

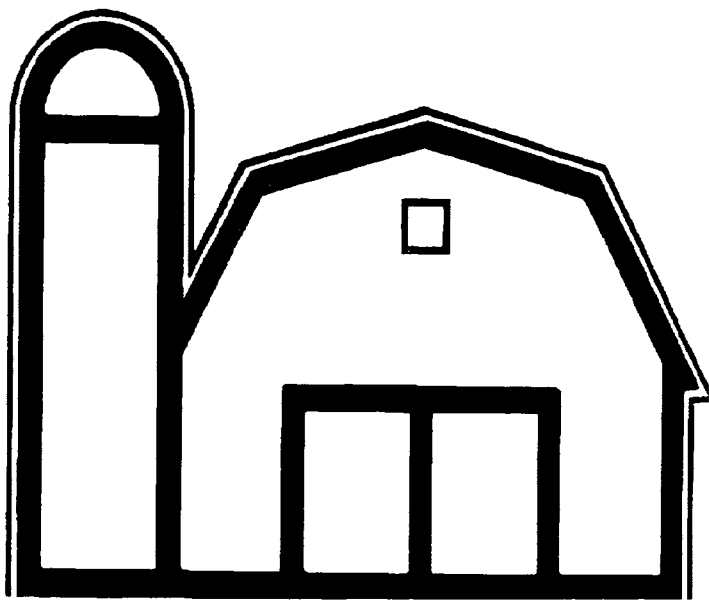
1987 Census of Agriculture

AC87-S-4

Volume 2
SUBJECT SERIES

Part 4

History



U.S. Department of Commerce
Economics and Statistics Administration
BUREAU OF THE CENSUS

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Barbara Hackman Franklin, Secretary
Rockwell A. Schnabel, Deputy Secretary

Economics and Statistics Administration
J. Antonio Villamil, Under Secretary
for Economic Affairs

BUREAU OF THE CENSUS
Barbara Everitt Bryant, Director



**Economics and Statistics
Administration**

J. Antonio Villamil, Under Secretary
for Economic Affairs



BUREAU OF THE CENSUS

Barbara Everitt Bryant, Director
C. L. Kincannon, Deputy Director

Charles A. Waite, Associate Director for
Economic Programs

Roger H. Bugenhagen, Assistant Director for
Economic Programs

AGRICULTURE DIVISION

Gaylord E. Worden, Chief

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BACKGROUND INFORMATION

At its founding late in the 18th century, the United States was a nation overwhelmingly agricultural; the vast majority of its citizens lived on and gained their livelihood from the soil. The situation has changed dramatically since that time, but agriculture remains a vital sector of the Nation's economy, and information about agriculture is crucial to the workings of business and government at all levels. The census of agriculture provides a periodic statistical picture of agriculture in the United States. Many of the same kinds of information are collected in periodic or occasional surveys by various Federal, State, or even private agencies, but the census remains the only source of data, for a specified reference period, comparable, county by county and State by State, for the entire Nation. Moreover, only the census presents these data while classifying agricultural operations by size, type, tenure, type of organization, and market value of products sold.

Article I, Section 2, of the United States Constitution requires that a census of population be carried out every 10 years for purposes of apportioning representation of each State in the House of Representatives, but even as the Constitutional Convention discussed the document in 1787, its principal author, James Madison, urged the census be used for more than counting heads. The first attempt to collect other than demographic data came in 1810—2 years after Madison's election as President—when the census requested information on manufacturing establishments, and included a single item asking whether the person enumerated was involved in agriculture (about 80 percent were). The first census of agriculture was attempted in 1840, as part of the decennial census program that also collected data on manufacturing and mining. The agriculture enumeration was not a great success, but the obvious value of information on agriculture led to the inclusion of agricultural censuses in the decennial programs until 1925, when agriculture was added to the mid-decade enumeration covering economic areas.

The timing of the agriculture census has been adjusted periodically since 1925, although it has continued on an approximate 5-year cycle. Through 1940 the agriculture enumeration was conducted concurrently with the other economic censuses, but changes in their schedules, intended to make more efficient use of the Census Bureau's resources and distribute the workload over the periods between the decennial censuses, caused the reference years to diverge. By the early 1970's, the agriculture census was for years ending in "4" and "9" while the economic censuses used as reference years those ending in "2" and "7." Public Law (P.L.) 94-229, in 1976, included a provision shortening the intercensal periods after the 1974 and the following agricultural census to 4 years each, restoring the concurrent census schedule for the agriculture and economic censuses for enumerations conducted for 1982 and later. (For more information on reference and enumeration dates, see Appendix B, Historical Background.)

The 1987 Census of Agriculture covered all agricultural operations in the 50 States, Puerto Rico, Guam, the U.S. Virgin Islands, and in conjunction with the 1990 Census of Population and Housing, American Samoa and the Northern Mariana Islands.

LEGAL AUTHORITY

The agriculture census is carried out by the Bureau of the Census, an agency of the U.S. Department of Commerce. Title 13, United States Code—Census, governing the agency's operations, establishes the censuses to be conducted, the intervals between censuses, and certain administrative procedures, and describes the duties of specified officials.

Chapter 1 (Administration) of title 13 describes basic administrative procedures within the Bureau, including collection and treatment of census and survey data and the qualifications and duties of census supervisors and other employees. Section 5 assigns the Secretary of Commerce responsibility for preparing census report forms and determining the number and type of inquiries included. Section 9 establishes confidentiality requirements for census data and forbids the "use of the information furnished ... for any purpose other than the statistical purposes for which it was supplied" The section also restricts access to census report forms to sworn Department of Commerce or Census employees and forbids publication of any information from a census or survey that could be used to identify a specific person or establishment.

Chapter 5 (Censuses), section 142, describes the type, frequency, and geographic scope of the agriculture, irrigation, and drainage censuses, and section 195 authorizes sampling to be used to carry out the provisions of title 13 (except for determining population to apportion congressional representation).

Chapter 7 (Offenses and Penalties), section 214, describes penalties (a fine of not more than \$5,000, imprisonment for not more than 5 years, or both) for any employee or staff member publishing or otherwise communicating to any person other than a sworn Department of Commerce or Census Bureau employee any data covered by the confidentiality provisions of the law. Sections 221 and 224 require response to the censuses and establish penalties for noncompliance (a fine of \$100 for individuals and \$500 for organizations).

USES OF AGRICULTURE CENSUS DATA

Agriculture is not only a basic industry within the United States but one of the most successful and productive sectors of the Nation's economy. Sales by agricultural operations in 1987 exceeded \$136 billion. Billions of dollars in investment capital, potential sales of other products, and government programs are at least partially dependent on reliable information on agriculture in the United States. The accuracy and completeness of the

census of agriculture are of vital importance, both to individual farmers and to data users who rely on the census statistics for a clear view of an essential component of the American economy.

Some of the major users of agriculture census data are the following:

- The U.S. Department of Agriculture (USDA) uses agriculture census data to (1) establish benchmarks or comparisons for many of its periodic sample estimates and projections; (2) aid in administering marketing orders, tracking marketing patterns, and promoting sales of agricultural products (including foreign sales—over \$26 billion in 1986); (3) provide information for operating and evaluating community and conservation programs; (4) measure distribution and production of plants and animals to aid in pest control; (5) estimate the effectiveness of Commodity Credit Corporation (CCC) loans and production adjustment programs; and (6) identify economic trends in agriculture.
- Other U.S. Government agencies use agriculture census data on production, sales, and size and type of farm as part of such composite measures as the gross national product (GNP), farm income estimates, and productivity and price-level indexes. Census data also are used to aid in evaluating chemicals undergoing regulatory review, determine economic justification and financial feasibility of land reclamation projects, prepare studies and reports on trade and tariff matters, and produce studies or reports made at the request of Congress.
- Administrative and legislative bodies at all levels of government use census data to design farm and rural programs and to analyze the results.
- Farm organizations use census data to develop positions on agriculture policy and proposed legislation.
- Private businesses, farm cooperatives, and commodity and trade associations use census data to aid in locating new plants and service and distribution facilities; allocating research resources; managing transportation and processing of agricultural products; market forecasting; selecting marketing areas; and in activities intended to better service the farm community.
- Farm and agriculture news media use census data to provide technical background for news stories and feature articles, determine market shares, and identify types of agricultural operations they wish to reach.
- Farm owners and operators can compare their own operations or data for their own county or State with data for other areas that have similar products.

FARM DEFINITION

Any attempt to collect data on a specified subject must first define what it is to be measured, and what the source of the data will be. For the censuses of agriculture,

the reporting unit always has been the individual agricultural operation—the farm (for census purposes, the terms “farm” and “ranch” are interchangeable). The word “farm” can be applied to virtually any place on which some sort of animal or vegetable matter grows, however, so a definition of what constitutes a farm for census purposes is necessary.

The farm first was defined for the 1850 agricultural enumeration, when the census used the term for any place with annual sales of agricultural products of \$100 or more. The definition has been changed several times since 1850 (see app. B), with sales or acreage criteria, but always the *land* involved must be used for or connected with agricultural operations, and it must be operated under the day-to-day control of one individual or management (e.g., partnership, corporation). Agricultural operations means producing livestock, poultry, or animal specialties and their products, and/or the production of crops, including fruits, and greenhouse or nursery products. The census and farm counts are made on the basis of the individual “farm,” but the land making up the farm need not be a single contiguous tract; that is, several separate pieces of land may be a single farm when all are operated as a single unit. In cases where the land for a single farm is located in two or more counties, the data usually are tabulated with those for the county in which the most extensive agricultural operations took place.

The farm definition used for the 1987 Census of Agriculture was identical to that employed for 1982: A farm was any place that met the above requirements with respect to “agricultural operations” and individual control, and that had, or normally would have had, \$1,000 or more in total value of sales of agricultural products during the reference year. The farm definition for Puerto Rico and the other outlying areas involved other minimum sales: \$500 or a minimum of 10 *cuerdas*¹ of land and \$100 in sales for Puerto Rico, \$100 for the other outlying areas.

1987 CENSUS OF AGRICULTURE

Legislation Affecting the Census

The scope of the census of agriculture in the 50 States was changed in 1985 with the passage of P.L. 99-544, which amended Title 13, United States Code, section 142, by eliminating the requirement that a census of drainage be carried out as part of the agricultural censuses. The most recent drainage census (part of the 1978 agriculture census program) had collected data only on public drainage projects.

Scope and Reference Dates

General information—The 1987 Census of Agriculture program included the basic enumeration of agricultural operations in the 50 States, Puerto Rico, the U.S. Virgin

¹A *cuerda* is approximately .97 acre.

Islands, Guam, American Samoa, and the Northern Mariana Islands, as well as a followon census and survey program including the 1988 Census of Horticultural Specialties, the 1988 Farm and Ranch Irrigation Survey, and the 1988 Agricultural Economics and Land Ownership Survey. The followon operations all used mail lists and samples derived from the lists of respondents to the 1987 agriculture census.

Scope of the 1987 census—The operating unit—generally the individual farm or ranch—is the basis of the agriculture census. The 1987 enumeration covered all places meeting the census farm definition in the areas enumerated (see above). Data collected from all farms in the 50 States (for the scope of the inquiries elsewhere, see chs. 7 and 8) included:

- Acreage
- Crops
- Fruits and nuts
- Vegetables
- Nursery and greenhouse products
- Value of sales
- Land use
- Irrigated land
- Livestock and poultry
- Type of organization
- Characteristics and occupation of the operator
- Federal farm program participation

An approximate 25-percent sample of all respondents were asked to provide additional data on:

- Production expenses
- Uses of commercial fertilizers or lime
- Uses of insecticides, herbicides, fungicides, nematocides, other pesticides, or other chemicals
- Machinery and equipment
- Current market value of land and buildings
- Income from farm-related sources in 1987

Reference periods and dates—The agriculture census for the 50 States asked for production, sales, expenditures, and income data for calendar year 1987, and for livestock, poultry, and other inventory data as of December 31, 1987. Citrus caretakers were asked to provide data from the bloom of 1987. For Puerto Rico and the other outlying areas, the reference periods and dates were as follows:

Area	Inventory data as of—	Production data as of—
Puerto Rico	July 1, 1988	12 months ending June 30, 1988
Guam	Date of enumeration	Calendar year 1987
U.S. Virgin Islands	Date of enumeration	Calendar year 1987

Area	Inventory data as of—	Production data as of—
American Samoa	Date of enumeration	Calendar year 1989
Northern Mariana Islands	Date of enumeration	Calendar year 1989

An Overview of the Census Operation

Data collection—Until 1969 the agriculture census was carried out by personal interview; a temporary staff of enumerators visited farms and ranches to collect the information. The Census Bureau adopted the mailout/mail-back enumeration method for the 50 States in 1969, and has used it for all succeeding censuses. This method requires compiling a mail list of names and addresses of agricultural operations. The agency assembled a list of over 16 million possible farm addresses for the 1987 census. This list ultimately was reduced to approximately 4.1 million addresses. The census data collection included an initial mailing of questionnaires late in December 1987 to each of the addresses on the census list. A reminder/thank you card and five followup mailings were carried out at 1-month intervals between the middle of January and June 1988. A telephone followup operation was used for selected large nonrespondent operations.

The 1987 census enumerated a total of 2,087,759 farms, with an average size of 462 acres, and average annual sales of \$65,165. By comparison, the 1982 census figures showed 2,240,976 farms, with an average size of 440 acres, and average annual sales of \$58,858.

Data processing and publication—Data from report forms for the 50 States were entered on computer tape at the Bureau's Jeffersonville, IN, facility. The data were edited using interactive minicomputer systems, tabulated on the mainframe computer in Suitland, MD, and published on a State flow basis. (Data from report forms for Puerto Rico and the outlying areas were partially edited at the Puerto Rico field office, using minicomputer facilities there, then transmitted to headquarters.) The first *Advance Reports* for States and counties were released in September 1988, while the first Volume 1, *Geographic Areas Series* report was issued in January 1989. The various publications for the followon surveys and miscellaneous special reports were released on a flow basis after the completion of the data collection and processing for the specific operation involved. The Bureau prepared public-use computer tapes for each State and released them as the printed reports were published. In addition, the agriculture census data were made available on flexible diskette, compact disc-read only memory (CD-ROM), and online.

Expenditures

The total cost of the 1987 Census of Agriculture and its associated followon surveys came to approximately \$67.5 million. Planning for the enumeration began in 1985,

before the completion of the 1982 census program. The addition of the followon surveys, the censuses in American Samoa and the Northern Mariana Islands, and extensive work on reducing the size of the census mail list, led to an increase in the census program's cost for 1987, compared with the 1982 program (for which expenditures came to approximately \$57.4 million). Expenditures by fiscal year for the 1987 census were as follows:

Fiscal year	Expenditures
Total	\$67,472,000
1985	1,004,000
1986	7,406,000
1987	11,317,000
1988	31,243,000
1989	9,834,000
1990	6,668,000

ORGANIZATION OF THE CENSUS BUREAU

For most of the period embracing 1987 census operations, the Bureau of the Census was organized under a director, a deputy director, and five associate directors responsible for specific operational and administrative areas—demographic fields, economic fields, management services, statistical standards and methodology, and field operations. (A sixth associate director, for decennial censuses, was added in June 1988, assuming responsibility for the divisions most immediately concerned with planning and promoting the decennial census of population and housing.) Subordinate to the associate directors were six assistant directors with specific responsibilities for decennial censuses, international programs, economic surveys, economic and agriculture censuses, administration,

and automatic data processing. A seventh assistant directorate, for communications, directly subordinate to the director and deputy director, was abolished in January 1987.

The associate and assistant directors oversaw the various divisions and offices that comprise the Census Bureau. These units were organized in broad functional categories: (1) subject matter (e.g., Agriculture, Population, Housing and Household Economic Statistics, etc.), (2) data collection and processing (Data Preparation, Systems Support), (3) statistical research and services (Statistical Research, Center for Survey Methods Research), (4) administration and services (Budget, Technical Services, Personnel), and communications and public services (Data User Services, Public Information).

The Agriculture Division carried out the 1987 Census of Agriculture under the overall supervision of the Associate Director for Economic Programs and the Assistant Director for Economic and Agricultural Censuses. Other Census Bureau divisions made major contributions to the census, especially the Economic Programming Division, which prepared many of the programs for mail list development and data processing; Field Division, which operated 12 regional offices and trained and supervised the field interview staffs; Data Preparation Division in Jeffersonville, IN, responsible for handling mailing, part of the telephone followup, and most of the precomputer processing of the report forms; and the various automatic data processing and publication services divisions. (A list of the key personnel and divisions for the 1987 Census of Agriculture, as well as Census Bureau organizational charts for the census period, are included in app. C.)