

CHAPTER 8.

Census of Agriculture on Guam and in the Virgin Islands of the United States

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INTRODUCTION

General Information

Historical background—The 1982 Census of Agriculture was the 10th such enumeration on Guam and in the Virgin Islands. The first census of agriculture on Guam was carried out as part of the census of population in 1920 and continued as part of the decennial census program through 1960. The first agricultural enumeration of the Virgin Islands was part of a special census undertaken in 1917, shortly after the islands were purchased from Denmark. The second was in 1930, when the islands were incorporated into the general decennial census program. In 1964, Title 13, United States Code, section 191(a) was changed to include Guam and the Virgin Islands in the quinquennial censuses of agriculture.

Legal authority—Title 13, United States Code—Census, authorizes the collection of agriculture data on Guam and in the Virgin Islands. Section 142(a) directs the taking of censuses of agriculture in 1979, in 1983, and every fifth year thereafter. Section 191(b) authorizes the Secretary of Commerce to use data collected by the Governors or other Federal officials (so long as the data are collected in accordance with plans prescribed or approved by the Secretary) for censuses taken in Guam, the Virgin Islands, and in other areas or possessions under U.S. jurisdiction, sovereignty, or control.

Special arrangements—The Acting Director of Commerce for Guam and the Commissioner of Agriculture for the Virgin Islands signed agreements with the Bureau of the Census in November 1982 for the conduct of the census of agriculture in their respective jurisdictions. The Bureau agreed to provide report forms, training materials and instructions, and other necessary materials, as well as special training as census project managers for a representative of each of the respective governments. The separate territorial governments accepted responsibility for recruiting and training local field and office staffs, supervising appointments and payrolls, and other local administrative matters.

Farm definition and reporting periods—For the 1982 Census of Agriculture on Guam, a farm was defined as any "place" on which any crops, vegetables, or fruit were harvested or gathered during 1982, or on which there was any livestock or 15 or more

poultry at the time of the enumeration. For the Virgin Islands, a farm was any "place" of 3 acres or more on which any field or forage crops or vegetables were harvested for sale during the 12-month period between July 1, 1982, and June 30, 1983, or on which there was a combined total of 10 or more fruit or nut trees or plants, any livestock, or 10 or more poultry at the time of the enumeration. Places of less than 3 acres were counted as farms if they had \$100 or more in sales of agricultural products between July 1, 1982, and June 30, 1983, or if they normally could expect to produce sufficient agricultural products to provide sales of at least \$100 in a 12-month period.

Operators were asked to report acreage, equipment and facilities, and inventory items (fruit, nut, and tree crops, and livestock and poultry on the place) as of the enumeration date. Land use, expenses, hired workers, volume of production, and sales of agricultural products were requested for calendar 1982 on Guam, and for the 12-month period preceding the date of enumeration in the Virgin Islands.

Census Schedule

The 1982 Census of Agriculture on Guam was carried out in late March 1983, and in the Virgin Islands in the summer of 1983, immediately after the closeout of the 1982 Economic Censuses in those areas. On Guam, the agriculture census office was established in office space in Agana previously occupied by the economic censuses staff, while in the Virgin Islands the census office was established in Kingshill, St. Croix, at the Virgin Islands Department of Agriculture.

Preparations for the 1982 census in the outlying areas began late in 1982, when the first contacts were made with the territorial governments to begin planning the census, and a tentative schedule of census activities drawn up. The census was carried out on the following schedule:

	Guam		Virgin Islands	
	Began	Completed	Began	Completed
Development of report form	11/82	1/83	11/82	2/83
Preparation of other forms and materials	11/82	1/83	1/83	3/83
Memorandum of agreement with Territorial Governments	11/82	11/82	11/82	1/83
Development of farm list	1/83	2/83	2/83	4/83
Preparation of enumeration materials	11/82	2/83	11/82	4/83
Assembly of enumeration materials	1/83	3/83	4/83	4/83
Establishment of census office	3/83	3/83	6/83	6/83
Recruiting of staff	3/83	3/83	6/83	6/83
Training	3/83	3/83	6/83	6/83
Enumeration	3/83	6/83	7/83	8/83
Receipt and check-in	4/83	6/83	8/83	8/83
Close census office	—	7/83	—	8/83
Processing	7/83	12/83	9/83	11/83
Tabulation	11/83	12/83	11/83	11/83
Publication	—	2/84	—	2/84

1982 CENSUS OF AGRICULTURE

Maps

The Bureau's Jeffersonville, IN, facility prepared a series of maps for use by the central census offices, crew leaders, and the enumeration staff. These maps were reproduced from 1980 Census of Population and Housing maps, with enumeration districts (ED's) numbered and boundaries marked with heavy orange lines. Crew leaders checked the maps for their areas to (1) familiarize themselves with the ED's, (2) check the size of each ED to make certain none was too large for a single enumerator to cover, and (3) identify places that presented special enumerations problems (such as farms split between two ED's).

Farm Lists

Prior to the census on Guam and in the Virgin Islands the Bureau used 1978 Census of Agriculture data to prepare a list of "special" farms in each area, that is, operations considered to be large farms in the local context. For Guam, any farm with 5 acres or more of land or annual sales of agricultural products of \$500 or more in 1978 was considered a special farm; in the Virgin Islands, the definition called for 15 or more acres or 1978 sales of \$500. A total of 135 special farms were listed for Guam and 178 for the Virgin Islands. These operations were listed on the A2 Listing Sheet in the enumerators' A5 Record Books.

Training and Reference Materials

The Procedures Manual, form 82-A25 (G) for Guam and (VI) for the Virgin Islands respectively, described the duties of each member of the census staffs and also were the principal guides for recruiting and training the census staffs and for conducting the censuses. A series of reference manuals explained the particular tasks and responsibilities of various staff members. Supervisors and crew leaders received copies of the Supervisor's Reference Manual, form A20, for their own use, and copies of the Training Guide, form A15, to use in the training courses they conducted for their field enumeration staff. Each enumerator received an Enumerator's Reference Manual, form A10, which explained the duties of an enumerator and gave detailed instructions for conducting interviews and completing the necessary documents.

Staffs and Training

The census staffs for Guam and the Virgin Islands were similarly organized, although the field enumeration staff for Guam was larger than for the Virgin Islands. The composition of the staffs was:

	Guam	Virgin Islands
Total	21	10
Project manager	1	1
Crew leaders	2	1
Office clerical staff	3	2
Enumerators	15	6

The census staffs were salaried temporary employees of the local Governments paid on standard U.S. Government GS pay scales for the appropriate grades.

The project managers were responsible to the Director of the Bureau of the Census for all phases of the census in their areas, including securing office space and equipment; recruiting, testing and selecting personnel; publicity; training crew leaders and enumerators; supervising pre-enumeration activities; the enumeration; the clerical operations in the local office; and reporting enumeration progress to the Bureau. The crew leaders served as assistants to the census managers and were responsible for the direct supervision of the enumeration staff. Crew leaders' duties included assisting in recruiting, testing, and training enumerators; and supervising the field enumeration. They reviewed each enumerator's work, made periodic progress reports to the census manager, and performed any related duties assigned by the census manager.

Recruiting the census staffs began in early March 1983 on Guam, and in the first week of June 1983 in the Virgin Islands. The Acting Director of Commerce for Guam and the Virgin Islands Commissioner of Agriculture appointed the project managers for the censuses in their respective areas, but all other candidates for census positions had to submit to written examinations and were notified later of their appointments.

The project manager for Guam came to Bureau headquarters in January 1983 for his supervisor's training, while a Bureau staff member went to St. Croix in June to conduct the supervisors' (including crew leader's) training course for the Virgin Islands staff. The 2-day enumerators' training was carried out by the project managers in the last week of March for Guam, and in the third week of June for the Virgin Islands.

Taking the Census

Enumeration materials—Each enumerator was given an enumeration "portfolio" containing the forms and records needed in the enumeration. Each portfolio contained an assignment map, a supply of agriculture census report forms (form 82-A1(G) or 82-A1(VI)), and a form A5 Record Book. The assignment map showed the boundaries, principal ground features, and roads of the area each enumerator was to cover. The enumerator was to complete a report form for each farm within his or her enumeration district. The A5 Record Book included three forms the enumerator used daily: The A2 Listing Sheets, the form A3 Enumerator's Daily Report, and the A4 Enumerator's Daily Record of Progress. The A2 Listing Sheets served as a record of the canvass of each ED and contained a series of questions for use by the enumerator in determining whether or not a place qualified as a farm. The sheets also contained prelisted names and addresses of large agricultural operations compiled by the Bureau from 1978 records and local Department of Agriculture listings. The A3 Enumerator's Daily Report was a postcard each enumerator was to complete at the end of each working day and mail the next morning (at the *latest*) to his or her crew leader. The A3 included the island's name or the enumeration district's (ED) name, the ED number, and the date, as well as miles traveled, hours worked, number of report forms completed each day and to date, and number of cases pending. The A4 Daily Record of Progress was a record of daily work as well, but was kept in the Record Book.

Enumeration districts—Each enumerator was assigned a specific geographic area and made responsible for its complete enumeration. Guam was divided into 19 ED's, corresponding to the island's election districts, and an enumerator was assigned to each. The Virgin Islands were divided into six ED's, four on St. Croix and one each on St. Thomas and St. John; each enumerator was assigned one ED.

Methods of enumeration—Enumerators interviewed each household head in the assigned ED, asking a series of screening questions to determine whether or not the household was engaged in agricultural operations meeting the Bureau's definition of a farm. If no one was at home, enumerators were instructed to try to obtain information from neighbors or other persons, such as hired workers, to decide whether an A1 should be completed for the place. If so, the enumerator made a "callback" later to enumerate the operation. The enumerator identified as "operator" whoever had the day-to-day management of the farm. For partnerships, the partner in charge of operations or the senior partner was identified as operator, while corporations and institutions with land used for agricultural purposes were identified as operators, and the names of the persons in charge entered in the "Remarks" section of the A1 form and identified as "managers."

Places of two or more tracts or in two or more ED's required special handling. For multiple-tract places, enumerators were instructed to use the same report form for all land operated by one person, regardless of where the land was located. For cases in which an operator had land in more than one ED, the entire place was enumerated in the ED where the operator resided.

In the Virgin Islands, enumerators used lists of large operations prepared from the 1978 census and from information supplied by the Virgin Islands Department of Agriculture. Enumerators also were to visit every household not listed within their assigned ED that appeared to have agricultural operations.

On Guam a procedure code—"A," "B," or "C"—was assigned to each ED to indicate how it was to be enumerated. In rural (code A) areas, enumerators visited every occupied dwelling, completing A1 forms as necessary and making certain an A2 Listing Sheet line number and dwelling symbol were entered on their assignment maps for each dwelling. Procedure code B ED's were built-up areas; here, enumerators followed code A procedures except for localities with 25 or more buildings, each on less than 1 acre. For these areas, only dwellings with associated agricultural operations were listed. (These places were outlined in green pencil on the assignment maps.) Procedure code C was assigned to ED's that had 10 or fewer farms recorded in the 1978 census. Farm operators were prelisted for these areas and enumerators were to visit each address. In addition, the enumerators also were to check with respondents, local stores, service stations, and so forth, to obtain information on any other place in the ED that might qualify as a farm. Enumerators visited any nonlisted place that might be a farm and listed it and completed a form A1 for it, if appropriate.

Callbacks—Enumerators sometimes were unable to complete the necessary report form on a first visit to a household because the operator was not home, available records were incomplete, or there was some other reason not connected with an operator's refusal to cooperate. In these cases, the enumerator made arrangements for a return visit, a "callback," to complete the enumeration. Whenever possible, callbacks were made by appointment, at the respondent's convenience and within 3 days of the first visit.

Refusals—In cases of a refusal, enumerators were encouraged to try to persuade the respondent to provide the data requested, and to explain the legal requirement for response. If an individual continued to refuse to cooperate, the enumerator identified the case as a partial or complete refusal, as applicable, in the record book and reported the case to his/her crew leader, who determined whether further followup should be attempted.

Controls and reports—Each enumerator completed a form A3 daily and submitted it to his/her crew leader, who, in turn, summarized the information from the A3's to complete a form A6, Weekly Progress Report of Enumeration. The A6 showed the number of (1) lines filled on the A2 listings, (2) questionnaires completed, and (3) callbacks pending, as well as mileage for vehicles used and hours worked by enumerators. Crew leaders sent completed A6 forms to the project manager every Monday in Guam, and every Wednesday in the Virgin Islands, and the data were cabled to the Bureau, providing a weekly report of the progress of the enumeration.

Field review—The crew leaders were responsible to the project manager for the conduct of the enumeration. In addition to reporting progress, crew leaders supervised and reviewed the work of their enumerators. Crew leaders checked slow ones as needed, reviewed each enumerator's canvassing plan to ensure use of the most efficient route of enumeration, and carried out two systematic reviews of each enumerator's work—an initial review during the first 3 or 4 days of the census, and a final review after the completion of the canvass in the enumerator's assignment. In the first review, the crew leader checked to make certain (1) each enumerator was using proper procedures and covering the area assigned, (2) all information was being entered correctly on the listing pages and maps, (3) A1 forms were being properly completed, and (4) callbacks were not accumulating. Crew leaders pointed out any error or problem and ensured the enumerator concerned took corrective action. The final review was done as each enumerator completed his or her assignment. Crew leaders examined all of the enumerators' materials, checking the points covered in the initial review, and also looked at a sample of completed agriculture census report forms. On Guam every fifth and in the Virgin Islands every third form A1 was checked thoroughly, unless there were fewer than 10 report forms in the assignment, in which case *all* were checked. If two or more of the report forms examined were incomplete, all of the report forms associated with the assignment were reviewed. Crew leaders returned incomplete or unusual report forms to the enumerators concerned for callback visits, unless a satisfactory explanation could be given as to why the data were omitted. Satisfactory explanations included (1) the enumerator was unable to locate any member of the household or the farm operator, after two visits; (2) the housing unit was vacant; or (3) the respondent refused to provide the data.

Data Processing

Introduction—All computerized processing of the data, including editing and tabulations, were completed at Bureau headquarters in Suitland, MD. However, to ensure completeness of the census and the accuracy and clarity of the information on the report form, the census materials were checked in, and a preliminary review and coverage edit of the report forms was carried out at the territorial census offices.

Check-in and screening—As materials for each ED were received at the central offices in Agana or Kingshill, clerks checked each portfolio to make certain that record books and assignment maps were returned with the report forms. They reviewed the A2 Listing Sheets in the Record Book to determine if there was a complete report form for every place that required one. The ED number and the number of A1's received for each ED were entered on form A17, Check-in Record, and the individual report

forms were reviewed to make certain the following were present: (1) farm serial number; (2) ED number; (3) name and address of operator; (4) at least one entry in sections 2 (land in agriculture) and 4 (land use); and (5) at least one entry in sections 3 (crops harvested), or 5 (livestock and poultry), or (for Guam only) section 6 (fishery). Unacceptable report forms were referred either to an enumerator for any followup needed, or to the office supervisor to determine any further action needed. No census portfolio was submitted for clerical review until *all* the report forms satisfied the acceptability requirements.

Preliminary clerical review—After check-in and screening, the census portfolios were submitted to a preliminary clerical review in which clerks checked the data entries on each report form to make certain all entries were legible, consistent, and complete. Report forms with obvious errors, inconsistencies, or other problems were referred to the office supervisor for disposition. After clerical review, the census portfolios were collected to await shipment to Suitland for processing.

The central office on Guam was closed on July 8, while the Virgin Islands central office completed local operations and closed on August 19.

Precomputer edit and data entry—The report forms for Guam and the Virgin Islands were shipped to the Agriculture Division at the Bureau's Suitland headquarters when the census offices closed. Agriculture Division staff carried out a detailed review and edit of each report form and coded the forms for data entry. A1's for places that did not meet the Bureau's criteria for a farm were removed from the processing cycle. The remaining in-scope forms were checked for accuracy, consistency, and completeness. Editors corrected errors in computations and units of measure, and imputed data items for incomplete report forms based on information from other parts of the report form involved or from nearby farms of similar type and size.

After all of the report forms for each of the outlying areas had been reviewed, they were sent to the Bureau's Jeffersonville,

IN, facility for keying. Once encoded on magnetic computer tape, the data were transmitted by telephone datalink back to the Bureau's main computer facility at Suitland for further processing.

Computer edit and tabulation—The computerized data files were subjected to a detailed computer edit in which each individual data record was analyzed by computer for completeness and consistency. Inconsistent entries or other problem items were "flagged" by the edit program and were reviewed by subject-matter specialists. Any correction required was keyed to the records and the corrected data file was tabulated by computer and printed out for review. After the tabulations were reviewed, any correction needed was carried to the files, and the data were retabulated. While the computer was used to make the basic tabulations and cross-tabulations, it was not used to reproduce the publication tables. Instead, the Agriculture Division's Outlying Areas Branch prepared and typed the table outlines and posted the computer tabulations to the tables by hand. After table verification and review, the data were typed by the Bureau's Publications Services Division (PSD) at Suitland and subjected to disclosure analysis and were released for printing in November 1983.

Publication Program

Data from the 1982 Census of Agriculture for the Virgin Islands and Guam were published in November and December 1983, respectively, in Volume 1, *Geographic Area Series*, Part 53, *Guam*; and Part 54, *Virgin Islands of the United States*. No preliminary reports were issued for either area.

The volume 1 reports presented data on farms and farm characteristics; land in farms and land use; tenure and characteristics of operator; selected farm expenses; acres planted, amount harvested, and sales value of fruits and nuts, vegetables and field crops; selected machinery and equipment; and inventory and sales of livestock and poultry and their products.