

## Final Report—Vol. I—Part 50—Counties

# Hawaii

*Prepared under the supervision of*  
**RAY HURLEY, Chief**  
**Agriculture Division**



Richard M. Scammon, Director (From May 1, 1961)  
Robert W. Burgess, Director (To March 3, 1961)





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Statistics in this report supersede figures shown in Series AC59-1 and AC59-2,  
Preliminary Reports

Library of Congress Catalog Card Number: A60-9482

**SUGGESTED CITATION**

U.S. Bureau of the Census. U.S. Census of Agriculture: 1959. Vol. I,  
Counties, Part 50 Hawaii

U.S. Government Printing Office, Washington, D.C., 1961

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C.,  
or any of the Field Offices of the Department of Commerce. Price 75 cents

## PREFACE

Volume I, Counties, is one of the five principal reports presenting the results of the 1959 Census of Agriculture. This volume, in 54 parts, presents the compilation of the information given by farm operators to census enumerators in 1959.

The 1959 Census of Agriculture was taken in conformity with the Act of Congress of August 31, 1954 (amended August 1957), which codified Title 13, United States Code.

The collection of the data was carried out by census enumerators directed by supervisors appointed by the Director of the Bureau of the Census and working under the direction of Robert B. Voight, then Chief, Field Division. Paul R. Squires, then Special Assistant to the Director, was responsible for the recruitment of the field staff. The planning of the census and the compilation of the statistics were supervised by Ray Hurley, Chief, Agriculture Division, Warder B. Jenkins, Assistant Chief, and Orvin L. Wilhite, Assistant Chief. They were assisted by M. Vincent Lindquist, Thomas Jabine, Robert S. McCauley, John C. Mackey, Robert Standley, Hilton E. Robison, Helen E. Teir, Carl R. Nyman, Kenneth R. Norell, Gladys L. Eagle, Henry L. DeGraff, Charles H. Boehne, Joseph A. Correll, Margaret G. Wood, Evelyn K. Jett, Simon Yablon, Emma B. Gass, Charlotte J. Messinese, Bennie L. Sharp, Isaac E. Lemon, James M. Lindsey, Samuel S. Murray, William F. Kauffman, Hector Vila, Harry P. Owings, Charles A. Nicholls, Henry A. Tucker, Robert S. Boyle, Helen M. Davenport, Albert W. Graybill, Lois G. Miller, Thomas D. Monroe, Gerald P. Owens, Bernard L. Ross, Marvin M. Thompson, Helen D. Turner, Kurt W. Luethy, Arnold L. Bollenbacher, George W. Coffman, Joseph A. Horak, Samuel J. Hundley, Donald K. Larson, Chester G. Lykins, Wilmer R. Maxham, Virgil L. McClain, Jr., Darrell D. Prochaska, Robert J. Rades, Hubert E. Sites, Duane E. Traylor, Donald H. von Steen, Elmer O. Rea, Frances G. Compton, Lillian W. Bentel, and Neil V. Perkins.

Acknowledgment is made of the technical assistance and the loan of personnel by the United States Department of Agriculture in the planning, the enumeration, and the compilation of the 1959 Census of Agriculture.

October 1961

# UNITED STATES CENSUS OF AGRICULTURE: 1959

## FINAL REPORTS

**Volume I—Counties**—A separate part for each State. Statistics on number of farms; farm characteristics; acreage in farms; cropland and other uses of land; land-use practices; irrigation; farm facilities and equipment; farm labor; farm expenditures; use of commercial fertilizer; number and kind of livestock; acres and production of crops; value of farm products; characteristics of commercial farms, farms classified by tenure, by size, type, and economic class; and comparative data from the 1954 Census of Agriculture.

Volume I is published in 54 parts as follows:

Part	State or States	Part	State or States	Part	State or States
1	New England States:	19	West North Central—Continued	38	Mountain:
2	Maine.	20	South Dakota.	39	Montana.
3	New Hampshire.	21	Nebraska.	40	Idaho.
4	Vermont.		Kansas.	41	Wyoming.
5	Massachusetts.		South Atlantic:	42	Colorado.
6	Rhode Island.	22	Delaware.	43	New Mexico.
	Connecticut.	23	Maryland.	44	Arizona.
	Middle Atlantic States:	24	Virginia.	45	Utah.
7	New York.	25	West Virginia.		Nevada.
8	New Jersey.	26	North Carolina.		Pacific:
9	Pennsylvania.	27	South Carolina.	46	Washington.
	East North Central:	28	Georgia.	47	Oregon.
10	Ohio.	29	Florida.	48	California.
11	Indiana.		East South Central:	49	Alaska.
12	Illinois.	30	Kentucky.	50	Hawaii.
13	Michigan.	31	Tennessee.		Other Areas:
14	Wisconsin.	32	Alabama.	51	American Samoa.
	West North Central:	33	Mississippi.	52	Guam.
15	Minnesota.		West South Central:	53	Puerto Rico.
16	Iowa.	34	Arkansas.	54	Virgin Islands.
17	Missouri.	35	Louisiana.		
18	North Dakota.	36	Oklahoma.		
		37	Texas.		

**Volume II—General Report.**—Statistics by Subjects, United States Census of Agriculture, 1959. Summary data and analyses of the data by States, for geographic divisions, and for the United States, by subjects, as illustrated by the chapter titles listed below:

Chapter	Title	Chapter	Title
I	Farms and Land in Farms.	VII	Field Crops and Vegetables.
II	Age, Residence, Years on Farm, Work Off Farm.	VIII	Fruits and Nuts, Horticultural Specialties, Forest Products.
III	Farm Facilities, Farm Equipment.	IX	Value of Farm Products.
IV	Farm Labor, Use of Fertilizer, Farm Expenditures, and Cash Rent.	X	Color, Race, and Tenure of Farm Operator.
V	Size of Farm.	XI	Economic Class of Farm.
VI	Livestock and Livestock Products.	XII	Type of Farm.

**Volume III—Irrigation of Agricultural Lands.** Western States (Dry Areas)—Data by States for drainage basins and a summary for the area, including number and types of irrigation organizations, source of water, expenditures for works and equipment since 1950, water used and acres served for irrigation purposes.

**Volume IV—Drainage of Agricultural Lands.** Data by States on land in drainage organizations, number and types of organizations, cost of drainage and drainage works.

**Volume V—Special Reports, Part 1.—Horticultural Specialties.** Statistics by States and a summary for the United States presenting number and kinds of operations; gross receipts and/or gross sales; sales of nursery products, flower seed, vegetables grown under glass, and propagated mushrooms; number of container-grown plants; inventory products; sales of bulb crops; employment; structures and equipment.

Titles of additional parts of this volume are not available as this report goes to press.

# HAWAII

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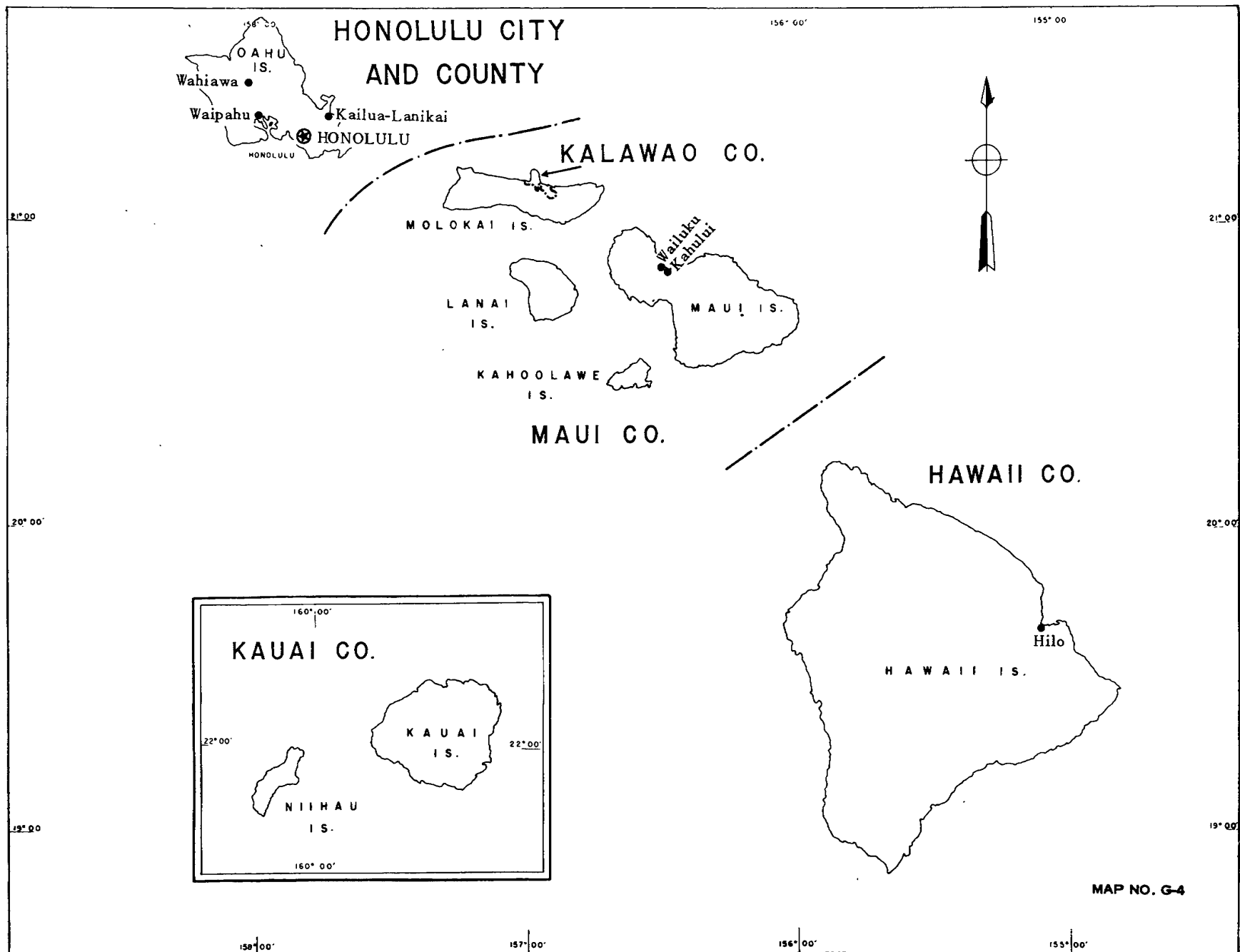
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# INTRODUCTION

(VII)

# HAWAII

Principal Islands, Counties and Selected Places





# INTRODUCTION

## THE 1959 CENSUS OF AGRICULTURE

**History of the Census.**—The 1959 Census is the 17th nationwide agricultural census. The first agricultural census was taken in 1840, at the same time as the Sixth Decennial Census of Population. From 1850 to 1920, an agricultural census was taken every 10 years. With increased application of scientific findings and the growing use of mechanization in agriculture, farming practices were changing so rapidly that facts collected at 10-year intervals were no longer adequate. Aware of the need for more accurate and timely information, the Congress in 1909 (36 stat. 10, sec. 31, provided for a census to be taken in 1915 and every 10 years thereafter which was to be in addition to the census of agriculture to be taken at the time of the decennial census of population. The 1915 census was not taken, however, because of the abnormal conditions created by World War I. Beginning with 1920, a national agricultural census has been taken every 5 years. The first United States Census of Hawaii was taken in 1900.

**Legal Basis for the Census.**—The 1959 Census of Agriculture was authorized by an Act of Congress, as were all prior censuses of agriculture. "Title 13, United States Code-Census," codified in August 1954, and amended in August 1957 and September 1960, is now the legal basis for censuses of agriculture and other censuses, and surveys conducted by the Bureau of the Census. Section 142, paragraph (a), of Title 13 makes provision for the Census of Agriculture. It reads as follows:

"The Secretary shall, beginning in the month of October 1959, and in the same month of every fifth year thereafter, take a census of agriculture, provided that the censuses directed to be taken in October 1959 and each tenth year thereafter, may, when and where deemed advisable by the Secretary, be taken instead in conjunction with the censuses provided in section 141 of this title." (Section 141 relates to the decennial censuses of population, unemployment, and housing to be taken as of the first day of April of each decennial year.) Under authority granted by Section 4 of Title 13, the Secretary of Commerce delegated "the functions and duties imposed upon him by this title" to the Director of the Bureau of the Census.

**Pretest of the 1959 Census.**—A "pretest" of the field procedures of the 1959 Census of Agriculture was conducted in 17 counties of the United States during the fall of 1958. The purpose of the pretest was to provide the Bureau with a measure of the effectiveness of the questions and procedures planned for the 1959 nationwide census. Three versions of the agriculture questionnaire—the first one for Northern States, the second for Southern States, and the third for Western States—were used in the pretest. Each version contained questions appropriate to the type of agriculture in the part of the country where it was used. All major aspects of field forms and procedures, from the hiring and training of crew leaders and enumerators to actual interviews with farm operators, were given a "trial run" in each of the 17 counties. Preliminary versions of reporting forms, maps, payroll records, training guides, and instruction manuals were subjected to actual use under conditions simulating those expected in the nationwide enumeration conducted in the fall of 1959.

In making final preparations for the 1959 census, the staff of the Bureau drew heavily on the results of the pretest, as well as on experience gained from previous censuses.

**Training Program for Personnel for Enumeration.**—Every person hired to do work in connection with the 1959 Census of Agri-

culture received specialized training for his job. Staff members of the Washington and Regional Offices of the Bureau and of the U.S. Department of Agriculture trained approximately 110 agriculture field assistants and 2,100 crew leaders. The crew leaders, in turn, trained and supervised approximately 30,000 enumerators. All training was presented according to procedures contained in various guides and manuals prepared by the Bureau. The training program included filmstrips, map-reading, practice interviewing, and practice filling of questionnaires and other census forms. In most instances, training sessions were held near the areas in which employees worked and immediately prior to the beginning of their assignments.

**Enumeration Period.**—The actual enumeration in the conterminous United States started at dates varying from October 7 to November 18, 1959. In general, starting dates were based upon regional variations in harvesting seasons and on weather conditions. The primary aim was to have the enumeration late enough to follow the harvesting of the bulk of important crops and early enough to precede the advent of winter weather with the attending unfavorable travel conditions. The bulk of the enumeration work was completed within three to four weeks after the starting date. In Hawaii, the enumeration was made during the months of December 1959 and January 1960; and in Alaska, during April 1960.

Enumeration starting dates for the Census of 1959 are given in State Table 11, together with figures showing the percentage of farms enumerated in the State during weekly periods.

Data for inventory items—land in farms, machinery and equipment, livestock, and poultry—relate to the situation at the actual time of enumeration of each individual farm. Data for acres, production, and sales of crops, except for pineapples, relate to the crops harvested during the crop year 1959, regardless of whether and when they were sold while data for sales of livestock and livestock products relate to the calendar year 1959. Since the enumeration was made before the end of 1959, special emphasis was placed upon the inclusion of estimates for crops yet to be sold and for livestock and livestock products expected to be sold in the period from the time of enumeration to the end of the calendar year. Instructions on the questionnaire and the wording of questions were designed to assure that full crop-year or calendar-year data would be reported. For example, "How much of this year's crop was or will be sold?"

## ENUMERATION FORMS AND PROCEDURES

**Authorization.**—Section 5 of Title 13 of the United States Code authorizes the preparation of forms and questionnaires used in the census. It reads as follows:

"The Secretary shall prepare schedules, and shall determine the inquiries, and the number, form, and subdivisions thereof, for the statistics, surveys, and censuses provided for in this title."

**The Agriculture Questionnaire.**—The questionnaire for the 1959 Census of Agriculture was prepared by the staff of the Bureau. Selection of the inquiries was based on the results of the 1958 pretest and experience gained in earlier censuses. Careful consideration was given to such factors as the current availability

of data from other sources, the possibility of obtaining data by methods other than a census, the adequacy of the data that might be obtained, and the need for and usefulness of the data. Two committees gave advice and counsel to the Bureau. One of these, a Special Advisory Committee, was composed of members designated by the organizations they represented, following an invitation from the Director of the Bureau of the Census to name a representative to serve in an advisory capacity. The Special Advisory Committee for the 1959 Census of Agriculture was made up of one representative from each of the following: Agricultural Publishers Association, American Association of Land-Grant Colleges and State Universities, American Farm Bureau Federation, American Farm Economic Association, American Statistical Association, Farm Equipment Institute, National Association of Commissioners, Secretaries, and Directors of Agriculture, National Council of Farmer Cooperatives, National Farmers' Union, National Grange, Rural Sociological Society, and the U.S. Department of Agriculture. A representative of the Bureau of the Budget was in attendance at all meetings of the Advisory Committee.

Because of the special interest of the U.S. Department of Agriculture in censuses of agriculture, the Director of the Bureau of the Census sought the continuous cooperation of that organization in developing plans, questionnaires, and procedures for the 1959 Census of Agriculture. Working Groups were established in the U.S. Department of Agriculture to make recommendations for the following general subjects:

Tenure, Land Values, and Mortgage Debt  
Land Use and Conservation and Production Practices  
Field Crops  
Fruits and Vegetables  
Forest Products  
Livestock, Poultry, and Dairy  
Income and Expenditure (including Contractual Operations)  
Farm Labor  
Equipment and Facilities (including Structures)

Each Working Group had the responsibility for ascertaining the U.S. Department of Agriculture's need for data in the field covered by its "terms of reference" and for presenting recommendations to a small Joint Committee comprising representatives of both the Bureau of the Census and the U.S. Department of Agriculture. The Joint Committee received written recommendations from each Working Group. The Chairman of each Group appeared before the Joint Committee as did any member of the Working Group who was needed to present supplemental information of a specialized nature.

Prior to the formulation of the questionnaire, State Agricultural Colleges and other major users of census data were invited to suggest inquiries for the enumeration. Each member of the Special Advisory Committee had the opportunity and the responsibility for channeling in suggestions from the organization he represented. The number of inquiries submitted from all sources greatly exceeded the number that could be included in the census, from the point of view of cost, of the respondent's time and patience, and of practical value to the majority of users of data.

The final selection included 316 questions, some of which consisted of several parts, for the 48 States comprising the conterminous United States. Although each of the 316 questions was asked in one or more of the 48 States, considerably less than this total was asked in any one State because of the use of "State" questionnaires. The number of questions ranged from 159 on the questionnaire for Maine to 194 on the questionnaire for California. In all, 38 versions of the questionnaire—one for each State or combination of adjoining States and two for Texas—were used for the 1959 census in the conterminous United States

as compared with 21 versions in 1954 and 41 in 1950. A separate version was used in Alaska and another in Hawaii.

Differences in the questionnaires were designed to account for regional and local differences in agriculture. Most, but not all, of the differences related to crops. The use of State questionnaires made possible the inclusion of separate inquiries for all important crops grown within a State and, at the same time, a reduction in the total number of inquiries for a State. Questions that did not apply, to any considerable degree, to a particular State were omitted from the questionnaire used in that State. For example, separate questions about citrus fruits were omitted from all questionnaires except for the few States where citrus fruits are grown. An added advantage of State questionnaires was that production and sales data could be asked in the unit of measure most commonly used by the farmers in each State. Regional variation in the number and type of questions is an important provision of the census for obtaining complete coverage of agricultural operations.

About 2 weeks before the start of the enumeration, agriculture questionnaires were mailed to most households in rural areas. A letter was attached to each questionnaire asking the farm operator to fill the questionnaire and to give it to the enumerator when he called. The purpose of this procedure was to save time and money in taking the census and to improve the quality of the information given by farm operators. By having the questionnaire ahead of time, the farmer could determine what information would be required and could check his records in advance of the enumerator's visit. It was, however, the responsibility of the enumerator to obtain an agriculture questionnaire for each place which qualified. If the questionnaire had been filled out by the farm operator, the enumerator was instructed to examine the questionnaire for completeness and accuracy and, if need be, to give the farmer such help as might be necessary.

**Agricultural Operations.**—The training of enumerators stressed the concept that a census of agriculture is a census of agricultural operations rather than a census of farms. This concept was intended to assure a complete agricultural census free of any personal judgment by enumerators as to what constitutes a farm. In accordance with clearly defined procedures, an enumerator was required to obtain an agriculture questionnaire for each person who had charge of one or more agricultural operations, whether or not he considered himself to be a farm operator. For enumeration purposes, it was considered that there were agricultural operations on a place if, at any time in 1959—

- a. Any livestock (hogs, cattle, sheep, goats, horses, or mules) were kept on the place.
- b. A combined total of 20 or more chickens, turkeys, and ducks were kept on the place.
- c. Any rice, hay, sugarcane, or other field crops were grown on the place.
- d. A combined total of 20 or more fruit trees, coffee trees, and nut trees were on the place.
- e. Any vegetables, berries, or nursery products or flowers were grown on the place for sale.

As a result of the requirement that all places having agricultural operations be enumerated, more questionnaires were obtained than are included in the tabulations for farms. During the office processing operations that followed the completion of enumeration, criteria were applied to the questionnaires to sort out for tabulation those that represented farms according to the census definition of a farm (see page XIII).

**Enumeration Assignments and Enumeration Districts.**—To assure a complete enumeration within the time allotted, Hawaii was divided into 36 Enumeration Assignments, or EA's. Each EA comprised an area that one enumerator could reasonably be

expected to canvass within a 3- to 4-week period, as indicated by performance records from the 1950 Census.

Each EA was made up of one or more Enumeration Districts, or "ED's," as the geographic unit for enumeration. Prior to the enumeration, the ED's were classified into three groups on the basis of the density of dwellings in relation to the number of farms. Through the use of different canvassing procedures for each group of ED's, the Bureau was able to reduce the cost of enumeration without running any material risk of missing any farms or other places with agricultural operations. The ED groupings and canvassing procedures are described below.

**Group I Enumeration Districts.**—In general, ED's with no well-defined cluster of dwellings were considered to be open-country areas and comprise Group I. For each ED of Group I, in his Enumeration Assignment, the enumerator was required to list in his Record Book the name of every head of household living in the ED and also the name of every person not living in the ED who had agricultural operations there.

**Group II Enumeration Districts.**—Rural ED's in which the number of dwellings was large in relation to the number of farms were considered to be in Group II. For each ED, in Group II, the enumerator was required to list the head of the household for all dwellings in the ED except for those on less than one acre of ground in built-up residential areas of 50 or more dwellings. He was also required to determine, by observation or local inquiry, whether there were any farms or other places with agricultural operations in the built-up areas and, if so, to obtain an agriculture questionnaire.

**Group III Enumeration Districts.**—Most incorporated places and unincorporated villages having approximately 150 or more dwellings were designated as separate ED's and are classified as Group III. Also, most ED's in counties around large metropolitan areas were designated as Group III ED's.

A few enumeration districts that comprised incorporated places or that were within an incorporated city were classified as Group I or Group II because they had a large number of farms. A few others, comprising extensive rural districts requiring considerable travel, were classified as Group III because they had only a small number of farms.

**Enumerator's Record Book.**—Each enumerator received one or more Record Books containing a listing form for use during canvassing. (See appendix for facsimile of one page of listing form included in Enumerator's Record Book.) The lines on the listing form were numbered in consecutive order. Except as otherwise prescribed for Group II and Group III ED's, the enumerator listed in his Record Book the name of each head of household living in his assigned area and also the name of each person not living in his area who had agricultural operations there. As he made his listing, he also asked the questions about agricultural operations that were printed on the listing form. Answers to these questions determined, for the enumerator, whether or not an agriculture questionnaire was required for the person listed and, if so, whether he or some other enumerator was responsible for getting it. Thus, the Record Book served as an important aid to the enumerator in securing complete coverage of all agricultural operations within his area. At the same time, it helped to prevent enumeration of the same place by two or more enumerators.

**Enumeration Maps.**—As a second aid to getting complete coverage, each enumerator received a map or, in a few exceptional cases, a brief written description of the area assigned to him for enumeration. He was required to plan and follow an orderly route of enumeration within the boundaries of his assigned area in accordance with established canvassing procedures. As the enumerator listed a place in his Record Book, he indicated its location by copying onto his map the number of the line on which he listed it. This numbering system indicated the enumerator's route of travel, and helped both the enumerator and his crew leader to determine the extent of coverage of the enumerator's assignment at any given time.

**Lists of Special and Large Farms.**—Prior to the enumeration, a card list of "special and large farms" was prepared on the basis of records obtained from the 1950 Census and from Federal and State agricultural agencies. In general, "special and large farms" fell into one of three categories: (1) farms having unusually large acreages, livestock inventories, or annual sales as indicated by available records; (2) farms known to be specializing in such operations as sugarcane production, feed lots, flower growers, etc.; (3) farms that might easily be overlooked because they had absentee operators or were not locally thought of as farms, such as institutions.

Enumerators were given the lists for the special and large farms within their assignment areas to use as aids to obtaining complete coverage. Generally, the lists provided insurance against the omission of farming units that could have a significant effect on the totals for a given county or State. The enumerator was instructed to obtain an agriculture questionnaire for each special or large farm in his area or to write an explanation on the card as to why an agriculture questionnaire was not required on the basis of 1959 operations. The crew leader had a duplicate set of the lists for use in checking enumeration coverage.

**Field Review of Enumerator's Work.**—In the 1959 census, greater emphasis was placed on a detailed review of enumerators' work during enumeration than had been the case in previous censuses. The objective was to detect and correct enumeration errors as early as possible in order to achieve and maintain a high quality of individual performance. Starting on the first day of enumeration and continuing throughout the enumeration period, each crew leader was instructed to make regular and frequent visits to his enumerators. At each visit, he was to follow a clearly defined procedure for observing the enumerator's conduct of interviews and for checking his listings, maps, questionnaires, and other forms for accuracy and completeness.

As an aid to checking coverage and enumerator efficiency, the crew leader was given a list containing estimates of the number of questionnaires required in each enumeration assignment area within his district, and of the mileage and time required to obtain those questionnaires.

## PROCESSING OPERATIONS

**Completion of Enumeration.**—As an enumerator completed his assignment, he turned the portfolio containing questionnaires and other census materials over to his crew leader. After making a final review of the enumerator's work, the crew leader mailed the portfolio to the Agriculture Processing Office at Parsons, Kansas. There, each enumerator portfolio was thoroughly checked for completeness of all required forms and for correct application of the sampling procedure.

**Editing of Questionnaires.**—Each agriculture questionnaire was individually edited and coded before the information was transferred to punch cards and tabulated. As the first major step in the editing process, questionnaires that did not represent farms according to the census definition were withdrawn from further processing. (See p. XIII.) As the second major step, the remaining questionnaires were examined for errors, omissions, and inconsistencies. Among the specific items subjected to consistency checks were the following:

- a. Total acreage compared with its distribution by use.
- b. Acreage of individual crops harvested compared with total cropland harvested.
- c. Irrigated acreage compared with total acres in the farm.
- d. Total acreage of individual crops for all purposes compared with the acreage harvested for specific purposes.
- e. Quantity of crops harvested in relation to acreage harvested.

- f. Sales in relation to production and, for livestock, to inventories.
- g. Total livestock compared with the inventory by age and sex.
- h. Expenditures compared with production and inventories.

Obvious errors in calculations or in units of measure, and misplaced entries were corrected as they were found. Entries not clearly legible were rewritten. Many omissions or inconsistencies were disregarded during editing. Those of significant magnitude could be and were handled more efficiently and economically during mechanical processing operations. Questionnaires containing major inconsistencies and omissions were referred to members of the technical staff for review. Depending on the magnitude of the data involved, the technical staff corrected (or supervised the correction of) the questionnaires either on the basis of information reported for other farms of similar type in the area or on the basis of additional information received in response to letters directed to the farm operators.

**Coding of Questionnaires.**—Most of the numerical information on a questionnaire was self-coding in that the inquiry number was utilized for the item identification on punch cards or on tabulations runs. However, some manual coding was also necessary for such items as irrigated crops, crops infrequently reported, miscellaneous poultry, etc. Code numbers were entered on questionnaires to classify farms and, in some cases, to identify data for individual items. All farms were coded by size of farm in terms of total acreage, by race, and by tenure of operator. Farms in the 17 Western States, Louisiana, and Hawaii were also coded on the basis of irrigated cropland and irrigated pasture. Additional codes were applied to all farms included in Hawaii to classify them by type of farm and by total value of agricultural products sold. Individual items were coded only where reports were received for crops or poultry not covered by separate inquiries on the questionnaire. This coding was necessary to assure inclusion of the data in the appropriate farm product totals.

**Tabulation of Data.**—After the questionnaires were edited and coded, the information on them was punched on cards. The cards were then mechanically sorted and fed into machines which transferred the data to tabulation sheets. One of the initial and primary steps in the machine handling of the punch cards was to separate and list those cards which lacked necessary information, those which contained inconsistent or impossible data, and those on which the data were possible but of such magnitude that a further review of the individual questionnaires was warranted. The listing sheets were examined and, as necessary, the cards were corrected. When the cards for a particular county were considered satisfactory, the data were tabulated.

Subject-matter specialists of the Bureau examined all tabulations for reasonableness and consistency. As necessary, they made corrections on the basis of a further review and reappraisal of the original reports and verification of the editing, coding, and punching.

## PRESENTATION OF STATISTICS

**Statistical Content of This Report.**—This report is part of Volume I of the 1959 Census of Agriculture. Volume I consists of 54 parts, each part containing information about agriculture for a single State, Commonwealth, or Possession. Each part contains county data for that particular State or area. The term "county," as used in this report embraces election districts in Alaska, parishes in Louisiana, municipios (municipalities) in Puerto Rico, etc. The statistics for 1959 were obtained from the Census of Agriculture taken in the "conterminous United States" (see following paragraph), Hawaii, and Puerto Rico during the

period October 1959 to January 1960 and in Alaska, American Samoa, Guam, and Virgin Islands as of April 1, 1960. Comparative data for years prior to 1959 were obtained from earlier censuses.

In the planning of the publications for the 1960 Censuses of Population and Housing and the 1959 Census of Agriculture, the term "conterminous United States," recommended by the Board of Geographic Names to designate the 48-State area as it existed before Alaska and Hawaii became States, was adopted by the Bureau of the Census.

The definitions and explanations in this introduction for volume I generally have application broad enough to include the States of Alaska and Hawaii, and the Commonwealth of Puerto Rico and the island possessions. However, specific application in many instances may be limited to the conterminous United States; for example, references to earlier censuses, to the sampling methods and procedures, to specific sections or questions on the questionnaires, and to specific table numbers.

For each part of volume I (one part for each State or area), a facsimile of the appropriate questionnaire is reproduced in the appendix.

The statistics for States and counties are presented according to the same general plan as was followed in the volume I reports for the 1954 and the 1950 censuses. State and county totals are given for nearly all items for which information was obtained in the 1959 census. However, most of the data by economic class of farm, type of farm, and color and tenure of farm operator are given only for States.

Comparative data for the States are given for each census year beginning with 1900. Comparative data for counties are given for the years 1959 and 1950. For some items, the data obtained from the 1959 census are the only ones available.

**Comparability of Data.**—The data obtained from the various censuses of agriculture are not strictly comparable for all items. For example, differences from one census to another in the time of enumeration, the wording of the questions, and the definition of a farm cause some lack of comparability. Differences considered to have a significant effect on the comparability of data are described in the text and/or mentioned in footnotes to the tables.

**Minor Civil Divisions.**—As in prior censuses, data for most of the items included in the 1959 Census of Agriculture were tabulated for minor civil divisions. The term "minor civil division" applies to the primary subdivision of a county into smaller geographic areas such as townships, precincts, districts, wards, beats, municipalities, etc. Figures for these smaller geographic areas are not included in any of the published reports, but they may be supplied upon request and payment of the costs of compiling and checking the data.

In some cases, the minor civil division tabulations provide totals for a single minor civil division, even when such totals required a grouping of enumeration assignments. In other cases, the minor civil division tabulations provide totals for a combination of two or more adjoining minor civil divisions. The data for each individual minor civil division included in such totals can be tabulated separately, however, since each questionnaire obtained in the census contains the designation of the minor civil division in which the farm headquarters was located. An additional charge must be made for a separate tabulation of any small area included in a total for two or more combined minor civil divisions.

Requests for census information for minor civil divisions should be directed to the Agriculture Division, Bureau of the Census, Washington 25, D.C.

## DEFINITIONS AND EXPLANATIONS

**Descriptive Summary and References.**—The definitions and explanations that follow relate only to those items that are considered to be inadequately described in the tables where they appear. Although the descriptive terms and explanations refer specifically to the 1959 Census of Agriculture, many of them also apply to earlier censuses. Most of the definitions consist of a résumé of the questionnaire wording, supplemented by excerpts from instructions given to enumerators. For exact wording of the questions and of the instructions included on the questionnaire, see the facsimile of the 1959 Agriculture Questionnaire in the appendix of this report.

An analysis of the questions asked in the 1959 census, and of the data obtained, is given in Volume II, General Report, Statistics by Subjects, United States Census of Agriculture, 1959. The general report presents statistics for States by subject matter.

## GENERAL FARM INFORMATION

**Census Definition of a Farm.**—For the 1959 Census of Agriculture, the definition of a farm was based primarily on a combination of "acres in the place" and the estimated value of agricultural products sold.

The word "place" was defined to include all land on which agricultural operations were conducted at any time in 1959 under the control or supervision of one person or partnership. (For definition of "agricultural operations," see p. X.) Control may have been exercised through ownership or management, or through a lease, rental, or cropping arrangement.

Places of less than 10 acres in 1959 were counted as farms if the estimated sales of agricultural products for the year amounted to at least \$250. Places of 10 or more acres in 1959 were counted as farms if the estimated sales of agricultural products for the year amounted to at least \$50. Places having less than the \$50 or \$250 minimum estimated sales in 1959 were also counted as farms if they could normally be expected to produce agricultural products in sufficient quantity to meet the requirements of the definition. This additional qualification resulted in the inclusion as farms of some places engaged in farming operations for the first time in 1959 and places affected by crop failure or other unusual conditions.

To avoid biases arising from an enumerator's personal judgment and opinion, the Bureau did not give enumerators the definition of a farm. Instead, enumerators were instructed to obtain questionnaires for all places considered farms by their operators and for all other places that had one or more agricultural operations. (See "Agricultural Operations," p. X.) In 1950, agricultural operations were defined to include every place of 3 or more acres, whether or not the operator considered it a farm, and every place having "specialized operations," regardless of the acreage. "Specialized operations" referred to nurseries and greenhouses and to places having 100 or more poultry, production of 300 or more dozen eggs in 1949, or 3 or more hives of bees. In all of the two last censuses, as a result, questionnaires were filled for a considerable number of places that did not qualify as farms. The determination as to which questionnaires represented farms was made during office processing operations and only those questionnaires meeting the criteria for a farm were included in the tabulations.

For the 1950 Census of Agriculture, places of 3 or more acres were counted as farms if the annual *value* of agricultural products, whether for home use or for sale but exclusive of home-garden products, amounted to \$150 or more. Places of less than 3 acres were counted as farms only if the annual *sales* of agricultural products amounted to \$150 or more. A few places with very low agricultural production because of unusual circum-

stances, such as crop failure, were also counted as farms if they normally could have been expected to meet the minimum value or sales criteria.

In the censuses from 1930 to 1940, enumerators were given a definition of "farm" and were instructed to obtain reports only for those places which met the criteria. According to this definition, farms included all places of 3 or more acres, regardless of the quantity or value of agricultural production, and places of less than 3 acres if the value of agricultural products, whether for home use or for sale, amounted to \$250 or more. Because of changes in price level, the \$250 minimum resulted in the inclusion of varying numbers of farms of less than 3 acres in the several censuses taken during this period. Generally, the only reports excluded from tabulation were those taken in error and those showing very limited agricultural production, such as only a small home garden, a few fruit trees, a small flock of chickens, etc.

The change in the number of farms in 1950, as compared with earlier censuses, was partly due to the change in farm definition, especially with respect to farms of 3 or more acres in size. Some of the places of 3 or more acres that were not counted as farms in 1950 because the value of their agricultural production was less than \$150 would have qualified as farms if the criteria had been the same as in earlier censuses.

For 1959, the difference in the number of farms as compared with all prior censuses resulted partly from the change in farm definition. The fact that sales of agricultural products in 1959 was used resulted in the exclusion of some places that would have qualified as farms had the value of agricultural products alone been considered. The increase in the acreage minimum also had an effect. The change in the number of farms due to change in definition, 1950 to 1959, is shown for each county in county table 1. Some characteristics of the places not counted as farms in 1959, but which would have been included in 1950, are shown in State Table 10.

The change in farm definition made in 1950 and again in 1959 had no appreciable effect on the totals for livestock or crops because the places affected by the change ordinarily accounted for less than 1 percent of the totals for a given county or State.

**Farm Operator.**—The term "farm operator" is used to designate a person who operates a farm, either doing the work himself or directly supervising the work. He may be the owner, a member of the owner's household, a hired manager, or a tenant, renter, or sharecropper. If he rents land to others or has land worked on shares by others, he is considered as operator only of the land which he retains for his own operation. In the case of a partnership, only one partner is counted as an operator. The number of farm operators is considered to be the same as the number of farms.

**Farms Reporting or Operators Reporting.**—Figures for farms reporting or operators reporting, based on a tabulation of all farms, represent the number of farms, or operators, for which the specified item was reported. For example, if there were 1,922 farms in a county and only 1,465 had chickens 4 months old and over on hand at the time of enumeration, the number of farms reporting chickens would be shown as 1,465. The difference between the total number of farms and the number of farms reporting a particular item represents the number of farms not having that item, provided a correct report was received for all farms.

Where applicable, figures may be given for the number of farms or operators not reporting items that were intended to be obtained for all farms; for example, residence of farm operator, State table 4. The number not reporting, as compared with the total number of farms or operators, indicates the extent of incompleteness of the reporting of the data for the item.



**Land Area.**—The approximate total land area of States and counties as reported for 1959 is, in general, the same as that reported for all censuses beginning with 1940. Such differences as are shown reflect political changes in boundaries or actual changes in land area caused by changes in the number or size of reservoirs, lakes, streams, etc. For Alaska, the areas for election districts represent the gross area of land and water.

**Land in Farms.**—Except for managed farms, the land to be included in each farm was determined from the answers to questions about the number of acres owned, the number of acres rented from others or worked on shares for others, and the number of acres rented to others or worked on shares by others. The acres owned and the acres rented from others or worked on shares for others were first added together and then the acres rented to others or worked on shares by others were subtracted. The result represented the number of acres in the farm. The number of acres in a managed farm was the difference between the total land managed and that part of the managed land that was rented to others or worked on shares by others.

In the 1959 and 1950 censuses, enumerators were instructed to record total figures for land owned, land rented from others, and land managed for others, including any part of the land that was rented to others. In censuses prior to 1950, enumerators were instructed to exclude all land rented to others and to record only that portion of the acreage owned, rented from others, or managed for others that was retained by the farm operator. Thus, the figures for the individual tenures of land are not entirely comparable for all censuses. However, the land included in each farm was determined on essentially the same basis for all censuses.

The acreage designated in the tables as "land in farms" consists primarily of "agricultural" land—that is, land used for crops and pasture or grazing. It also includes considerable areas of land not actually under cultivation nor used for pasture or grazing. For example, the entire acreage of woodland and wasteland owned or rented by farm operators is included as land in farms, unless it was being held for nonagricultural purposes or unless the acreage was unusually large.

Except for open range and grazing land used under government permit, all grazing land was to be included as land in farms provided the place of which it was a part was a farm. Land used rent free was to be reported as land rented from others.

**Land owned.**—All land that the operator and/or his wife held under title, purchase contract, homestead law, or as heir or trustee of an undivided estate at the time of enumeration is considered as owned.

**Land Rented from Others.**—This item includes not only land that the operator rented or leased from others but also land he worked on shares for others and land he occupied rent free.

**Land Rented to Others.**—This item includes all land rented or leased to others, except land leased to the government under the Soil Bank, and all land worked by others on shares or on a rent-free basis. For the most part, the land rented to others represents agricultural land but it also includes land rented for residential or other purposes. The tenant is considered as the operator of land leased, rented, or worked on shares even though his landlord may supervise his operations. The landlord is considered as operator of only that portion of the land not assigned to tenants.

**Land Managed.**—This item includes all tracts of land managed for one or more employers by a person hired on a salary basis. A hired manager was considered to be the operator of the land he managed since he was responsible for the agricultural operations on that land and frequently supervised others in performing those operations. Managed land was always to be reported on a separate questionnaire whether or not the manager also operated a farm on his own account.

**Land in Farms According to Use.**—Land in farms has been distributed according to the way in which it was used in 1959. The land uses described in the following paragraphs are mutually

exclusive; that is, each acre of land is included only once even though it may have had more than one use during the year.

**Cropland Harvested.**—This category refers to all land from which any crops were harvested in 1959, whether for home use or for sale. It includes land in fruit orchards, coffee, nuts, and flowers. Matured crops hogged off or grazed were considered to have been "crops harvested" and were reported here. Land from which two or more crops were harvested in 1959 was to be counted only once in the land-use classification. Land used for other purposes either before or after the crops were harvested was to be reported as cropland harvested, without regard to the other uses.

The enumerator was instructed to check the figure for cropland harvested for each farm by adding the acreages of the individual crops and subtracting the acreages from which two or more crops were harvested. This checking procedure was repeated during the office processing of questionnaires for all farms having 100 or more acres of cropland harvested.

**Cropland used only for Pasture.**—This land-use classification includes rotation pasture and all other land used only for pasture or grazing that the operator considered could have been used for crops without additional improvement. Enumerators were instructed to include land planted to crops that were hogged off, pastured, or grazed before maturity but to exclude land pastured before or after hay or other crops were harvested from it. Permanent open pasture may have been reported either for this item or for "other pasture" depending on whether or not the operator considered it as cropland.

**Cropland not Harvested and not Pastured.**—This classification represents a total of three subclasses.

**Cropland for Future Harvest.**—This subclass includes land from which no crops were harvested in 1959, but which was occupied by growing crops (primarily sugarcane and pineapples) intended for harvest in 1960 or later. It does not include land in fruit orchards, nut trees, or coffee, nor land in crops harvested or intended for harvest in 1959 even if such land was planted to crops for harvest after 1959.

**Crop Failure.**—This subclass includes cropland not harvested because of complete crop failure, low prices, labor shortage, or other reasons.

**Other Cropland.**—This subclass includes idle cropland and land in soil-improvement crops only.

**Woodland Pastured.**—This classification includes all woodland where livestock were pastured or grazed in 1959.

**Woodland not Pastured.**—This classification refers to all woodland not used for pasture or grazing in 1959, including land in operated farms that was placed in the Soil Bank and planted to trees.

**Other Pasture.**—This classification refers to all land other than woodland and cropland that was used only for pasture or grazing in 1959. It includes noncrop open or brush pasture and cutover or deforested land that has been improved and used for pasture.

**Improved Pasture.**—This subclass refers to that portion of "other pasture" on which one or more of the following practices had been used: liming, fertilizing, seeding, irrigating, draining, or the clearing of weed or brush growth.

**Other Land.**—This classification refers to all land not included in the preceding land-use classifications, such as house lots, barn lots, lanes, roads, ditches, land area of ponds, and wasteland. This figure for 1959 was obtained from the machine tabulations by subtracting the total of all other uses from the total land in all farms reported for a given county or classification. Hence, there is no figure given to represent the farms reporting this item.

Other land has been further subdivided into (1) land in lava flows without vegetation; (2) land in palis, gulches, and streambeds; and (3) land occupied by farmsteads, houses, roads, ditches, and windbreaks.

**Age of Operator.**—Farm operators were classified by age into six age groups. The average age of farm operators was derived from the sum of the ages of all farm operators reporting age divided by the number reporting. The number of farm operators 65 or more years of age is an actual count based on the operators reporting age.

**Residence of Operator.**—Farm operators were classified by residence according to whether or not they lived on the farms they were operating. Some of those who did not live on the farms they operated themselves lived on farms operated by others. In cases where all the land was rented from others or worked on shares for others, the operator was considered to live on the farm operated provided the dwelling he occupied was included in the rental agreement. The dwelling, in such cases, was not necessarily on the land being operated. Similarly, a farm operator who did not live on the land being cultivated or grazed but who had some agricultural operations (other than a home garden) at his dwelling was considered as living on the farm operated.

Since some farm operators live on their farms only during a part of the year, comparability of the figures for various censuses may be affected by the date of enumeration.

In a few cases, the enumerator failed to report the residence of the farm operator. Differences between the total number of farms and the number of farm operators classified by residence indicate the extent of under-reporting.

**Year Began Operating Present Farm.**—Enumerators were instructed to report the year during which a farm operator began to operate his present farm and, if the year was 1958 or later, also to report the month. The year was intended to refer to the first year of the period during which the operator had been in continuous charge of his present farm or of any part of it. The time of year that farmers move is indicated by the month they began operating their farms, as shown by a monthly breakdown of the reports for farmers who began operating their present farms during 1958 and 1959.

**Off-Farm Work and Other Income.**—To obtain a measure of the extent to which farm operators rely on nonfarm sources for part of their income, four questions were asked of all farm operators. The first question asked for the number of days the operator worked off his farm in 1959. The other three questions, to be answered "Yes" or "No," asked (1) whether other members of the operator's household did any work off the farm; (2) whether any income was received from sources other than the sale of agricultural products from the farm operated; and (3) whether the combined income of all members of the household from off-farm work and other sources was greater than the total value of agricultural products sold from the farm operated.

Off-farm work was defined to include work on someone else's farm for pay as well as all types of nonfarm jobs, businesses, and professions, whether the work was done on the farm premises or elsewhere. Exchange work was not included.

**Equipment and Facilities.**—In 1959 as in several earlier censuses, data about specified equipment and facilities were obtained for only a sample of farms. Farm operators were asked to report equipment and facilities that were on the farm at the time of enumeration, regardless of ownership. They were to include items that were temporarily out of order but not any that were worn out.

Data in terms of actual number were obtained for the following items of farm equipment in 1959: (1) electric motors of 1 or more horsepower, (2) power-spraying and dusting machines, (3) pick-up balers, (4) field forage harvesters, (5) motortrucks, (6) wheel tractors, (7) garden tractors, (8) crawler tractors, and (9) automobiles. Definitions given enumerators included the following specifications, among others: **Pick-up balers** were to include both hand-tie and automatic balers but not stationary ones. **Motortrucks** were to include pick-up trucks and truck-trailer combinations; jeeps and station wagons were also to be included if they were used primarily as trucks, but school buses were specifically excluded. **Wheel tractors** specifically excluded garden tractors, implements with built-in power units, such as self-propelled combines or powered buck rakes, and the

power unit of a truck-trailer combination. **Automobiles** were to include jeeps and station wagons if they were used primarily as passenger cars.

Questions to be answered "Yes" or "No" provided information as to the presence or absence of the following items: (1) telephone; (2) home freezer; (3) milking machine; (4) electric milk cooler; (5) crop drier; (6) power-operated elevator, conveyor, or blower; and (7) electricity.

Comparable data from one census to another are not available for all items. The questions asked about equipment during a given census reflect changes in farm mechanization and in the facilities available to farm families.

**Ownership of Sources of Farm Power.**—Data regarding the ownership of tractor power used on farms were obtained for the first time in the 1960 Census. On the basis of the reports, farm operators were classified by tenure according to whether they used tractor power or used no power on their farms in 1959. The operators reporting use of power were further classified into four groups on the basis of ownership of the tractors. These four groups are as follows:

Source of power owned by (1) the farm operator alone, (2) the farm operator and another person jointly, (3) the farm operator's landlord, and (4) a private contractor or a government agency.

**Farms by Kind of Road.**—The classification of farms by the kind of road on which they are located is based on only a sample of farms. The enumerator was instructed to report, on the basis of his own observation, the kind of road on which the most frequently used entrance to the farm was located. For farms consisting of two or more tracts, he was to limit his report to the tract on which the farm operator had his dwelling or other headquarters.

**Farm Labor.**—The questions about farm labor related to persons working during the calendar week preceding the week of enumeration. Since the enumeration starting dates varied by geographic areas, and the enumeration within each area lasted over a period of several weeks, the calendar weeks to which the data apply also vary. Thus, the data for an individual farm may relate to any one week during the months of December or January 1960.

Farm labor was defined to include any work, chores, or planning necessary to the agricultural operations of the farm; and to exclude housework, contract construction work, custom machine work, and repair, installation, or construction work done by persons employed specifically for such work. The farm labor information contained in this report represents estimates based on answers to questions relating to the farm work or chores done during the week by (1) operator, (2) unpaid members of the operator's family, and (3) hired persons. An operator was considered as working if he worked one or more hours; unpaid members of the operator's family, if they worked 15 or more hours; and hired persons, if they worked at all during the week. Persons employed in sugar mills and pineapple canneries were not to be reported as farm laborers.

Data are not fully comparable from one census to another, primarily because of differences in the period to which they relate.

In 1950, as in 1959, the data related to the week preceding the actual enumeration. Unlike 1959, however, enumeration starting dates were identical for all States in 1950 (April 1) but since several weeks were required to complete the enumeration, the calendar week preceding the enumeration was not identical for all farms. In 1940, only persons working the equivalent of two or more days during the specified week were to be included. In 1940, an additional specification limited the workers to those 14 years old and over.

Experience gained from earlier censuses indicates that farm labor data are often unsatisfactorily reported unless the week specified is the week immediately preceding the actual enumeration. When a farm operator was asked to report the number of persons employed during a specified week that was several weeks prior to enumeration, he often reported the highest number of persons employed during the year. Obviously incorrect reports were adjusted to make the data reflect more nearly the situation known to exist during the specified week. Few adjustments were made in those data, however, even though there were indications of incorrect reporting.

**Regular and Seasonal Workers.**—Hired persons working on the farm during the week concerned were classed as "regular" workers if the period of actual or expected employment was 150 days or more during the year. They were classed as "seasonal" workers if the period of actual or expected employment was less than 150 days. In cases where the period of employment was not reported for an individual farm, it was estimated from data for such items as basis of payment, wage rates, expenditures for labor in 1959, and type of farming operations.

**Hired Workers by Basis of Payment.**—Hired persons were also classified according to whether they were paid on a monthly, weekly, daily, or hourly basis, or by piecework. In cases of incomplete reporting, the basis of payment for hired workers was supplied during the office processing operations.

**Wage Rates and Hours Worked.**—The agreed cash rate of pay was asked for each class of hired worker except those employed on a piecework basis. (The number and the earnings of persons paid on a piecework basis were required for those who worked on Friday of the week preceding the enumeration.) The number of hours that workers were expected to work to earn their pay was asked for each class except those employed on an hourly or piecework basis. For 1959, the data include office estimates for farms submitting incomplete reports of wage rates and hours worked. The estimates were consistent with the size and type of operations for the individual farm as compared with similar farms in the area for which complete reports were received.

**Fertilizer and Lime.**—The questions about fertilizer and lime, relate to the acreage on which fertilizer and lime were used and to the quantity used. Farm operators were asked to report total quantities used in 1959 on the farms they operated regardless of when or by whom the fertilizer and lime were purchased.

**Fertilizer.**—The report for fertilizer was to refer only to commercial fertilizer and fertilizing materials, including rock phosphate. The acres fertilized and the tons of fertilizer applied to those acres were obtained separately for selected crops. The selected crops varied by region so that it was possible to obtain detailed data for the crops most commonly fertilized in each region. In cases where the same land was used for more than one crop, the acres fertilized were to be reported separately for each crop. If the same crop was fertilized more than once, however, the acres in that crop were to be reported only once. In all cases, the total quantity of fertilizer used in 1959 was to be reported, including quantities used on land occupied by crops planted in 1958 or by crops to be harvested in 1960.

Reports for quantity of fertilizer and fertilizing materials used were required for both dry and liquid materials. The terms "dry" and "liquid" referred to the form in which the fertilizers and fertilizing materials were purchased and not to the way in which they were applied. Thus, dry fertilizers were those purchased in dry or solid form, as powders, dusts, granules, pellets, etc.; liquid fertilizers were those purchased in fluid form, as solutions or as liquefied gases.

**Lime.**—The data for lime relate to the total acreage limed in 1959 and the total tonnage of lime and liming materials used on those acres for purposes of conditioning the soil. Instructions on the questionnaire stated that ground limestone, hydrated and burnt lime, marl, and oyster shells were to be included but that lime used for spraying or sanitation purposes was to be omitted.

For some counties, the tonnage of lime shown in the table may be less than the tonnage reported for the Agriculture Conservation Program or the Conservation Reserve Program of the Soil Bank.

**Specified Farm Expenditures.**—The data for farm expenditures are based on reports obtained from all farms. The 1959 questionnaire contained questions for nine items of farm expenditure: (1) purchase of feed for livestock and poultry; (2) purchase of livestock and poultry; (3) machine hire; (4) hired labor; (5) seeds, bulbs, plants, and trees; (6) gasoline and other petroleum fuel and oil; (7) purchase of commercial fertilizer and fertilizing materials; (8) purchase of lime and liming materials; and (9) purchase of insecticides, fungicides, and spraying and dusting materials. For each item specified, the total expenditures made for the farm in 1959 were to be reported, whether made by the farm operator, his landlord, or both. A farm operator who rented part of his land to others was to report only the expenditures for the land he operated himself. Enumerators were instructed to ask respondents who had difficulty estimating their expenses for the period between enumeration and the end of the year to estimate them on the basis of current costs.

**Feed.**—The report on feed purchased for livestock and poultry was to include expenditures for grain, hay, millfeeds, pasture, salt, condiments, concentrates, and mineral supplements as well as for the grinding and mixing of feed. The estimated cost of items furnished by a landlord, contractor, or other owner for feeding poultry and livestock kept on the farm was also to be included. Payments made by a tenant to his landlord for feed grown on the tenant farm were to be excluded.

**Livestock and Poultry.**—The cost of baby chicks and turkey poults was to be included in the expenditures made for the purchase of livestock and poultry. Enumerators were instructed to ask the farm operator to include the cost or estimated purchase value of poultry and livestock provided by others and cared for by the operator under a contract feeding arrangement. The cost of livestock purchased for resale within 30 days was not to be included. A short-term transaction of that nature was considered to be a dealer operation, not an agricultural one.

**Machine Hire.**—Expenditures for machine hire relate to custom machine work, such as tractor hire, sugarcane harvesting, fruit picking, spraying, and dusting. Any amount spent for the labor included in the cost of machine hire was to be considered as part of the total expenditure. The cost of freight or trucking and exchange work without pay were to be omitted.

**Hired Labor.**—Expenditures for hired labor were to include total cash payments made in 1959 to family members and to others for farm labor. Payments to persons supplied by a contractor or a cooperative organization and paid directly by them or by the crew boss were also to be included. Payments for the following types of work were to be excluded: housework, contract construction work, custom machine work, and repair, installation, or construction work done by persons specifically employed for such work.

**Gasoline and Other Petroleum Fuel and Oil.**—Expenditures for gasoline and other petroleum fuel and oil were to relate only to the products used in the farm business. Enumerators were instructed to exclude the cost of petroleum products used for the family automobile when operated for other than farm business purposes and of products used in the farmhouse for heating, cooking, and lighting.

**Seeds, Bulbs, Plants, and Trees.**—Expenditures were to represent the total amount spent for seeds, bulbs, plants, and trees to be used on the farm operated. The value of seed grown on the farm was to be excluded.

**Commercial Fertilizer and Fertilizing Materials.**—Expenditures for commercial fertilizer were to include amounts spent for commercial fertilizer and fertilizing materials only.

**Farm Mortgage.**—The farm mortgage inquiry on the 1959 questionnaire was to be answered by farm owners who operated all or part of the land they owned. For both full owners and part owners the amount of mortgage debt and data on land owned relate to all land owned including that rented to others. For censuses prior to 1950, the data relating to mortgage indebtedness relate only to owned land operated by the farm operator.



**Cash Rent.**—The data on cash rent relate only to cash tenants and share-cash tenants.

#### CROPS

**Crops Harvested.**—The 1959 agriculture questionnaire was similar to the questionnaire used in several previous censuses in that it provided for the collection of detailed data for all crops harvested on each individual farm. The variation in the crops listed on the questionnaires used in different States made possible the separate reporting of all important crops grown in a given area. All versions of the questionnaire contained several "All other crops" questions where crops not specifically listed in separate questions were to be reported.

**Acreage of Crops Harvested.**—In most instances, except for pineapples, the acreage reported for individual crops represents the area harvested during 1959. The area harvested is often less than the area planted. For fruit orchards and groves, coffee plantations, and planted nut trees, the acreage reported represents the total area in both bearing and nonbearing trees and vines as of the date of enumeration—usually a date in December 1959. For pineapples, the acreage represents the acres harvested for the year ending May 31, 1959.

**Quantity of Crops Harvested.**—Except for pineapples, data for quantity harvested relate to the calendar year 1959. For pineapples in Hawaii, the acres and quantity harvested relate to the year ending May 31, 1959. Respondents were to estimate quantities not yet harvested at the time of enumeration.

**Unit of Measure.**—The unit of measure in which quantities were to be reported has varied for some crops, not only from State to State, but also from census to census. The aim has been to permit reporting in the units of measure currently in use. In the State and county tables, the quantities harvested for each crop are usually expressed in the unit of measure given on the 1959 agriculture questionnaire. To provide readily comparable information, data published in earlier reports in different units of measure generally have been converted to the units used in 1959.

**Irish Potatoes and Sweetpotatoes.**—For Irish potatoes and sweetpotatoes (including yams), the total quantity harvested was to be reported for each crop in all cases, whether harvested for home use or for sale or whether used for livestock feed. The acreage harvested was to be reported for each crop only in cases where the quantity amounted to 10 or more hundredweight. This method of reporting was designed to facilitate the enumeration of potatoes harvested on small plots for home use.

**Tree Fruits, Nuts, and Coffee.**—In 1959, fruit trees, nut trees, and coffee trees were not enumerated for farms having a combined total of less than 20 at the time of enumeration. Both bearing and nonbearing trees and vines were to be included but not any that had been abandoned. For censuses prior to 1959, all fruit or nut trees and coffee trees on the farm were to be enumerated, regardless of the number. Because of this change in enumeration procedure, the data for 1959 are not fully comparable with those for earlier censuses.

In 1959, the area in fruit orchards, groves, coffee plantations, and planted nut trees was enumerated when there were 20 or more fruit trees, nut trees, and coffee trees. In 1950, the corresponding area was enumerated only if it amounted to one-half acre or more. In censuses prior to 1950, the area was to be reported regardless of its size or of the number of trees. Enumerators frequently omitted the fractional acreages in small plantings and home orchards, however.

In 1959, Hawaii and California were the only States for which the acreage in each individual fruit and nut crop was obtained. The number of bearing and nonbearing trees or vines on the farm at the time of enumeration and the quantity harvested in 1959 were to be reported separately for each fruit and nut crop. The unit of measure in which quantities were to be reported varied from one State to another. Tables in this report show quantities in the unit of measure appearing on the 1959 questionnaire used in the State.

**Flowers, Trees, and Ornamental Plants.**—The questions about flowers, trees, and ornamental plants related only to products grown on the place for sale. Crops bought for resale without additional cultivation were to be excluded. The number of plants sold and the quantity of flowers sold were to be reported separately for each of the important kinds of flowers and flowering plants.

Area was obtained for fruit and nut trees, shrubs, vines, and ornamental plants being grown for sale, and for flower seeds, bulbs, vegetable seeds, and vegetable plants produced for sale in 1959.

**Forest Products.**—The forest products data obtained in the Census of Agriculture relate only to the products cut on farms. Commercial timber operations and forest products grown or cut on nonfarm places are excluded. Therefore, the data in this report do not represent the total forestry output or income for a county or State.

The quantity cut, whether for home use or sale, and the quantity sold were obtained for individual forestry products such as firewood, fence posts, and sawlogs. Value of sales were obtained for charcoal, firewood, fence posts, sawlogs, lumber, sisal, Christmas trees, tree ferns, and uncultivated plants sold in 1959.

**Value of Crops Harvested.**—The total value of crops harvested represents the estimated value of all crops harvested during the crop year 1959. It includes the value of quantities consumed on farms as food, feed, seed, etc., as well as quantities sold. Farmers were not asked to report values of crops harvested; the values were calculated in the processing office. For individual crops, the quantity harvested was multiplied by the average price at which the crop was sold in the State. Quantities harvested were not obtained for vegetables, therefore, for those crops, the value of sales, as obtained in the enumeration, was used in the calculation of total value of crops harvested.

**Value of Crops Sold.**—The questionnaire required value of sales of crops to be reported only for vegetables, flowers, trees, ornamental plants, and forest products. For all other crops, the value of sales was calculated on a county level during processing operations by multiplying the State average prices by either the quantity sold or the quantity harvested. Reports of quantity sold were obtained during the enumeration for most of the major crops. Quantity harvested was used in the calculation of value of crops sold for such crops as sugarcane and pineapples that are customarily grown for sale. The procedures used for the various crops are described on page XIX. In 1950, values of crops sold were obtained for each farm during the enumeration.

#### IRRIGATION

**Definition of Irrigated Land.**—Irrigated land is defined as land watered for agricultural purposes by artificial means. These means included subirrigation as well as systems whereby water was applied to the ground surface, either directly or by sprinklers. Land flooded for rice cultivation was considered as irrigated. Land flooded during high-water periods was to be included as irrigated only if water was directed to agricultural use by dams, canals, or other works. The definition of irrigated land specifically excluded land where the "water table," or natural level of underground water, was controlled by drainage works with no additional water brought in by canals or pipes.

**Enumeration of Irrigated Land.**—A question on total land irrigated was asked in all States, with the exception of Alaska. The acreage reported for this question includes not only irrigated cropland but also any other land that was irrigated in 1959.

The questionnaires used in the 17 Western States, Louisiana, and Hawaii included several additional questions regarding irri-

gation. These questions related to the acreage of land irrigated by sprinklers, irrigated land from which crops were harvested, specific crops irrigated, and source of irrigation water. Such additional data, for irrigated farms, are presented in county table 1a for these States.

Statistics on the irrigation enterprises which supplied irrigation water were collected in the 1959 Census of Irrigation and are published in Volume III, "Irrigation of Agricultural Lands." This report contains a considerable amount of data about irrigation for the 17 Western States, Louisiana, and Hawaii.

**Irrigated Farms.**—All farms reporting any land irrigated in 1959 are counted as irrigated farms.

**Land in Irrigated Farms.**—Data for *land in irrigated farms according to use* relate to the entire acreage in these farms, including land that was not irrigated.

**Land Irrigated.**—Data for land irrigated relate only to that part of the land in irrigated farms that was watered by artificial means at any time in 1959. Separate figures are given for farms reporting land irrigated by sprinklers whether or not the land was also irrigated by other means. Additional figures are given for farms reporting land irrigated by sprinklers only.

**Irrigated Cropland Harvested.**—The data for irrigated cropland harvested relate to all irrigated land from which crops were harvested in 1959, regardless of the method of irrigation. An instruction on the questionnaire reminded enumerators and respondents to include irrigated land from which hay was cut, irrigated land in both bearing and nonbearing fruit and nut crops, and irrigated land from which volunteer crops were harvested. Each irrigated acre was to be reported only once, regardless of how many crops were harvested from it.

**Other Irrigated Land.**—This classification was obtained by subtraction of the acreage of irrigated cropland harvested from the acreage of total land irrigated. It represents primarily land in crops for harvest in 1960, irrigated cropland not harvested, and irrigated pasture or grazing land.

**Farms Irrigated By Number of Acres Irrigated.**—All farms on which any land was irrigated in 1959 are classified according to the number of acres irrigated in County Table 1a for the 17 Western States, Louisiana, and Hawaii. This classification is based on total land irrigated. Therefore, it includes not only the irrigated land from which crops were harvested but also all other irrigated land, regardless of use.

**Land Irrigated By Source of Water.**—The agriculture questionnaire contained a question as to what proportion of irrigated water used on the farm in 1959 was obtained from ground-water, surface-water, and irrigation-organization sources. Respondents were asked to report separately the percentage of water obtained from each source. The number of acres that were irrigated by water from each source or combination of sources was calculated during office processing operations by applying the percentages to the total land irrigated.

**Ground-water sources** relate to wells (pumped or flowing) and springs; **surface-water sources** relate to streams, lakes, reservoirs, and sewage and drainage ditches. For each of these sources, only water obtained by pumps or other works operated as part of the operator's own farm or as part of another single farm was to be included. **Irrigation-organization sources** relate to irrigation enterprises organized to supply water to a group of farms, regardless of how or where the enterprise obtained the water. The irrigation enterprise may be a legal organization or a group of farmers informally organized to operate a supply ditch or other works to provide water for their own farms.

#### LAND-USE PRACTICES

**Summary Information.**—The 1959 data for land-use practices are based on reports obtained from all farms. The various land-use practices relate to methods for reducing soil erosion, either by improving the soil, controlling the runoff of water, or reducing the blowing of topsoil.

**Cropland in Cover Crops.**—The data relate to land on which cover crops were turned under for green manure in 1959 and which was then planted to another crop. The entire acreage of cover crops so used was to be reported even if the following crop failed.

**Cropland Used for Grain or Row Crops Farmed on the Contour.**—This item relates to land on which grain or row crops were planted in level rows around the slope of a hill.

**Land in Strip-Cropping Systems for Soil-Erosion Control.**—Strip-cropping was defined as the practice of alternating close-sown crops with strips or bands of row crops or of alternating either close-sown or row crops with bands of cultivated fallow land. The published data refer to the total acreage of all fields and tracts in which strip-cropping was practiced in 1959.

**System of Terraces on Crop and Pasture Land.**—This item relates to the acreage in ridge-type or channel-type terraces constructed on sloping cropland and pastureland.

#### LIVESTOCK AND POULTRY

**Inventories.**—Data for livestock and poultry on farms relate to the number on hand at the time of enumeration. All livestock and poultry, including those being kept or fed under contract, were to be enumerated on the farm or ranch where they were, regardless of who owned them. Livestock in transit from one grazing area to another or grazing in national forests, were to be reported as being on the place where the person who had control over them had his headquarters.

The time of year at which livestock and poultry are enumerated affects the data. Therefore, the date of enumeration needs to be considered when totals for the various censuses are compared.

The census of 1920 was taken as of January 1 and those of 1930, 1940, and 1950, as of April 1. A count made in April varies considerably from one made in January. In most areas a large number of animals are born between January and April. A considerable number of older animals die or are sold during the same period. In the range States, along with the change in season and grazing condition, sheep and cattle are moved from one locality or county to another. This movement may affect the comparability of data for counties and, in some cases, for States. The comparability of data by age has been affected also by changes in the questions from one census to another.

**Milk Cows, Cows Milked, and Milk Produced.**—Data on the number of milk cows, cows milked, and milk produced relate to the day preceding the enumeration. The data for cows milked yesterday and milk produced yesterday are not given in this volume. These figures were obtained primarily to serve the needs of the U. S. Department of Agriculture in making monthly and annual estimates of milk production. These figures can be made available, at a small cost, to others who express an interest in them.

**Whole Milk Sold.**—Data for whole milk sold relate to the entire year 1959. All milk sold from the farm (except quantities purchased from some other place and then resold) were to be included, regardless of who shared the receipts.

**Sows and Gilts Farrowing.**—In the 1959 census, data were obtained for the number of litters farrowed between December 1, 1958, and June 1, 1959, and from June 1 to December 1, 1959.

**Sheep, Lambs, and Wool.**—In the 1959 census, questions about sheep, lambs, and wool were asked in all States. Data on shearings and on amount of wool shorn were obtained for lambs and sheep separately.

**Goats.**—In 1959, questions on goats and kids appeared on the questionnaire. The questionnaire also called for the value of goat milk sold in 1959.

**Bees and Honey.**—Questions on bees and honey were included on the questionnaires for both the 1959 and the 1950 censuses.

**Value of Livestock on Farms.**—To obtain the value of livestock on farms, the number of each class of livestock or poultry on hand was multiplied by the State average price for 1959.

**Sales of Live Animals.**—Data for the number and value of animals sold alive in 1959 are based on reports made by farm operators.

**Sales of Poultry and Poultry Products.**—For the 1959 Census, sales of chickens were obtained for two groups: (1) broilers and (2) other chickens. The enumeration of broiler sales presents problems arising from the varied contractual arrangements under which broilers are produced. The questionnaire contained an instruction to the effect that all broilers grown for others under contract were to be reported as sold. During office processing operations, the data reported for inventories and sales of chickens four months old and over, chicken eggs sold, and broilers sold were carefully examined. Obvious inconsistencies indicating confusion between broilers and other chickens were corrected on the basis of estimated values and on the basis of data reported for expenditures for feed, poultry and livestock purchases, hired labor, etc.

#### CLASSIFICATION OF FARMS

**Scope of Classification.**—Detailed data for farms classified by size, by race of operator, by tenure of operator, by economic class, and by type of farm are totals for all farms. The farm classifications by size of farm, race of operator, tenure of operator, economic class of farm, and type of farm were made in the processing office on the basis of data reported on each questionnaire.

**Farms by Size.**—Farms were classified by size according to the total land area established for each farm. The same classification was used for all States. According to definition, a farm is essentially an operating unit, not an ownership tract. All land operated by one person or partnership represents one farm. In the case of a landlord who has assigned land to croppers or other tenants, the land assigned to each cropper or tenant is considered a separate farm even though the landlord may operate the entire landholding as one unit in respect to supervision, equipment, rotation practice, purchase of supplies, or sale of products. A change was made in the size classification for 1959, as contrasted with several preceding years, by subdividing the 1,000-acre-and-over group and by combining two previously recognized groups, viz, 10 to 29 acres and 30 to 49 acres.

**Farms by Race of Operator.**—Farms were classified by race of operator as follows: Caucasian, Hawaiian, or part-Hawaiian, Japanese, Chinese, Filipino, and all other races.

**Farms by Tenure of Operator.**—The classification of farms by tenure of operator was based on data reported for land owned, land rented from others or worked for others on shares, land managed for others, and land rented to others or worked on shares by others.

For 1959, each questionnaire was coded, during the editing process, to indicate whether it represented a farm operated by a full owner, part owner, manager, or tenant. The questionnaires for tenants were given a code to indicate the kind of tenant.

The various classifications of tenure, as used for the 1959 census, are defined below:

- a. **Full Owners** operate only land they own.
- b. **Part Owners** operate land they own and also land rented from others.
- c. **Managers** operate land for others and are paid a wage or salary for their services. Persons acting merely as caretakers or hired as laborers are not classified as managers. If a farm operator managed land for others and also operated land on his own account, the land operated on his own account was considered as one farm and the land managed for others as a second farm. If, however, he managed land for

two or more employers, all the managed land was considered to be one farm.

d. **Tenants** rent from others or work on shares for others all the land they operate. They are further classified, as described below, on the basis of rental arrangements in regard to the payment of cash rent, sharing of crops, and sharing of livestock or livestock or livestock products.

- (1) **Cash Tenants** pay cash rent, either on a per-acre basis or for the farm as a whole.
- (2) **Share-Cash Tenants** pay part of the rent in cash and part in a share of the crops and/or of the livestock and livestock products.
- (3) **Crop-Share Tenants** pay a share of the crops but not of the livestock or livestock products.
- (4) **Livestock-Share Tenants** pay a share of the livestock or livestock products. They may or may not also pay a share of the crops.
- (5) **Other and Unspecified Tenants** are those who did not qualify for inclusion in any of the foregoing subclassifications. They may have had the use of land rent-free or in return for a fixed quantity of products, payment of taxes, maintenance of buildings, etc.

**Rental Agreement for Part Owners And Tenants.**—State Table 24 presents data regarding the rental agreement for part owners and tenants for the censuses of 1959 and 1954.

**Farms by Economic Class.**—The totals for farms by economic class are for all farms. The economic classifications represent groupings of farms that are similar in characteristics and size of operation. The economic classes were established on the basis of one or more of four factors: (1) total value of all farm products sold, (2) number of days the farm operator worked off the farm, (3) the age of the farm operator, and (4) the relationship of income received by the operator and members of his household from nonfarm sources to the value of all farm products sold. Institutional farms, Indian reservations, agricultural experiment stations, and grazing associations were always classified as "abnormal."

The total value of farm products sold was obtained by addition of the reported or estimated values for all products sold from the farm. The value of cattle and calves, horses, hogs and pigs, sheep and lambs, goats and kids, some poultry products, vegetables, flowers, trees and ornamental plants, and miscellaneous forest products was obtained from the farm operator during the enumeration. The quantity sold was obtained during enumeration for coffee, fruits, and nuts. To obtain the value of sales of these products, the quantity sold was multiplied by State average prices.

For each of the other products, the entire production was multiplied by the State average price. If the resulting value amounted to \$100 or more, the entire quantity produced was considered as sold. This procedure was followed only in establishing the economic class and the type of farm but was not used in establishing the total value of products sold from the farm. (See p. XX.)

Farms were grouped into two major categories, commercial farms and other farms, mainly on the basis of total value of products sold. The 1959 class intervals and some of the criteria for determination of a given class are different from those used in 1950. In general, for 1959, all farms with a value of sales amounting to \$2,500 or more were classified as commercial. Farms with a value of sales of \$50 to \$2,499 were classified as commercial if the farm operator was under 65 years of age and (1) he did not work off the farm 100 or more days during the year and (2) the income received by the operator and members of his family from nonfarm sources was less than the value of all farm products sold. The remaining farms with a value of sales of \$50 to \$2,499 and institutional farms were included in one of the groups of "other farms."

Commercial farms were divided into six economic classes on the basis of the total value of all farm products sold, as follows:

Class of Farm	Value of Farm Products sold
I-----	\$40,000 and over
II-----	\$20,000 to \$39,999
III-----	\$10,000 to \$19,999
IV-----	\$5,000 to \$9,999
V-----	\$2,500 to \$4,999
VI*	\$50 to \$2,499

\*Provided the farm operator was under 65 years of age, and—

(1) he did not work off the farm 100 or more days, and (2) the income that he and members of his household received from nonfarm sources was less than the total value of farm products sold.

Other farms were divided into three economic classes as follows:

a. **Class VII, Part-time.**—Farms with a value of sales of farm products of \$50 to \$2,499 were classified as "part-time" if the operator was under 65 years of age and he either worked off the farm 100 or more days or the income he and members of his household received from nonfarm sources was greater than the total value of farm products sold.

b. **Class VIII, Part-retirement.**—Farms with a value of sales of farm products of \$50 to \$2,499 were classified as "part-retirement" if the farm operator was 65 years old or over. Many of these are farms on which the income from nonfarm sources was greater than the value of sales of agricultural products. Others are residential, subsistence, or marginal farms. In previous censuses, the age of the farm operator was not a criterion for grouping farms by economic class. Since the number of elderly people in our population has been steadily increasing during recent years, a separate classification for farms operated on a part-retirement basis was considered important for an adequate analysis of the agricultural structure of a county or State.

c. **Class IX, Abnormal.**—All institutional farms and Indian reservations were classified as "abnormal," regardless of the value of sales. Institutional farms include those operated by hospitals, penitentiaries, schools, grazing associations, government agencies, etc.

**Farms by Type.**—The type represents a description of the major source of income from farm sales. To be classified as a particular type, a farm had to have sales of a particular product or group of products amounting in value to 50 percent or more of the total value of all farm products sold during the year.

The types of farms, together with the products on which type classification is based, are as follows:

Type of Farm	Source of Cash Income
	(Products with sales value representing 50% or more of total value of all farm products sold)
Sugarcane -----	Sugarcane.
Pineapple -----	Pineapples.
Coffee -----	Coffee.
Other field-crop -----	Potatoes (Irish and sweet), rice, taro, peanuts, lotus roots, etc.
Vegetable -----	Vegetables.
Fruit-and-nut -----	Tree fruits and nuts.
Poultry -----	Chickens, chicken eggs, turkeys, and other poultry products.

**Dairy** ----- Milk and cream. The criterion of 50 percent of total sales was modified in the case of dairy farms. A farm having value of sales of dairy products amounting to less than 50 percent of the total value of farm products sold was classified as a dairy farm, if—

(a) Milk and cream sold accounted for more than 30 percent of the total value of products sold and—

(b) Milk cows represented 50 percent or more of total cows and—

(c) The value of milk and cream sold plus the value of cattle and calves sold amounted to 50 percent or more of the total value of all farm products sold.

**Livestock other than dairy and poultry**-----

Cattle, calves, hogs, sheep, goats, wool and mohair except for farms in the 17 Western States, Louisiana, Hawaii, and Florida that qualified as livestock ranches.

**Livestock Ranches**-----

Farms in the 17 Western States, Louisiana, Florida, and Hawaii were classified as livestock ranches if the sales of livestock, wool, and mohair represented 50 percent or more of the total value of farm products sold and if pastureland or grazing land amounted to 100 or more acres and was 10 or more times the acreage of cropland harvested.

**General**-----

Forage. A farm was classified as general also if it had cash income from three or more sources and did not meet the criteria for any other type.

**Miscellaneous**-----

Flowers, forest products, mules, horses, colts, and ponies. Also all institutional farms.

**Value of Farm Products Sold.**—Data for the value of farm products sold in 1959 were obtained by enumeration for some products and by estimation for others. The questionnaire used for the 1959 census provided for farm operators to report value of sales for the following products:

Vegetables	Calves
Flowers, trees, and ornamental plants	Hogs and pigs
Forest products	Sheep and lambs
Miscellaneous poultry products	Horses, colts, and ponies
Cattle	Goats and kids

For all other agricultural products, the value of sales was estimated during the office processing. The State average prices used for calculating the value of farm products sold were obtained from reports by the University of Hawaii or other sources.

For the products for which data on quantities sold were obtained during enumeration, the State average prices were multiplied by the county totals of the quantities reported as sold or the quantities reported as produced for sale.

For most of the agricultural products which are customarily raised for sale, the entire quantity produced was considered to be sold. The State average prices were, accordingly, multiplied by the county total of production. The following crops were covered by this procedure:

Sugarcane	Pineapples	Wool
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The data for the sales of farm products represent total sales for the entire farm, regardless of who shared the receipts. For tenant-operated farms, the landlord's share of agricultural products was considered as sold provided the products were moved off the tenant farm. All crops, livestock, and poultry raised under a contract arrangement were considered as sold from the farm where they were raised. For institutional farms, all agricultural items produced on land operated by the institution and consumed by the inmates were to be reported as sold.

All sales data relate to one year's farm operations. Crop sales are for crops harvested during the crop year, whether the crops

were actually sold immediately after harvest or placed in storage for later sale. Sales of livestock and livestock products relate to the calendar year, regardless of when the livestock or products were raised or produced. All wool reported as shorn or clipped was considered as sold.

Enumerators were instructed to record gross values of quantities sold, with no deductions for feed, seed, fertilizer, water, labor, or marketing costs. For some products, however, net values may have been reported. Adjustments were made in the data reported only in cases of obvious error.