April 10), considerably higher than originally anticipated since it was used for what might be termed "hardcore" (i.e., multiple refusal) nonrespondent addresses.

Processing

Respondents returned their report forms to the Census Bureau's Data Preparation Division (DPD) office in Jeffersonville, IN, where the forms were checked in and edited. Tallies of receipts were made by selected characteristics, such as panel, type of report form, type of mail followup procedure, and so on, for later analysis.

During processing, an alternative keying method was tested. The goal of this project was to determine whether an alternative keying method could speed up processing. The test compared the regular method employed in previous censuses with a proposed streamlined procedure. Using the regular method, the operator keyed the code for each individual item of data; in the alternate method, the operator keyed only the first keycode for each line of items, e.g., the code for corn, followed by data for acres harvested, quantity harvested, and acres irrigated, without intervening codes.

Analysis and Results

General information—The Bureau designed the content test to consider five major items:

1. Mail followup methods
2. The effect of questionnaire style and content on response

Table 2-1. **Panels**

Item mailed	Date	1	2	3	4	5	Cluster counties
Preview	12/06/85	–	–	10,014	10,010	801	–
Initial mailout	12/31/85	10,017	10,017	10,014	10,010	801	3,077
Reminder card	01/15/86	9,903	–	–	9,842	801	3,054
Report form followup	02/07/86	5,555	6,116	6,087	5,444	422	1,591
Card/letter	03/06/86						
Card		1,898	2,134	2,119	1,885	129	–
Letter		1,900	2,132	2,114	1,888	130	–

3. Use of the OMR questionnaire for “hardcore” non-respondents
4. Reasons for nonresponse
5. Alternative keying methods

Overall response rates were used to study items 1-3, while detailed reinterviews of selected respondents provided information on reasons for nonresponse. The staff also reviewed the keyed data files to analyze data keying procedures.

Mail followup methods—The results of the test indicated that (1) the precensus notice was ineffective in improving response, (2) the thank you/reminder card mailing used as the first followup did improve response rates, (3) a letter was more effective than a card in later followup mailings for most addresses (there was no significant difference in the results achieved for addresses with size code 13), and (4) the fact sheet proved ineffective.

Questionnaire style and content—The content test used addresses on panels 4 and 5 to test response achieved by a folder form compared with a booklet form. There proved to be no significant difference in respondents’ views of the two types of forms, and participants in the reinterviews in the cluster counties thought the two forms were equally easy to complete. In the cluster counties, however, all respondents received the folder type form, then were shown the booklet form. No reverse of this test was done.

The reinterview operation in the cluster counties was the primary source of information for studying response to questionnaire content and reasons for nonresponse. The principal recommendations were that the form include more detailed instructions for reporting land use, that an item on crops grown on contract be added to section 9 (Gross Value of Crops Sold), that a yes/no box be added to sections 9 and 10 (Government CCC Loans) for use in the skip pattern, and that the word “none” above the column of “none” boxes in sections should be in bold letters.

Optical mark-recognition (OMR) questionnaire—While the short form improved response slightly in the first two weeks following the mailing, there was no significant improvement thereafter, and the information on the form sometimes proved inadequate to accurately classify the operation as a farm or nonfarm. The Jeffersonville staff also carried out tests using contractor-supplied optical readers to determine the readability of the OMR forms. The test showed that the equipment could not read about 12 percent of the forms, necessitating clerical review and classification. These factors led the Agriculture Division to reject using the OMR questionnaire in the census.

Nonresponse analysis—The three most frequently cited reasons given by addressees for not completing the report form were that they (1) did not think the form applied to their operation (16 percent), (2) did not want to give information (14 percent), and (3) other reasons (48 percent).

Alternate keying methods—The regular and proposed alternative keying methods were examined in relation to the number of keystrokes required, quality of keying (i.e., accuracy), keying time, and cost. The results indicated a slight reduction in the number of keystrokes required using the alternative method, and a higher error rate for the alternative method for forms from the southeastern and west north central regions (the Bureau was unable to find any specific reason for this). Cost per form for using the regular method proved to be approximately 8 percent higher than the alternative, due, in part, to the much higher verification rate used (over 50 percent of all report forms were verified; in the census, the verification rate was nearer 7 percent). The results of the alternate keying analysis led the Agriculture Division to recommend continued use of the regular method.

1986 SHORT FORM TEST

General Information

In the summer of 1986, the Census Bureau requested clearance from the Office of Management and Budget (OMB) to conduct the 1987 Census of Agriculture. At that time, plans called for an initial mailout of approximately 4.6 million report forms. The OMB requirements (see p. 8 above for details) restricted the census mailout to no more than 3.2 million regular census forms, but would permit using an additional 1 million or so short forms. The 1985 Content Test showed that the OMR form—which requested ranges of values rather than specific ones—did not provide sufficient data to accurately determine the farm status of an addressee, or for detailed imputation of agricultural commodities, so the Agriculture Division developed another short (non-OMR) report form designed to satisfy these requirements. The new short form was tested in December 1986 by mailing it to a national sample of approximately 3,000 addresses.

Report Form

The test form, 86-A04, was a single-sheet, two-page, 10 1/4” x 14” form, printed with black ink and purple shading on white stock. Its 10 sections included a screening question that asked whether the recipient had grown any crops or had any livestock or poultry during 1986. The rest of the form collected basic data on acreage, land use and irrigation, inventory and sales, Government CCC loans and Federal farm program payments, acres set aside or diverted under Federal acreage reduction programs, and characteristics and occupation of the operator. The mail-out packages consisted of the report form, a cover letter explaining the test and requesting a response, an instruction sheet, and a return envelope.

Sample Design

The short form test sample was drawn from 1982 inscope addresses (excluding Alaska and Hawaii) with reported total value of agricultural products sales (TVP’s)

under \$40,000 and addresses that qualified as farms on the basis of acreage or inventory, rather than on actual sales. The survey sample was divided into four strata based on sales, and each stratum was systematically sampled to extract 1,500 addresses from each. The individual stratum samples then were subsampled; all cases with three-digit standard industrial classification (SIC) codes of 016, 017, or 018 (vegetables, fruit, horticulture) were selected, together with 1 in 2 of all other cases. The final sample size was 3,136 addresses.

Mailout and Response

The test forms were mailed from the Suitland, MD, headquarters, on December 5, 1986, with a response due 10 days after receipt. There was no mail followup. The Bureau set January 28, 1987, as the final cutoff date for responses, by which time 1,713 forms had been returned, including 176 postmaster returns (PMR's, cases returned by the Postal Service as undeliverable). The overall response rate—approximately 54.6 percent (excluding PMR's)—was similar to that achieved by the 1982 census prior to the first followup mailing. The Bureau selected 590 of the respondents (based on a combination of SIC codes and a random sample of all other cases) for telephone followup interviews to verify farm status. The telephone staff obtained data from 533 of the 590 cases, while 10 respondents

refused to be interviewed. Failure to contact the remaining 47 cases was due largely to unlisted telephone numbers or no answer to calls.

Results

Subjective analysis of the responses obtained on the short form, and the information from respondents interviewed, showed respondents found certain sections of the short form difficult to understand. The screener question in section 1 incorrectly eliminated some in scope farms (about 10 percent of operations identified as out of scope because of the response to the screener question were reclassified as in scope after interviews with the respondents) while sections asking the respondent to describe specific kinds of agricultural activity (most particularly section 4, part 9, requesting data on fruit orchards, citrus, vineyards, and nut trees) did not make clear to the respondent what information was needed. The test also appeared to indicate that once respondents started to fill out the report form, they tended to complete the form without regard to "skip" instructions—over 40 percent of the respondents answering "no" to the screener question went on to provide agricultural data on the form.

The Agriculture Division changed the screener question and modified the layout of section 4 (crops) on the basis of the test results. (See app. G for facsimiles of the short form and a representative standard report form.)