

Dissemination of Census Data

INTRODUCTION

The function of the publication phase of the census of agriculture is to make data available to data users as quickly as possible after collection, while maintaining the Bureau's standards of statistical quality, reliability, and comparability.

The plan for the 1978 publications was generally similar to that of the 1974 program. The data were to be made available in one or more forms—printed reports, computer tapes, and microfiche. Preliminary county and State reports would be issued separately while final county- and State-level data would be included in the volume 1 reports. The preliminary and final reports would include data for all agricultural operations qualifying as farms under the census definition (i.e., agricultural operations with a total value of sales in the census year of \$1,000 or more) and for farms with sales of \$2,500 or more.

The original plans for the publication program called for extensive use of the COMp80 (computer output to microfilm) videocomposition system for development of reproduction copy. However, budget restrictions and lack of access to the necessary equipment led to the use of this system only in the preparation of the preliminary reports and for selected sections of later volumes. The Bureau's high-speed printer (HSP), the Government Printing Office's (GPO) Linotron system, and the GTS computer software packages were all used to some extent in preparing the reproduction copy for the printed publications. All published printed reports were produced by photo-offset in the standard 8½" x 11" page size.

One significant change in the data release program for 1978 was the production of computer tapes of preliminary-report data, as well as final data tapes. For previous censuses, only tapes containing final data had been developed and made available to users.

Comparability of Data

The 1978 census program employed several new data-collection procedures in order to improve coverage of agricultural operations, including a farm and ranch identification survey prior to the census, improvements to the census address list, and a direct enumeration area sample (the census of agriculture area sample survey (CAAS)). These procedures improved the coverage of farms in the 1978 census compared to that of earlier censuses, particularly at the State level, since 1978

statistics for States include data from both the mail list enumeration and estimates from the direct enumeration. This necessarily affects the comparability of 1978 State-level data to those from earlier censuses, which did not include these estimates.

The 1978 county-level farm counts were derived entirely from the mail enumeration and are more nearly comparable to earlier census totals, although the farm counts may have increased substantially for some counties because of improved coverage of small farms in the mailing lists. Acreage and inventories data at the county level are generally comparable to data from earlier censuses.

The 1974 coverage evaluation program indicated that the proportion of farms missed by the census varied widely between States, from less than 1 percent in Nebraska to nearly one-third of all farms in West Virginia. Missed farms, typically, were very small or part-time operations; the percentage missed was generally higher in States with a large proportion of farms of these types. For 1974, missed farms accounted for about 11 percent of all farms, but only 6 percent of land in farms, and smaller percentages of sales and production items. The proportion of total farms in each State represented by the 1978 CAAS followed a similar pattern. Most farms missed in the census were subject to identification and estimation using CAAS data. This factor had a greater effect on State counts of farms and farms reporting than on production, sales, and inventory items.

Changes in the farm definition also affected comparability of data. Data for 1978 and 1974 are directly comparable in this respect, but are comparable to 1969 and earlier censuses only for farms with sales of \$2,500 or more. Data for these farms were not affected by changes in the farm definition. Even this limited degree of comparability was affected by the different methodologies used to collect the data. The first mailout/mailback enumeration was in 1969, while earlier censuses employed door-to-door canvasses. Differences in the timing of the censuses also had an effect on comparability prior to 1969.

Fluctuations from one census to another in the price of agricultural products sold have an effect on the comparability of data; this was particularly true for such high inflation periods as 1974-1978.

Quantity of 1978 Statistics Published

The total number of pages published in the 1978 State and County reports was somewhat less than for 1974. The quantity of data presented was approximately the same, due primarily to more efficient and compact presentation of tabular data in the printed volumes. The number of pages of tables and text in the preliminary county reports for 1978 was nearly identical to the 1974 total, approximately 12,300 in all. For 1978, the 56-part Volume 1, *State and County Data* set, which includes final county (or equivalent) data for each State and outlying area (including American Samoa and the Northern Mariana Islands), contained approximately 28,800 pages of text and tabular data. Volume 2, *Statistics by Subject*, which for 1974 comprised 1,500 pages of statistics, was canceled for 1978 as a result of budgetary restrictions. The 1978 volume 3, *Agricultural Services* publication includes 142 pages of tabulations, compared with 111 pages in the 1974 edition. Volume 4, *Irrigation*, has 360 pages of data. Since the irrigation census is carried out every 10 years, there was no 1974 irrigation publication; for the 1969 census, 341 pages of data were published in a separate irrigation report.

PUBLICATION PROCESS

Production Control and Reporting System

The Publications Services Division (PSD) was primarily responsible for preparing the tables and text (provided by the Agriculture Division) for the data volumes for publication. A centralized control and reporting system enabled PSD to monitor the flow of publication work for major activities from receipt of the specifications until the return of the bound reports from the printers. The control records covered all aspects of the planning, editorial, design and graphics, printing, and printing-review activities to ensure an orderly flow of work through the production operations. These records also permitted any component of a publication to be located prior to printing, so that corrections could be made. Periodic reports were produced on progress of the publication work for any given report series currently in development and production. Sponsoring offices thus could know the status of their publications and identify problem areas and materials needed from the various units involved.

Publication Steps

The major operations in the 1978 Census of Agriculture publication process are outlined below.

1. Steps required at beginning of each report series:

A. General:

Submit form CD-27, Publications Clearance Request, for approval.

Plan series format (e.g., cover design, typeface for titles, headings, text, and table format).

B. Tables:

Prepare manuscript of tables showing boxheads and stubs.

Edit and plan table outlines, marking specifications for typing or automatic data processing.

For Linotron processing—

Prepare base table images from planned outlines.

Review and correct base table images.

Merge boxhead and stub image with the data to produce final page.

For non-Linotron processing—

Prepare printer's copy, using typewritten, high-speed printer, or video composer output.

Preprint standard or repetitive copy such as the titles, head-notes, boxheads, stubs, and folios.

C. Text and introductory materials:

Plan and write manuscript.

Edit manuscript for Bureau policy, grammar, and style.

Review and correct galleys.

Prepare page dummies.

Review and correct page dummies.

Prepare camera copy (mechanicals).

Preprint repetitive copy.

D. Maps and charts:

Select appropriate maps and charts and produce camera copy on the computer or by hand.

2. Steps required for each individual report:

A. Tables:

For typewritten copy:

Prepare table outlines showing proposed stubs and boxheads.

Post historical data.

Edit and plan horizontal and vertical spacing for each page.

Prepare and procure preprints for repetitive materials (e.g., headings and boxheads for multipage tables).

Provide data to be typed.

Type and proofread stubs and data fields.

Review and correct tables.

Add folios and rule tables.

For phototypeset copy:

Edit and plan table outlines, marking specifications for processing.

Code tables for computer run.

Produce and expand base table images.

Mix expanded table images and field data.

Prepare film negatives of table pages with all heads, stubs, data, rules, and page numbers.

Mask with tape the frame identification numbers of each negative.

Prepare and distribute paper copies or film negatives for review.

Consolidate all revisions or corrections onto a master proof.

Review and correct film negatives.

B. Maps and charts:

Establish basic designs.

Preprint chart worksheets and base art.

Prepare specifications to produce charts on the computer.

Produce camera copy.

Review and verify for accuracy.

C. Completed report:

Assemble component parts.

Prepare printing requisition, form CD-10.

Conduct final editorial review of camera copy.

Mark camera copy with printing specifications.

Procure printing.

3. Steps required for implementing publication program:

Prepare production timetables implied in the above steps and estimate completion dates, adjusted as required.

Establish priorities, expedite production, coordinate programs, and report progress.

Periodically review progress and problems.

Monitor detailed expenditure to anticipate surpluses or deficits.

Grouping and Binding of Reports

The publication program for the 1978 Census of Agriculture included a series of preliminary reports and the final data reports. Two types of preliminary reports were issued: the two-page county-level "Major Results" preliminary summary reports sent to census respondents, if they requested a copy, and the "regular" four-page county preliminary reports issued separately, beginning in October 1979. Preliminary reports were also issued for all States, the four geographic regions, and the United States. The volume 1 county final reports were bound in one book per State or outlying area, except Georgia and Texas, each of which required two books. (In these two cases, chapters 1 and 2 were bound together while chapter 3 was bound separately.)

Printing, Pricing, and Distribution

Photo-offset print, first used for the 1940 decennial census publications, was employed for the major portions of the succeeding censuses of agriculture and for all of the 1974 and 1978 agricultural censuses' publications. The negatives required for the photo-offset printing procedure were made from the pages of tables produced by the Linotron, high-speed printer (HSP), or videocomposition systems. The Linotron and videocomposition systems provided a complete negative as the final product, while the HSP produced tables on paper from which

the printers made their own negatives. Camera copy of the preliminary reports and the last few State reports of volume 1 were videocomposed. Volume 3 camera copy and part of the volume 1 reports for Puerto Rico were done using HSP output, while the remainder of the volume 1 outlying areas reports were typewritten. Most volume 4 tables were prepared on Linotron, while the remainder of the volume 4 tables and all of the volume 5 tables were done using the GTS software package and the HSP.

Once the camera copy was prepared, it was checked for conformity to Bureau printing, pricing, and distribution policies. All the printing was either done by, or procured through, the U.S. Government Printing Office (GPO). Both the preliminary and final reports for the 1978 Census of Agriculture were subcontracted to private printers.

The Superintendent of Documents handles sales and distribution of selected Government publications. The sponsoring agency (in this case, the Bureau of the Census) pays all preparation costs and for the printing of copies for its own use. The only costs passed to the buyers are for the actual printing, postage, and handling. This enables the Bureau and other Federal agencies to make information available to the public at a nominal charge. Prices of individual publications sold through GPO are based on a schedule established by that agency; prices for publications not printed by GPO are equivalent.

The Bureau makes some free distribution of its data publications, as they become available, to reference libraries. The Superintendent of Documents is responsible for sending Bureau publications to over 1,200 libraries designated as Government depositories (about 150 of which (usually at very large educational institutions) receive all, or nearly all, of the Bureau's publications). Census publications are also distributed to about 100 other libraries, usually at colleges located in cities with large populations. Libraries on both lists indicate to the Bureau which kinds of the publications they wish to receive. All are sent the annual *Statistical Abstract of the United States* (containing summary data from the most recent censuses), and most receive the U.S. summary reports for the major censuses.

The availability of census reports is publicized through the Superintendent of Documents, the Department of Commerce and its field offices, and other interested organizations. The Bureau also distributes press releases on new publications, order forms, a monthly product announcement, and an annual catalog of publications. Most of these materials include brief descriptions of each series of reports and the anticipated or actual date of publication.

The Bureau of the Census maintains a supply of its various reports for its own use at its Jeffersonville, Ind., facility. However, the primary responsibility for storage and sale of census report is in the hands of the Superintendent of Documents.

1978 Census of Agriculture Printed Reports

Preliminary reports—A four-page preliminary report was published separately for each county, parish (in Louisiana), independent city, and combined election district (for Alaska)

in the United States having 10 farms or more, as well as for each State, the four geographic regions, and the United States. (The publication dates for the preliminary reports, by State, are listed in app. E.) These reports contain data for all farms (i.e., agricultural operations with sales during the census year of \$1,000 or more) and for farms with sales of \$2,500 or more. Limited data are also shown for agricultural operations that had less than \$1,000 in sales during the census year, but that would have qualified as farms under the census definition used prior to 1976. The preliminary reports were published between October 1979 and January 1981.

A two-page preliminary report on agricultural services was published during April-May 1980 for each State. Each report contained data on the number of establishments by primary activity, gross receipts, and payroll.

Volume 1, State and County Data—A separate report was published for each of the 50 States, the United States, the Commonwealth of Puerto Rico, Guam, the Virgin Islands, American Samoa, and the Northern Mariana Islands. Despite the inclusion of American Samoa and the Northern Marianas, the 56-part volume 1 set for the 1978 census was published in 58 separate books, one less than was required for the 1974 census data.

Data are shown in the State reports for all farms and for farms with sales of \$2,500 or more. A table is also included showing data for agricultural operations with sales of less than \$1,000, which would have qualified as farms under the definition used prior to 1976.

Each State report is divided into three chapters. Chapter 1 contains detailed data at the State level classified by size of farm, tenure, age and occupation of operator, type of organization, value of products sold, and major standard industrial classification (type) of farm. Chapter 2 consists of county-level data for selected major items, and for miscellaneous crop, live-stock, and poultry items. Chapter 3 contains 5 pages of detailed data for the State and for each county.

Each State and county report includes the 1978 data for each item and 1974 data for the same item (whenever available) for purposes of comparison.

The volume 1 reports for the 50 States and the United States summary were published between January and August 1981. The reports for the outlying areas were published in two phases. Those for Puerto Rico, Guam, and the Virgin Islands were released in July and August 1980. Those for American Samoa and the Northern Mariana Islands were printed one year later because the census of agriculture was conducted at a later date (in conjunction with the 1980 Census of Population and Housing).

Volume 2, Statistics by Subject—This volume was to consist of nine parts showing selected data for States, divisions, regions, and the United States. Budgetary restraints compelled the Bureau to reduce the publication program for the 1978 census. While the data intended for volume 2 were useful, they were deemed less necessary than other data and the Bureau decided to cancel the publication of this volume. To compensate as much as possible for this cancellation, most of the summarized

data published in the *Statistics by Subject* report in previous censuses were included in Volume 1, *State and County Data*, Part 51, *United States*.

Volume 3, Agricultural Services—Volume 3, published in November 1980, contains data for establishments primarily engaged in soil preparation, crop, veterinary, other animal, farm labor and management, landscape, and horticultural services. Data were published on dollar volume of business, payroll, supplemental labor costs, gross receipts by type of services performed, labor and payroll, gross receipts from products provided in connection with services performed, capital expenditures, changes in gross value of depreciable assets, and expenditures for energy and petroleum products. Selected statistics are shown for the four-digit SIC (standard industrial classification) codes, and by size and type of organization. Data are presented for each county, each State, the District of Columbia, and the United States.

Volume 4, Irrigation—Irrigation data collected in the 1978 Census of Agriculture and the 1978 Census of Irrigation Organizations were published by States, divisions, regions, and for drainage basins. Irrigation data included crop acreage irrigated and irrigated land use. Organization data include number of farms served, irrigated acres served, quantity of water used and conveyed, inventory of irrigation facilities and equipment, and financial characteristics. Volume 4 was published in April 1982.

Volume 5, Special Reports—Volume 5 consists of a series of special reports covering specific aspects of the 1978 census. Originally, nine separate reports were planned; however, budgetary restrictions compelled a reduction in the publication program. Parts 1 (*Graphic Summary*) and 2 (*Ranking Counties and States*) were canceled, although, later the *Graphic Summary* was reinstated. The special reports publication program for the 1978 Census of Agriculture was as follows:

Part 1, *Graphic Summary*, contains maps and charts relating to the agriculture census data.

Part 2, *Ranking Counties and States* (canceled).

Part 3, *Coverage Evaluation*, describes the coverage check of the census, and the process evaluation sample.

Part 4, *Procedural History*, includes selected data collection forms.

Part 5, *Drainage of Agricultural Lands*, presents data on special drainage districts, and on land drained by county, State, region, and the United States.

Part 6, *Farm Finance Survey*, presents selected data estimates on the financial characteristics of farm operators and landlords by State, region, and the United States.

Part 7, *Census of Horticultural Specialties*, contains data on the number of establishments, production and sales characteristics of horticultural specialty operations by State, region, and the United States.

Part 8, *Farm and Ranch Irrigation Survey*, presents data on land irrigated and irrigation practices of 20 "heavy irrigation" States, for all other States, and for the United States.

Part 9, *Farm Energy Survey*, contains data estimates of various forms of energy used on the farm, storage facilities, and equipment by State, region, and the United States.

The Volume 5 *Special Reports* are scheduled for publication in early 1982. (See app. E for publication dates for each part.)

MICROFICHE

The published reports of the 1978 Census of Agriculture were reproduced on microfiche. Microfiche is one of the more economical and efficient methods of storing and retrieving data, and is similar to, although more compact than, microfilm. Each fiche, a 4" x 6" sheet of film, is capable of containing a descriptive heading and as many as 96 standard-size pages of printed data, with each page of a printed report photographically reduced 24 times, to approximately thumbnail size. Thus the entire 553-page volume 1 report for South Dakota, for example, is reproduced on six microfiche sheets, and the entire volume 1 data set, stored on microfiche, could be carried in a briefcase.

Data from the 1978 Census of Agriculture volumes on microfiche are sold through the Data User Services Division, U.S. Bureau of the Census, Washington, D.C., and are available approximately 1 to 2 months after the printed reports are issued.

COMPUTER TAPES

The Bureau of the Census first made computer tapes of county-level data available to users for the 1964 Census of Agriculture. These tapes contained the data from the preliminary county reports, while the tapes for 1969 and 1974 were developed from the final county reports. In addition, for the 1969 and 1974 censuses, the county miscellaneous tables were made available on tape as a separate data file, enabling users to retabulate data for specific geographic areas or to manipulate the statistics in whatever manner was most useful to them. For the 1978 census, the eagerness of users to acquire computer tapes of the census data led the Bureau to issue two tape data files, one of the preliminary and the second of the final reports data. The former contained the information from the preliminary county reports. These were made available to users on five reels of tape on a flow basis during 1980. In December 1980, after *all* the preliminary reports had been released, a consolidated file of the preliminary data was prepared and tapes were released for sale to users. While the initial "flow release" file was contained on five standard-size, 1,600 bits-per-inch (BPI) tape reels, the consolidated file was available on either two 1,600 BPI, or one 6,250 BPI, reel.

The specifications for the tape reels for the 1978 data are as follows:

Tape width:	½ inch
Reel size:	10½ inch, 2,400 feet maximum length

Logical record size:	Ten 1,980-character record segments.
Field size:	Variable
Recording density:	1,600 or 6,250 bits per inch (BPI) on 9-channel tape
Language:	Optional; either American Scientific Code for Information Interchange (ASCII), or extended binary coded decimal interchange code (EBCDIC).
Block spacing:	0.60 inch

The price of each preliminary data tape covers only the cost of producing, documenting, and handling the tape, and postage to mail it. Complete tape files could be purchased for specific States or groups of States. These could be drawn from the census files onto a separate reel and purchased that way. (The price of a reel containing data for more than one State was slightly higher than for a reel with a single State's data.)

The final data tapes were produced and handled through Agriculture Division as a special tabulation and were sold for \$1,000 per set. A set contained county data for all 50 States, and included data from the volume 1; *State and County Data* county tables, as well as 21 selected tables from the county summary data. These final tapes contained more data items than did the preliminary tapes, covering such additional subjects as machinery and equipment, livestock inventory frequencies, and a complete listing of crops grown.

USERS' CONFERENCES

The Bureau of the Census has carried out a program of data users' conferences after each census of agriculture since 1969. These meetings were held to give data users an opportunity to meet with members of the Bureau's staff to discuss the census publications and data tapes, their contents, and the uses that could be made of the data. Each conference was held only after a local group interested in the agricultural statistics agreed to sponsor or underwrite part or all of the expenses of the Bureau's representative attending the meeting, and to make all the necessary arrangements, including reserving facilities, registration, etc. Each users' conference was held at a location convenient to the data users within a State or, when users in two or more adjacent States had requested a meeting, at a place most convenient to all those wishing to attend.

The conferences were attended primarily by representatives of farm and agricultural organizations, agribusiness firms, academic institutions, consumer groups, news media, the transportation industry, and State and local government officials.

A total of 15 such users conferences were held between October 1980 and April 1981. (See app. D for locations, dates, and sponsors of these conferences.) Attendance at the conferences averaged about 50 participants.