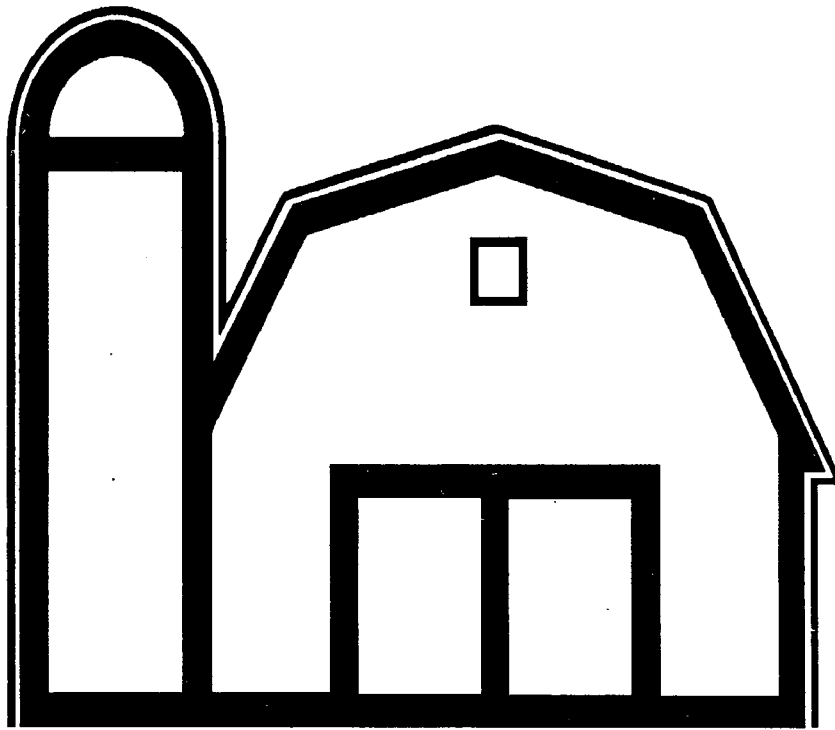


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Lesson Plans

# The Census of Agriculture

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AG CENSUS USA

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U.S. Department of Commerce  
BUREAU OF THE CENSUS

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These lesson plans were prepared under contract from the Bureau of the Census by Agri/Washington of Washington, DC. The Agriculture Division, Bureau of the Census welcomes comments on the value, substance, and format of these lessons. The Bureau of the Census is staffed to respond to questions concerning U.S. agriculture and hopes that these lessons will encourage students and teachers to pursue related topics of interest. Further information can be obtained from members of the Agriculture Division staff at (301) 763-8561.

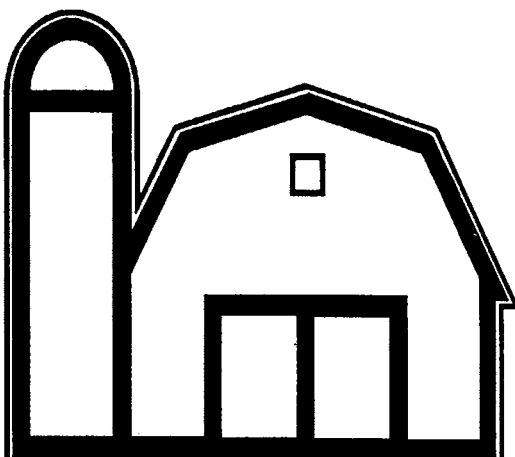
# **Teacher's Guide**\_\_\_\_\_

## **U.S. Agriculture**

**...the food and fiber sector**

**based on data from**

**the 1987 Census of Agriculture**



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## Teacher's Guide

This is a four lesson module providing lesson plans and supporting material designed to help you instruct your students about the census of agriculture. The module is based on information collected in the 1987 Census of Agriculture. Development of these lessons has been funded by the Agriculture Division of the Bureau of the Census, U.S. Department of Commerce.

The primary objective is to provide lessons that describe major facets of U.S. agriculture, illustrating these lessons with census of agriculture information. A secondary objective is to inform students about the purpose and role of the agriculture census. Other objectives include exposing the students to domestic geography and having students use simple but appropriate mathematics in realistic applications.

Following the 1982 Census of Agriculture, the Bureau of the Census published a set of lesson plans for students. This current set of lesson plans supersedes the previous plans and makes use of information from the latest census. Unless otherwise referenced, all data come from the 1987 Census of Agriculture.

### Contents

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**Major topics:** Lessons in this module describe the census of agriculture and present an introduction to agriculture in the United States, focusing on **agriculture production, agribusiness, and how agriculture affects community characteristics.**

**Lesson I** provides an overview of the three component sections of agriculture. It then proceeds to describe the agricultural census which is the source of most of the data used in these lessons.

**Lesson II** describes **production agriculture** in the U.S. It identifies the major crops and livestock and describes geographically where production is located.

**Lesson III** addresses what goes into and what comes out of agriculture under the heading **agribusiness.**

**Lesson IV** discusses **community characteristics** as they are influenced by agriculture.

Teachers are, of course, free to abbreviate or increase the number of lessons and to change their sequence. Each lesson follows a similar format. A narrative text is provided which is supported by tables, graphs, and maps. Teachers are encouraged to use the material in the way that best suits them and their students. It can be distributed to the students for self study, or the teacher can lead the class through the narrative towards a discussion period. Each lesson is accompanied by test questions and suggested discussion topics. Correct responses to the questions are given at the end of this Teacher's Guide. Also included are possible solutions to the discussion topics in the lessons. In situations where there is insufficient spontaneous discussion, the teacher may use the information in this guide to initiate the discussion. The discussion topics are presented only to enhance the debate on the subject matter. This Teacher's Guide also contains a glossary of terms and descriptions of the reports available from the census of agriculture.

The Agriculture Division of the Census Bureau has previously issued lesson plans. Accompanying those lesson plans was a postage paid evaluation card. Every card received was reviewed before preparing this set of lesson plans. All of the teachers who took the time to fill out and mail the card are thanked. Your written comments are especially useful.

Responses were received from several hundred teachers in highly diverse locations (including inner cities, traditional farm belt, and horticultural regions), almost all of whom, quite reasonably, wanted the lessons directed more to their specific and local conditions. For those teachers who do want more specific regional information, it is suggested that you contact the Bureau. Bureau staff will be pleased to provide you with supplemental information and to answer your questions. It is suggested that you give as much lead time as possible.

Responses were also received from teachers of learning disabled and gifted and talented children. Their needs were somewhat different. Regrettably, lesson plans cannot be tailored for everyone. It is suggested that each teacher adapt the content to their specific needs.

We would also like your comments on these lessons. Write to: Bureau of the Census, Agriculture Division, Data Requirements & Outreach Branch, Room 436, I-Mall, Washington, DC 20233.

## **Lesson Outlines**

### **Lesson I — Introduction to Agriculture and the Agriculture Census**

- (A) Food and fiber sector
- (B) Background information on the agriculture census with emphasis on the economic and agricultural censuses

### **Lesson II — Production Agriculture**

- (A) Major crops by value of sales
- (B) Geographical emphasis on different types of agriculture
  1. Crop production by geographic area
  2. Livestock and poultry production by geographic area

### **Lesson III — Agribusiness**

- (A) Identify inputs used in farming
- (B) Discuss dependence of agriculture on inputs by product
- (C) Discuss dependence of rural economy on farming and inputs (dealers, maintenance services, banks, service industries, etc.)
- (D) Discuss conclusions about inputs (Do inputs follow the general trends in agriculture? What are the exceptions?)
- (E) Show trends in the food industry
  1. Expenditures on food vs. receipts by farmers
  2. Trends in labor, distribution, profitability

### **Lesson IV — The Effect of Agriculture on Community Characteristics**

- (A) Operational definition of a community
- (B) Items in the census of agriculture
- (C) Uses of census of agriculture data at the community level
  1. Agribusinesses and farmer cooperatives
  2. Government
  3. Operator characteristics

## **Possible Solutions for Lesson I Discussion Topics**

(1) As Americans purchase more and more fruit and vegetables, it would be useful to know more about the production of these products. This would enable the food processing industry to fashion their transportation system accordingly.

(2) The importance of the census lies in such areas as providing industry and legislatures with information with which to make decisions concerning investment and government programs. It should not be forgotten that it also provides the individual farmer with the opportunity to evaluate his or her competitiveness with neighbors and perhaps improve productivity or move into different types of production.

(3) Criteria on how to conduct a census or survey are dependent on the required accuracy and speed needed, the communications facilities (e.g., mail, telephones, etc.) in the region, the funds available, the literacy of the population, etc.

## **Multiple Choice Answers — Lesson I**

- (1) c
- (2) c
- (3) b
- (4) a
- (5) b
- (6) a
- (7) c
- (8) a
- (9) a
- (10) a
- (11) a



## **Possible Solutions for Lesson II Discussion Topics**

(1) Americans are eating less meat. They are substituting chicken for red meat due to its lower cost and because of health reasons. Consumption of eggs and some dairy products has also decreased due to health concerns. Consumption of fresh fruit and vegetables is increasing as people appreciate the beneficial nutritional and fiber content of these products. Use of sugar has declined and has been replaced by high fructose corn syrup (HFCS) and by artificial sweeteners. Use of animal fats for cooking has declined and has been replaced by vegetable oils and fats.

(2) Exports of agricultural products have traditionally been important to the American farmer; approximately a quarter of production has, at times, been for export. Exports permit farmers to have a wider market and benefit many poor countries by providing low cost staples.

Imports provide American consumers with a wide choice of fresh products year round at low prices. America's readiness to import agricultural produce demonstrates America's commitment to trade and the economic concept of "competitive advantage."

(3) Hog and pig production closely follows the production of corn and other grains that are used for feed for livestock.

## **Multiple Choice Answers — Lesson II**

- (1) c
- (2) b
- (3) b
- (4) a
- (5) a
- (6) d
- (7) b
- (8) d
- (9) b

## **Possible Solutions for Lesson III Discussion Topics**

(1) Commodity prices are generally set by the world price for a commodity or by a government set price. So improvement of productivity in farming comes about largely from cost reduction and improved farm practices. To the extent that farmers are able to use and pay less for inputs while maintaining yields, they will be able to improve productivity. Examples of such practices are reduced use of fertilizer and pesticides, and careful nutrition control for animals resulting in healthier animals and fewer losses. A further example is the ability to use specialized equipment necessary for small farm operations or large farm operations thus increasing the utilization of the equipment. This is known as economics of scale and results in lower unit costs.

(2) The money paid to the food processing industry provides consumers primarily with time saved. Time which would have been spent in preparing food is available for other activities.

(3) A man's cotton shirt may be purchased for between \$15 and \$40 (or more) in the U.S. Such a shirt may require eight ounces of cotton. The recent price of cotton has been 65 to 70 cents per pound, so the raw materials in the shirt cost about 35 cents. Thus, the farmer receives less than 2% of the price of the shirt. The remainder is spent on spinning, weaving, and dyeing the fabric; tailoring and packaging of the shirt; marketing; and distribution in stores.

## **Multiple Choice Answers — Lesson III**

(1) c

(2) c

(3) b (\$32 billion are spent on packaging annually. With U.S. population of about 240 million, this is about \$133 per person.)

(4) c

(5) d (Add expenses for livestock and poultry purchased with expenses for feed for livestock and poultry purchased.)

(6) a

### **Possible Solutions for Lesson IV Discussion Topics**

(1) Farm implement dealers (tractors, combines, plows, etc.), feed and grain stores, livestock slaughter houses, poultry processing plants, and grain elevators are all examples of agribusinesses that use the census of agriculture to better serve agricultural producers.

(2) Local officials can use the census to benefit agricultural producers by getting an idea of the type of agricultural production in their community over several years. Once they have an idea of what type of production is prevalent in their community, they can pass laws or ordinances to sustain production by protecting valuable farmland or giving tax breaks to producers.

(3) Refer to table 2 in Lesson IV for your State.

### **Matching Answers — Lesson IV**

- (1) d
- (2) c
- (3) f
- (4) b
- (5) a
- (6) e

### **Multiple Choice Answers — Lesson IV**

- (1) a
- (2) c
- (3) d
- (4) b
- (5) c

### **True or False Answers — Lesson IV**

- (6) False
- (7) True
- (8) True
- (9) True

## Glossary of Census Terms

The census of agriculture uses basic industry terms which are familiar to agricultural professionals. The following definitions and explanations provide a more detailed description of the terms than is available in the tables or on the report form. Most definitions of terms are the same as those used in earlier censuses. The more important exceptions are also noted here.

**Acres and quantity harvested.** Crops were reported in whole acres, except for the following crops which were reported in tenths of acres: Irish potatoes, sweet potatoes, tobacco, fruit and nut crops including land in orchards, berries, vegetables, and nursery and greenhouse crops; and in Hawaii, taro, ginger root, and lotus root. Totals for crops reported in tenths of acres were rounded to whole acres at the aggregate level during the tabulation process.

**Commodity Credit Corporation loans.** This category includes loans for corn, wheat, soybeans, sorghum, barley, oats, cotton, peanuts, rye, rice, tobacco, and honey.

**Cropland, harvested.** This category includes land from which crops were harvested or hay was cut, and land in orchards, citrus groves, vineyards, nurseries, and greenhouses. Land from which two or more crops were harvested was counted only once, even though there was more than one use of the land.

**Cropland, total.** Total cropland consists of land from which crops were harvested or hay was cut; land in orchards, citrus groves, vineyards, and nursery and greenhouse products; cropland used only for pasture or grazing; cropland used for cover crops, legumes, and soil improvement grasses; cropland on which all crops failed; and cropland in cultivated summer fallow. It also included cropland that was idle.

**Customwork and other agricultural services.** This income includes gross receipts received by farm operators for providing services for others such as planting, plowing, spraying, and harvesting. Income from customwork and other agricultural services is generally included in the agriculture census if it is closely related to the farming operation. However, it is excluded if it constitutes a separate business or is conducted from another location.

**Farms by size.** All farms were classified into selected size groups according to the total land area in the farm. The land area of a farm is an operating unit concept and includes land owned and operated as well as land rented from others. Land rented to or assigned to a tenant was considered the tenant's farm and not the owner's.

**Farms by value of agricultural products sold or value of sales.** In 1987, all farms were tabulated by size based on reported sales. In 1982 and earlier censuses, abnormal farms were not tabulated based on sales size. In the tables on market value of agricultural products sold, the sales of abnormal farms in 1982 and earlier censuses were included in the total sales figure but excluded from the detailed size categories. Abnormal farms include institutional farms, experimental and research farms, and Indian reservations. The category "farms with sales of less than \$1,000" included all farms with actual sales of less than \$1,000 but having the production potential for sales of \$1,000 or more. These farms normally could be expected to sell \$1,000 or more of agricultural products.

**Other farm-related income.** The 1987 report form included a new inquiry on income from farm-related sources. These data consist of gross income in 1987 before taxes and expenses from the sales of farm byproducts and other sales and services closely related to the principal functions of the farm business. These data are for income producing activities that are primarily a byproduct or supplemental to the farm operation. They exclude income from business activities that are separate from the farm business.

**Government payments.** This category is limited to direct cash or generic commodity certificate payments (PIK) received by the farm operator in 1987. It includes deficiency and diversion payments; wool payments; payments from the Dairy Termination Program, the Conservation Reserve Program, other conservation programs, and all other Federal farm programs under which payments were made directly to farm operators.

**Land area.** The approximate land area of counties and States shown represents the total land area as determined by records and calculations as of January 1, 1988. These data are updated periodically; however, the acreages shown for 1987 are essentially the same as in 1982. Any differences between the land area in 1987 and 1982 are due to annexations and other changes affecting county boundaries.

**Market value of agricultural products.** This category represents the gross market value before taxes and production expenses of all agricultural products sold or removed from the place in 1987 regardless of who received the payment. It includes sales by the operator as well as the value of any shares received by partners, landlords, contractors, or others associated with the operation. In addition, it includes receipts from placing commodities in the Commodity Credit Corporation (CCC) loan program in 1987. It does not include payments received for participation in Federal farm programs nor does it include income from farm-related sources such as customwork and other agricultural services, or income from nonfarm sources.

**Operator.** The term operator designates a person who operates a farm, either doing the work or making day-to-day decisions about such things as planting, harvesting, feeding, and marketing. The operator may be the owner, a member of the owner's household, a hired manager, a tenant, a renter, or a sharecropper. If a person rents land to others or has land worked on shares by others, he/she is considered the operator only of the land which is retained for his/her own operation. For partnerships, only one partner is counted as the operator. If it is not clear which partner is in charge, then the senior or oldest active partner is considered the operator. For census purposes, the number of operators is the same as the number of farms. In some cases, the operator was not the individual named on the address label of the report form, but another family member, a partner, or a hired manager who was actually in charge of the farm operation.

**Production expenses, total.** In 1987, additional specific expense items and a category for all other farm production expenses were added to the selected farm production expenses collected in 1982. Consequently, we are publishing total farm production expenses in 1987. The expenses are limited to those incurred in the operation of the farm business. Expenses include the share of the expenditures provided by landlords, contractors, and partners in the operation of the farm business.

**Value of crop production.** This item represents the estimated value of all crops harvested during the 1987 crop year. Data for the value of crops harvested were obtained by multiplying the average estimated value per unit by the reported acres or quantity harvested.

**Livestock and poultry purchases.** These expenses include the total amount spent by the operator, his/her landlord, and others for all livestock and poultry bought during 1987 for production on the farm or ranch. The total includes amounts spent for cattle, calves, hogs, pigs, sheep, lambs, goats, horses, chicks, poult, started pullets, hatchery eggs, etc. For livestock or poultry grown under contract or fed on a custom basis on this place, it is their value (estimate if necessary) at the time they came on this place.

**Commercial fertilizer.** The expense for commercial fertilizer is the amount spent on fertilizer during 1987 including the cost of custom application. The cost of custom application was excluded from the 1982 and 1978 data.

**Agricultural chemicals.** These expenses include the cost of all insecticides, herbicides, fungicides, and other pesticides, including costs of custom application. Data exclude commercial fertilizer purchased. The cost of custom application was excluded from the 1982 and 1978 data. The cost of lime was excluded from the 1987 and 1982 data, but included in 1978.

**Customwork, machine hire, and rental of machinery and equipment.** These expenses include costs incurred for having customwork done on the place and for renting machines to perform agricultural operations.

### **Title 13 — Authority to Conduct Census - Section 142**

- (a) The Secretary shall in 1979, in 1983, and in every 5th year beginning after 1983, take a census of agriculture.
- (c) The data collected in each of the censuses taken under this section shall relate to the year immediately preceding the year in which such census is taken.

# **Description of Reports**

(Available from the 1987 Census of Agriculture)

## **Advance Reports**

These reports highlight basic agricultural statistics for each county with 10 farms or more, each State, and the United States. They also include data on number of farms, land in farms, farm size, land use practices, farm operator characteristics, sales, expenditures, machinery and equipment, livestock, poultry, dairy, and major crops harvested.

## **Volume 1 — Geographic Area Series**

### **United States, State, and County Data and Outlying Area Data**

These reports provide detailed data in National and State tables for the United States and in county and State tables for each State and selected data for Puerto Rico, Guam, U.S. Virgin Islands, American Samoa, and Northern Mariana Islands.

They also include data on number of farms, land in farms, land use, irrigation, crops, livestock, poultry, value of farm products sold, farms classified by specified characteristics, expenses, and operator characteristics.

Also shown are selected 1987 summary State data cross-tabulated by various farm classifications, such as size of farm, tenure of operator, type of organization, market value of agricultural products sold, age and principal occupation of operator, and standard industrial classification.

Comparable 1982 and 1978 data are included for many tables.

## **Volume 2 — Subject Series**

### **Part 1 — Agricultural Atlas of the United States**

This report graphically illustrates the Nation's agriculture by dot and multicolor patterns maps. The maps provide displays on major topics from the 1987 Census of Agriculture including number of farms, value of land and buildings, farm size, farms by value of sales, tenure and characteristics of farm operators, principal occupation of operator, and farms by type of organization.



In addition, the report covers land in farms and land use, irrigation, market value of agricultural products sold, farm-related income, farm production expenses, machinery and equipment, agricultural chemicals, livestock and poultry inventory and sales, crops harvested including vegetables and fruit, and nursery and greenhouse crops.

## **Part 2 — Coverage Evaluation**

This report provides estimates of coverage of the 1987 Census of Agriculture from an independent enumeration of the four census regions, and selected States or groups of States. Estimates (with their sample reliability) are made of farms not included in the census, farms classified as nonfarms, duplicate farms, and nonfarms classified as farms. Selected characteristics of these farms such as total market value of agricultural products sold, land operated, and type of operation are included.

## **Part 3 — Ranking of States and Counties**

This report shows the 20 leading States and 100 leading counties ranked for selected items from the 1987 Census of Agriculture. Ranking items include the number of farms, market value of agricultural products sold, inventory of livestock and poultry, and production and acres of major crops. Tables include the cumulative percent of the U.S. total for ranked items.

## **Part 4 — History**

This report provides a detailed description of the planning and conduct of the 1987 Census of Agriculture. It explains the history of the agriculture census, farm definition, data collection and processing, dissemination of census data, coverage evaluation and research, and the census of agriculture in outlying areas. It also provides copies of the questionnaires, forms, and letters sent to the public.

## **Part 5 — Government Payments and Market Value of Agricultural Products Sold**

This report shows detailed data for farms cross-tabulated by combined market value of agricultural products sold and government payments received. It also includes detailed national and selected State data.

## **Part 6 — ZIP Code Tabulations of Selected Items From the 1987 Census of Agriculture**

This report provides tabulations by ZIP Code of selected items from the 1987 Census of Agriculture. Data items include number of farms, land in farms, land in farms by size, market value of agricultural products sold, and value of agricultural products sold by size.

### **Volume 3 — Related Surveys**

#### **Part 1 — 1988 Farm and Ranch Irrigation Survey**

This report contains detailed tabulations about irrigation on the Nation's farms and ranches in 1988. It provides data for each of the major irrigation States and water resources areas defined by use of county boundaries. Subjects include estimated quantity of irrigation water used by crop, source of water, method of water distribution, and information on wells and pumps used in irrigation. Expenses for maintenance and repair, purchase of water, and energy costs for pumping water also are included.

#### **Part 2 — 1988 Agricultural Economics and Land Ownership Survey**

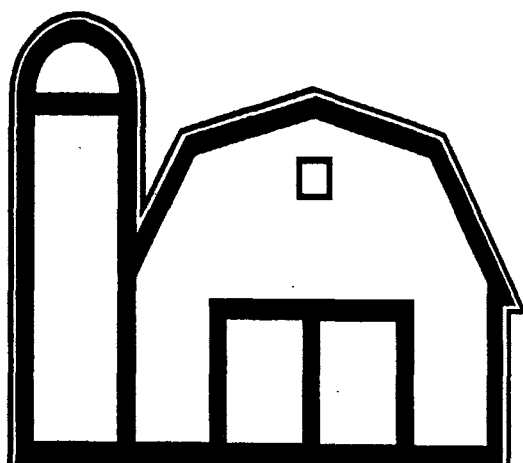
This report presents selected data at U.S., regional, and State levels on acreage, land ownership, capital purchases and expenses, and assets and debts for farm operators and landlords. It includes information on market value of agricultural products sold, income and expenses from farm-related sources, production contracts, and off-farm work and income for the farm operators. The report also provides data on real estate taxes, type of ownership, and characteristics and occupation of farm landlords.

### **Volume 4 — 1988 Census of Horticultural Specialties**

This report contains data for the U.S., each State, and selected counties on potted flowering plants; bedding/garden plants; cut flowers; cut cultivated florist greens, nursery plants, and foliage plants; unfinished plant materials; sod; dried bulbs, corms, tubers, and rhizomes used for forcing; cultivated mushrooms; greenhouse produced vegetables; vegetables produced for truck-crop production; vegetable seeds; flower seeds; number of plants sold; retail and wholesale value of products sold; and greenhouse use by commodity group. Selected production expenses and horticultural labor data are also presented.

# **Lesson I** \_\_\_\_\_

## **Introduction to Agriculture and the Agriculture Census**



U.S. Department of Commerce  
BUREAU OF THE CENSUS



# Introduction to Agriculture and the Agriculture Census

This is the first of a series of four lessons describing agriculture in the United States. Broadly defined, agriculture is that part of the national economy that produces and supplies the population with food and with much of its textiles. It is often referred to as the food and fiber sector. It is one of the largest parts of our economy.

Agriculture affects our lives in many ways. The food and fiber sector comprises about 17 percent of our Nation's Gross National Product (GNP). About 25 percent of our total population live in rural communities, however only 2 percent of our total population live on farms. The U.S. has been a major exporter of agricultural commodities so the sector helps offset our trade deficit with foreign countries. Because U.S. agriculture is so efficient, it is a low cost source of food for many foreign countries. Because U.S. agriculture has such a significant role in international trade, it is a major part of trade agreements. This is of substantial interest to the Congress and the Nation. At times, U.S. farmers have a difficult year or even a number of difficult years. Their difficulties can be caused by a number of reasons, such as weather or unusual competition from overseas producers caused by changes in foreign agricultural conditions.

It is generally accepted in the U.S. by the Administration, the Congress, and the community at large, that for reasons including national security, the nation must preserve its agricultural sector. Because of all the ways in which agriculture influences our lives and the economy, it is important to have an understanding of agriculture. This lesson is intended to help the student with this understanding.

## Three Agriculture Sectors

Agriculture consists of many different activities. In the course of these four lessons, many of these activities will be discussed.

We separate agriculture into three main sectors, namely:

- The provision of inputs to farming
- Farming
- Food and fiber processing, distribution, and supply

## GNP

In 1988, the Nation's annual GNP was \$4.8643 trillion<sup>1</sup> (\$4,864,300,000,000). The GNP can be considered to be the value of all production within the country. The total food and fiber sector, broadly defined, accounts for approximately 17.5% of the GNP<sup>2</sup>. Farming is less than 2% of the GNP. Inputs are less than 1% of the GNP. Consequently, the processing, distribution, and supply sector is almost 16% of the GNP. Stated another way, approximately one dollar in six spent in this country is spent in the food and fiber sector.

### What is a Census?

Most of the data provided in these lessons were obtained from censuses of agriculture which are performed every 5 years by the U.S. Department of Commerce, Bureau of the Census.

A census is a complete enumeration and tabulation of information of every individual or things of like nature in a population. The word census is a Latin word, and it is known that the Romans used censuses to determine the amount of taxes that were due. The first known census was conducted even earlier in Egypt in 3340 B.C. probably for reasons similar to those that exist today.

Every decade since 1790, a national census has been held, in which an attempt is made to identify and count every resident and every residence in the United States. The opportunity is used to determine a multitude of characteristics about individuals, households, and changing demographics within the country. The national census is not merely of intellectual interest. It is used in many practical ways; for example, the national census is used as the basis for redefinition of Congressional boundaries and for distribution of funds for several Federal entitlement programs.

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<sup>1</sup> Bureau of Economic Analysis, Department of Commerce, (1989)

<sup>2</sup> Food Cost Review, U.S. Department of Agriculture, (1989)

## **What is the Census of Agriculture?**

The census of agriculture is a measurement of all of the Nation's agricultural producers. It is conducted by the U.S. Bureau of the Census, in close cooperation with the Nation's agricultural statistical user groups and farmer organizations. The legal authority for the census is Title 13 of the U.S. Code, which specifies the frequency and conditions under which the census is to be conducted.

The first census of agriculture was taken in 1840. Between 1840 and 1950 it was part of the decennial census. Agriculture became progressively more important in the overall economy and, starting in 1925, additional agriculture censuses were held halfway through each decade. Thus, the pattern of taking a census of agriculture every 5 years became established.

The census of agriculture is conducted in years ending with 2 and 7. It is conducted in the same years as the nation's other economic censuses (manufacturing, mining, construction, retail and wholesale trade, service industries, and transportation) to assure maximum compatibility. There is substantial value in having these censuses coordinated so that comparisons can be made across sectors. In addition, agriculture accepts the Bureau of Economic Analysis, Department of Commerce (1989) and Food Cost Review, U.S. Department of Agriculture (1989) outputs of sectors covered in the economic surveys, and in turn, agriculture's outputs become the inputs for the food and fiber parts of manufacturing and distribution.

## **Who Uses the Data?**

- Farm organizations use the data to formulate future farm programs and policies which affect farmers and ranchers.
- State and local governments use the data to analyze and develop policies on land use, water use and irrigation, rural development, and farmland assessment.
- Congress and State legislators use the census data to evaluate potential farm legislation.
- The U.S. Department of Agriculture uses the data to prepare estimates of farm income and cost of production, to plan for operations during drought and emergency outbreaks of diseases or infestations of pests, and to evaluate legislation and agricultural programs.

- Rural electric companies use the data to forecast future energy needs for farms, ranches, and their communities.
- Agribusinesses use the data to develop sales territories and to determine the most effective locations for retail outlets to better serve farmers and ranchers.

### **Difference Between a Census and a Survey**

Censuses are taken at fairly lengthy intervals and are an attempt to collect data from all members of the selected population. In order to maintain an understanding of trends between censuses, it is necessary to conduct sample surveys. Census of agriculture information is detailed, disaggregated to the individual county level (of which there are approximately 3,100 in the U.S.). A survey is a data collection activity involving observations or reports for a sample of a population. Surveys can be conducted, analyzed, and published rapidly, frequently, and inexpensively using small statistical samples of the population. Most people are familiar with the national polls that are conducted before elections which typically use samples of 1,000 to 1,500 people. One drawback to a survey is that it does not have the accuracy of a census. A second is that surveys generally do not provide detail below the national or State level, so censuses and surveys are both needed. The census becomes a benchmark against which the results of surveys can be adjusted, and surveys provide more frequent information than censuses.

Again for the agricultural sector, the census is conducted every 5 years by the Bureau of the Census which is part of the Department of Commerce. More frequent surveys of this sector are conducted by the U.S. Department of Agriculture (USDA), the Bureau of the Census, and other agencies.

### **Definition**

The most recent agriculture census refers to activities in 1987. For the purposes of the census, a farm is any place from which \$1,000 or more of agricultural products were sold or normally would have been sold during the census year. This has been the definition used since 1974 and it is also the definition that USDA uses in its surveys.



## **Types of Data**

The agriculture census is the only source of uniform agricultural data at the county level. The principal categories of data collected are:

- acreage
- crops
- livestock and poultry
- animal specialties
- participation in government programs
- farm related income
- nursery and greenhouse crops
- value of sales
- land use
- irrigation
- type of organization
- operator characteristics
- use of fertilizer and chemicals
- production expenses
- machinery and equipment
- market value of land and buildings

## **Conducting the Census**

The current technique used for conducting the census is to mail out a carefully planned and designed questionnaire to all addresses that may be farms. All recipients are required by law to respond to the best of their ability.

For the 1987 census, farms and ranches were required to respond, beginning on January 1, 1988. The Census Bureau contacts farms by letter and telephone to obtain reports for all farms to insure all returns are complete and accurate.

A considerable amount of effort is made to evaluate and improve the accuracy of

responses. The Census Bureau checks each response for reasonableness. This is done automatically as the data is entered into computers. The computer looks at each entry and expects to find responses within a certain range. For example, the Census Bureau does not expect to find significant production of oranges from farms in Iowa.

Title 13 requires the Census Bureau to keep reported information confidential. It cannot publish data that could be used to identify a specific farm. There are situations where a limited number of operations of a specific type in a county or State would permit the inference of the data pertaining to a single farm. In order to preserve confidentiality, that information is not published.

All data is published on a county-by-county basis and also summarized for each State and for the United States. For the 1987 census, the Census Bureau started publishing State-level data in August 1988 and completed it in 1989.

The tables and figures attached to this first lesson are taken from the advance report on the United States for the 1987 Census of Agriculture. It is important to note that similar information can be obtained even for individual counties. Much of this information will be discussed further in the following lessons.

### **Topics for Class Discussion**

- (1) Identify and discuss other agricultural information that would be interesting and useful to collect. Give reasons and suggest potential benefits of collecting this information.
- (2) Why do you consider an agricultural census important?
- (3) How would you conduct a census in your community? Are such censuses worthwhile? Would a sample survey be more useful?

## Test for Lesson I

- (1) Agriculture is:
  - (a) Ocean fishing
  - (b) Quarrying of rock
  - (c) Farming and ranching and associated activities
- (2) A census is:
  - (a) A complete numeration and tabulation of information of a sample of individuals or things in a population
  - (b) A sample of the American population
  - (c) A complete enumeration and tabulation of information of every individual or thing in a population
- (3) How often do we conduct an agricultural census?
  - (a) Every year
  - (b) Every 5 years
  - (c) Every decade
- (4) The most current population and housing census is the:
  - (a) 1990 census
  - (b) 1987 census
  - (c) 1980 census
- (5) The agriculture census is an enumeration to identify and include:
  - (a) Everyone nationwide
  - (b) All agricultural operations
  - (c) A sample of farm operators
- (6) For the purposes of the census, a place qualifies as an agricultural operation:
  - (a) If in the year of the census, this place had sales of agricultural products of \$1,000 or more or would normally have had such sales
  - (b) If in the year of the census, this place had sales of agricultural products of \$250 or more or would normally have had such sales
  - (c) If it serves or processes food

- (7) Agriculture censuses are now conducted for years ending with 2 and 7. These years were chosen so that the agricultural census would coincide with:
- (a) Congressional elections
  - (b) Local elections
  - (c) Censuses of other economic sectors which are conducted in these years
- (8) The first U.S. agriculture census was held in the same year as:
- (a) The first postage stamp (1840)
  - (b) The establishment of Land-Grant Universities (1862)
  - (c) The establishment of the Cooperative Extension Service (1914)
- (9) A survey is:
- (a) A data collection activity involving observation or reports for a sample of a population
  - (b) A benchmark report with high accuracy
  - (c) A data collection activity that is expensive and an enumeration of all things in a population
- (10) The census of agriculture provides information down to:
- (a) The county level (about 3,100 nationwide)
  - (b) The State level
  - (c) The individual field (several tens of millions nationwide)
- (11) The census computer is programmed to test that reports received from respondents are reasonable. Consequently, it would question or flag a report with information on:
- (a) Pineapple production in Alaska
  - (b) Wheat production in Kansas
  - (c) Catfish production in Mississippi

# **Samples of Census Data**

Teachers: Detach and duplicate the following charts and graphs for use by students.

# 1987 CENSUS OF AGRICULTURE

## ADVANCE REPORT

UNITED STATES

AC87-A-00-000(A)  
Issued May 1989

This report presents advance statistics from the 1987 Census of Agriculture. Advance reports are being published separately on a flow basis for each county with 10 farms or more, each State, and the United States. This series provides information on major data items together with comparable data from the 1982 census. The data items presented are the same for all States and counties, except selected crops harvested, which vary by State.

Inventories of livestock, poultry, and other specified items are as of December 31 of the census year. Production and sales data for crops and livestock are for the calendar year, except a few crops (such as citrus) for which the production year overlaps the calendar year.

Data for farms, acreages, and inventories for 1987 and 1982 are comparable. Dollar values have not been adjusted for changes in price levels between census years.

The Volume 1, Geographic Area Series, includes results for all data items collected in the census. The volume 1 appendixes provide a detailed description of how the census was taken, pertinent definitions and explanations, and measures of the reliability of the data.

**Definition of farm**—Since the 1974 census, a farm has been defined as any place from which \$1,000 or more of agricultural products were produced and sold or normally would have been sold, during the census year.

**Reliability**—The census of agriculture enumerates all identified farm and ranch operations in the United States. Sampling is used to collect data for selected items and to account for nonresponding farm operations. Thus, the results in this report are subject to sampling variability as well as reporting and coverage errors.

**Acknowledgments**—Special tribute is paid to the millions of farm and ranch operators and other agriculture-associated people who furnished the individual reports from which these statistical summaries were compiled. Also acknowledged are the contributions of the U.S. Department of Agriculture and other public and private agencies that gave their support to the census program.

**Symbols**—The following symbols are used throughout the tables:

- Represents zero.
- (D) Withheld to avoid disclosing data for individual farms.
- (X) Not applicable.
- (Z) Less than half the unit shown.
- (NA) Not available.

If you have any questions concerning the statistics in this report, please call Agriculture Division, Bureau of the Census (301) 763-1113.

# Farms, Land in Farms, and Selected Items: 1987 and 1982

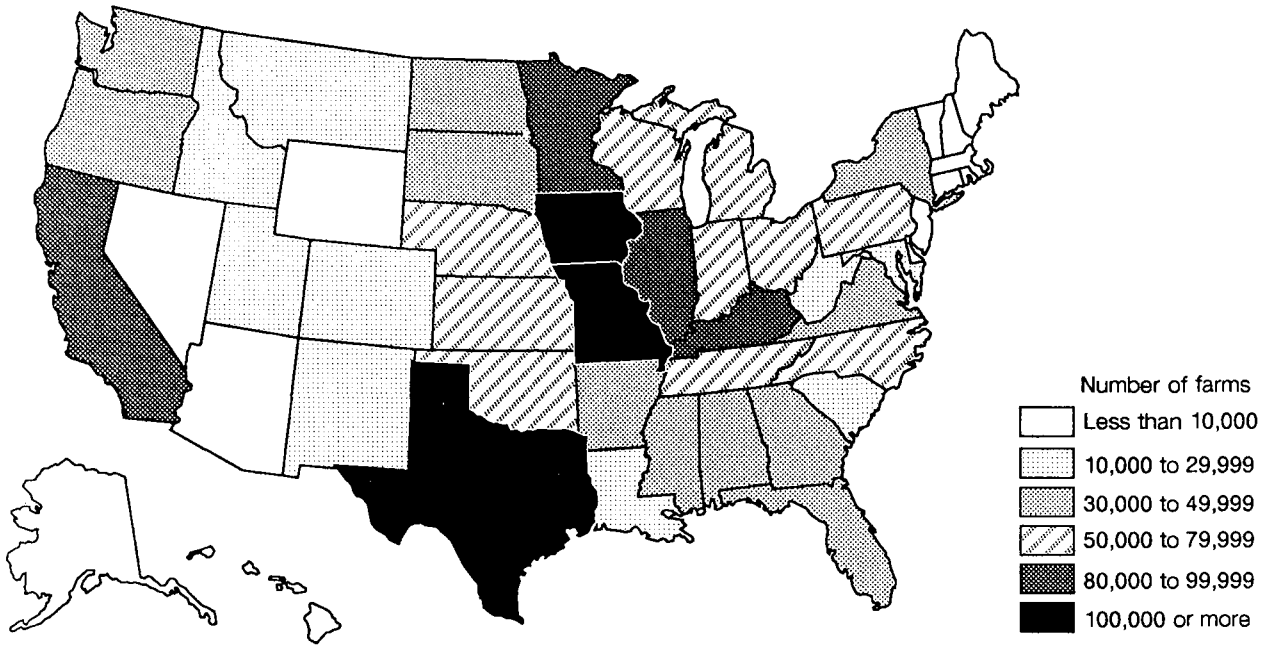
Item	All farms		Farms with sales of \$10,000 or more	
	1987	1982	1987	1982 <sup>1</sup>
Farms.....number.....	2 087 759	2 240 976	1 059 573	1 142 963
Land in farms.....acres.....	964 470 625	986 796 579	829 021 612	811 280 541
Average size of farm.....acres.....	462	440	782	710
Value of land and buildings: <sup>2</sup>				
Average per farm.....dollars.....	289 387	345 869	455 522	557 636
Average per acre.....dollars.....	627	784	583	785
Estimated market value of all machinery and equipment: <sup>2</sup>				
Average per farm.....dollars.....	41 227	41 919	67 755	69 633
Farms by size:				
1 to 9 acres.....	183 257	187 665	44 642	40 552
10 to 49 acres.....	412 437	449 252	73 465	78 209
50 to 179 acres.....	644 849	711 652	244 068	287 233
180 to 499 acres.....	478 294	526 510	356 450	401 201
500 to 999 acres.....	200 058	203 925	181 018	184 843
1,000 acres or more.....	168 864	161 972	159 930	152 925
Total cropland.....farms.....	1 848 574	2 010 609	990 696	1 083 508
Harvested cropland.....acres.....	443 318 233	445 362 028	393 245 402	396 148 576
.....farms.....	1 643 633	1 809 756	950 974	1 051 417
Irrigated land.....acres.....	282 223 880	326 306 462	263 656 877	306 242 220
.....farms.....	291 828	278 277	195 956	183 412
.....acres.....	46 386 201	49 002 433	44 528 259	46 860 434
Market value of agricultural products sold.....\$1,000.....	136 048 516	131 900 223	132 644 656	128 023 777
Average per farm.....dollars.....	65 165	58 858	125 187	112 010
Crops, including nursery and greenhouse crops.....\$1,000.....	58 931 085	62 256 087	57 583 620	60 642 654
Livestock, poultry, and their products.....\$1,000.....	77 117 431	69 644 136	75 061 036	67 381 124
Farms by value of sales: <sup>1</sup>				
Less than \$2,500.....	490 296	536 327	-	-
\$2,500 to \$4,999.....	262 918	278 208	-	-
\$5,000 to \$9,999.....	274 972	281 802	-	-
\$10,000 to \$24,999.....	326 166	340 254	326 166	340 254
\$25,000 to \$49,999.....	219 636	248 828	219 636	248 828
\$50,000 to \$99,999.....	218 050	251 501	218 050	251 501
\$100,000 or more.....	295 721	302 380	295 721	302 380
Operators by principal occupation:				
Farming.....	1 138 179	1 234 787	811 303	901 373
Other.....	949 580	1 006 189	248 270	241 590
Operators by days worked off farm:				
Any.....	1 115 560	1 187 374	422 984	430 919
200 days or more.....	737 206	774 844	218 941	212 942
Average age of operator.....years.....	52.0	50.5	50.6	49.1
Total farm production expenses: <sup>2</sup> .....\$1,000.....	108 138 053	(NA)	102 949 351	(NA)
Average per farm.....dollars.....	51 797	(NA)	97 298	(NA)
Selected farm production expenses: <sup>2</sup>				
Livestock and poultry purchased.....\$1,000.....	19 344 645	17 174 334	18 917 000	16 588 865
Feed for livestock and poultry.....\$1,000.....	19 163 364	18 591 984	18 650 075	17 894 560
Interest expense <sup>3</sup> .....\$1,000.....	8 158 268	11 668 942	7 462 028	10 947 898
Petroleum products.....\$1,000.....	5 277 227	7 888 052	4 822 678	7 364 006
Livestock and poultry:				
Cattle and calves inventory.....farms.....	1 176 346	1 354 992	604 650	675 509
number.....	95 847 289	104 475 827	84 103 391	89 103 524
Beef cows.....farms.....	841 778	957 698	378 254	416 077
number.....	31 652 593	34 202 607	25 489 686	26 610 708
Milk cows.....farms.....	202 068	277 762	168 068	212 168
number.....	10 084 697	10 849 890	9 977 455	10 633 947
Cattle and calves sold.....farms.....	1 150 523	1 278 609	618 274	678 726
number.....	72 603 841	71 216 727	67 359 378	64 946 730
Hogs and pigs inventory.....farms.....	243 398	329 833	172 903	219 088
number.....	52 271 120	55 366 205	50 989 702	53 442 310
Hogs and pigs sold.....farms.....	238 819	315 095	177 586	224 940
number.....	96 569 359	94 783 598	94 669 837	92 055 157
Sheep and lambs inventory.....farms.....	92 489	101 582	44 944	49 994
number.....	11 059 397	12 438 011	9 646 324	10 389 830
Chickens 3 months old or older inventory.....farms.....	144 438	215 812	53 006	77 430
number.....	373 577 186	362 464 997	370 923 388	357 428 148
Broilers and other meat-type chickens sold.....farms.....	27 645	30 100	23 382	24 114
number.....	4 361 975 630	3 516 622 889	4 361 037 533	3 512 326 522
Selected crops harvested:				
Corn for grain or seed.....farms.....	627 602	715 171	487 801	546 581
acres.....	58 701 505	69 857 993	56 701 959	67 603 094
bushels.....	6 725 001 837	7 508 721 493	6 570 214 669	7 341 316 392
Sorghum for grain or seed.....farms.....	89 642	93 696	74 790	80 402
acres.....	9 760 574	12 678 843	9 355 929	12 266 450
bushels.....	633 174 972	725 959 104	613 452 427	710 350 908
Wheat for grain.....farms.....	352 237	446 075	290 499	367 277
acres.....	53 224 174	70 910 293	51 065 276	68 478 845
bushels.....	1 887 103 964	2 373 246 659	1 831 284 430	2 314 386 644
Cotton.....farms.....	43 046	38 266	38 371	33 185
acres.....	9 826 081	9 781 404	9 731 859	9 607 799
bales.....	13 280 143	11 375 524	13 214 862	11 259 688
Soybeans for beans.....farms.....	441 899	511 229	360 626	410 441
acres.....	55 291 205	64 832 842	53 318 294	62 275 679
bushels.....	1 838 053 379	1 989 893 158	1 790 124 759	1 931 390 306
Hay—alfalfa, other tame, small grain, wild, grass silage, green chop, etc.....farms.....	994 651	1 050 992	549 943	593 535
acres.....	57 967 530	56 743 836	47 466 354	46 420 100
tons, dry.....	128 816 054	128 474 661	112 416 337	111 688 617
Vegetables harvested for sale.....farms.....	60 819	69 109	39 884	40 051
acres.....	3 467 563	3 330 637	3 385 892	3 202 559
Land in orchards.....farms.....	120 434	123 663	54 168	51 437
acres.....	4 560 163	4 750 667	4 054 131	4 148 243
Nursery and greenhouse crops.....farms.....	37 298	35 507	24 726	21 147
sales, \$1,000.....	5 774 391	3 821 196	5 729 148	3 773 054

<sup>1</sup>Data for 1982 exclude abnormal farms.

<sup>2</sup>Data are based on a sample of farms.

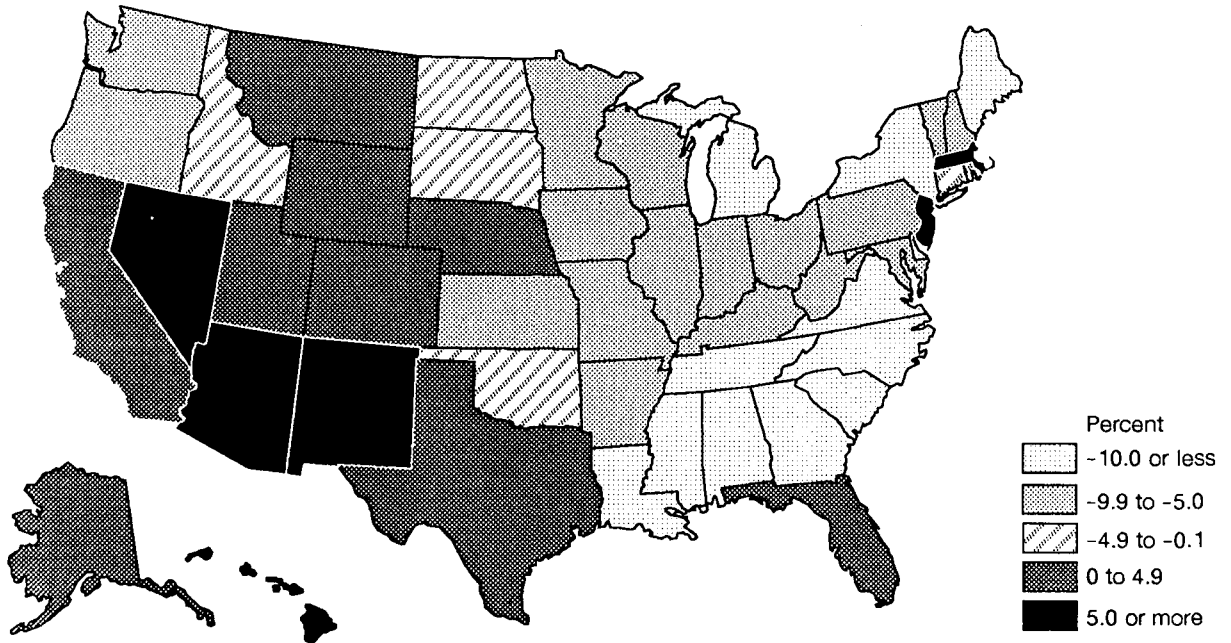
<sup>3</sup>Data for 1982 do not include imputation for item nonresponse.

Figure 1.  
Number of Farms: 1987



Bureau of the Census  
1987 Census of Agriculture

Figure 2.  
Number of Farms Percent Change: 1982 to 1987

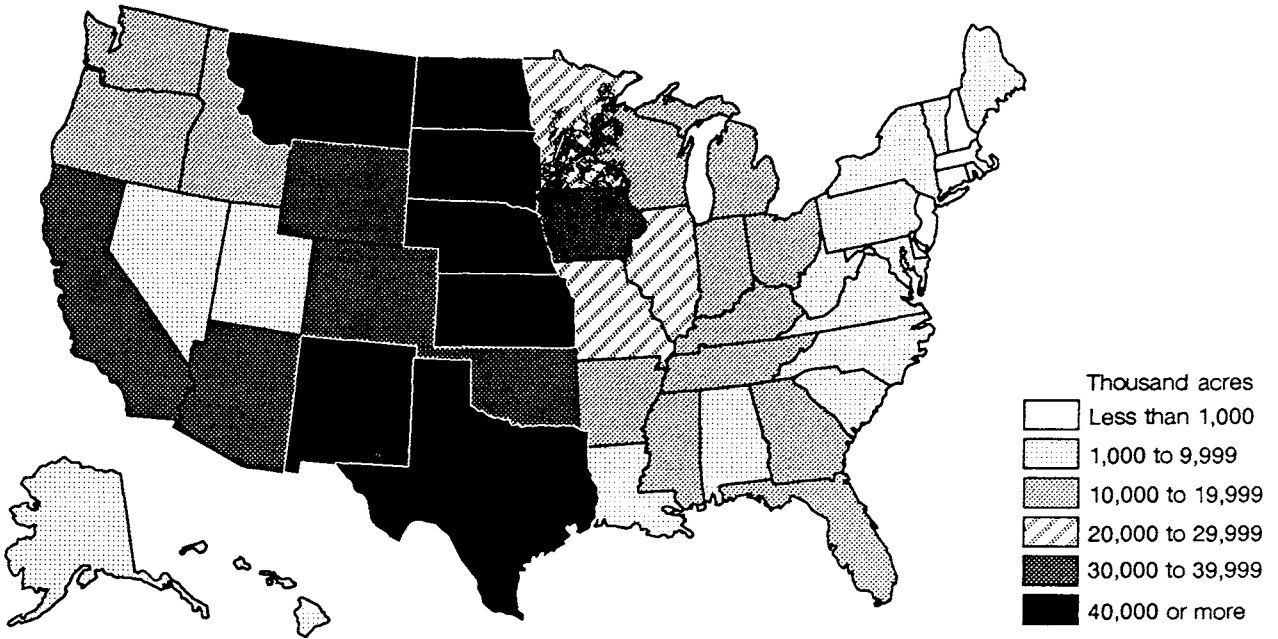


Percent change may not be statistically significant

Bureau of the Census  
1987 Census of Agriculture

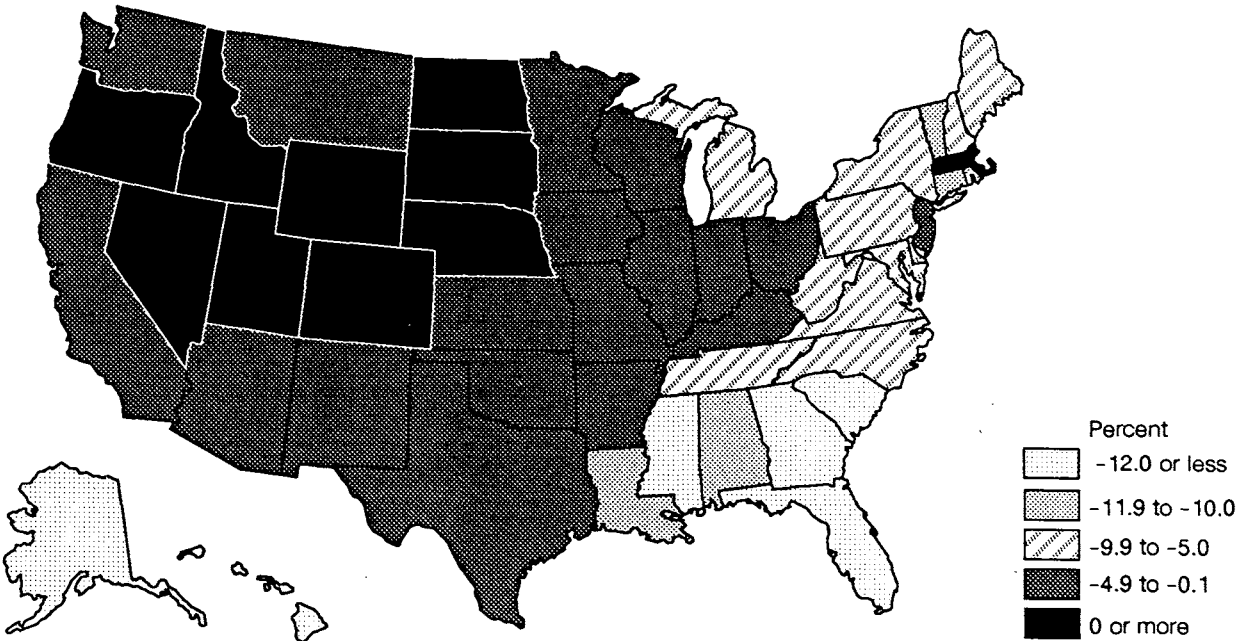


Figure 3.  
Land In Farms: 1987



Bureau of the Census  
1987 Census of Agriculture

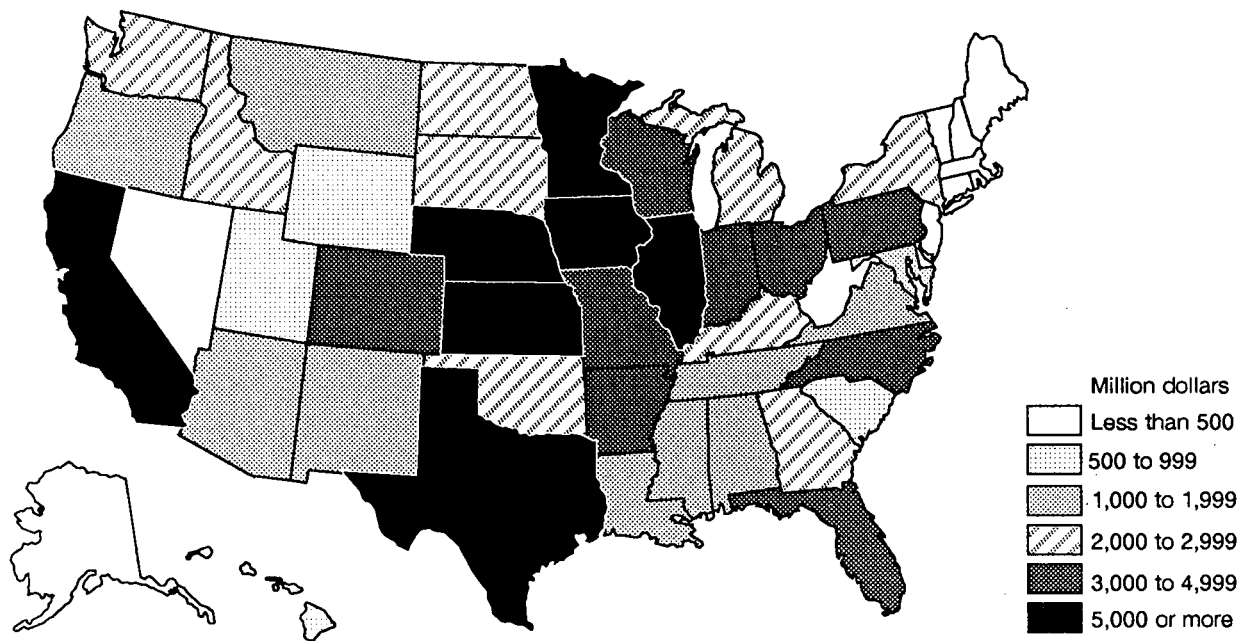
Figure 4.  
Land In Farms Percent Change: 1982 to 1987



Percent change may not be statistically significant

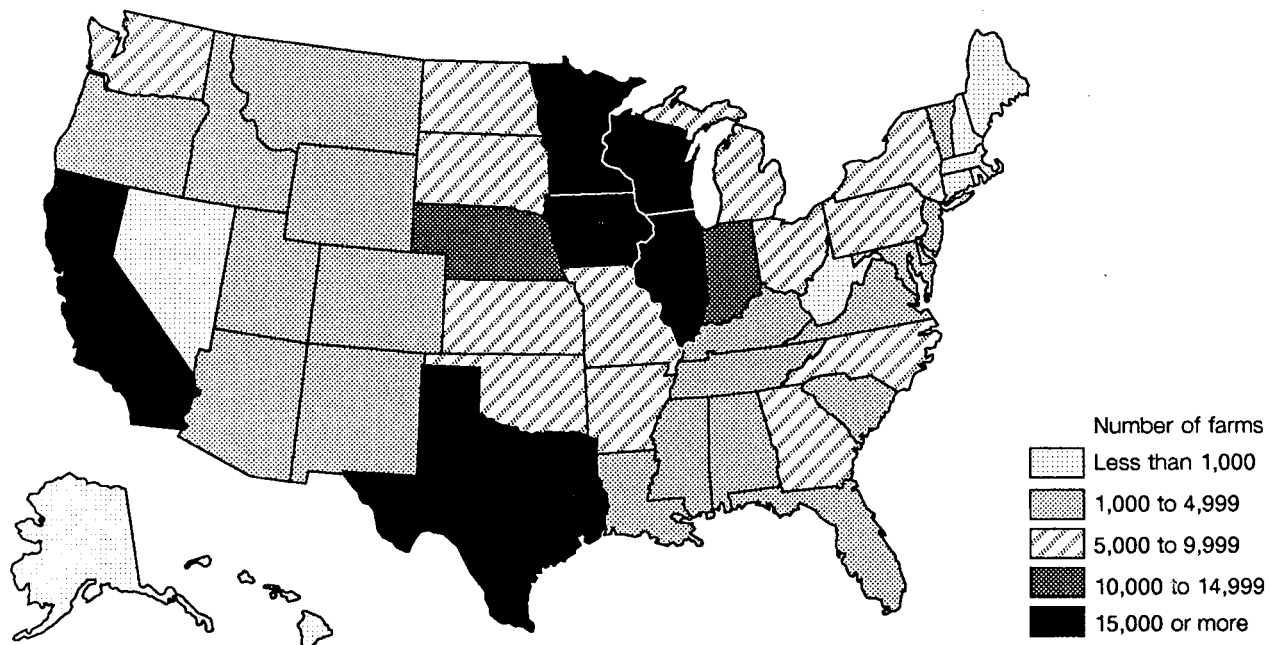
Bureau of the Census  
1987 Census of Agriculture

Figure 5.  
Value of Agricultural Products Sold: 1987



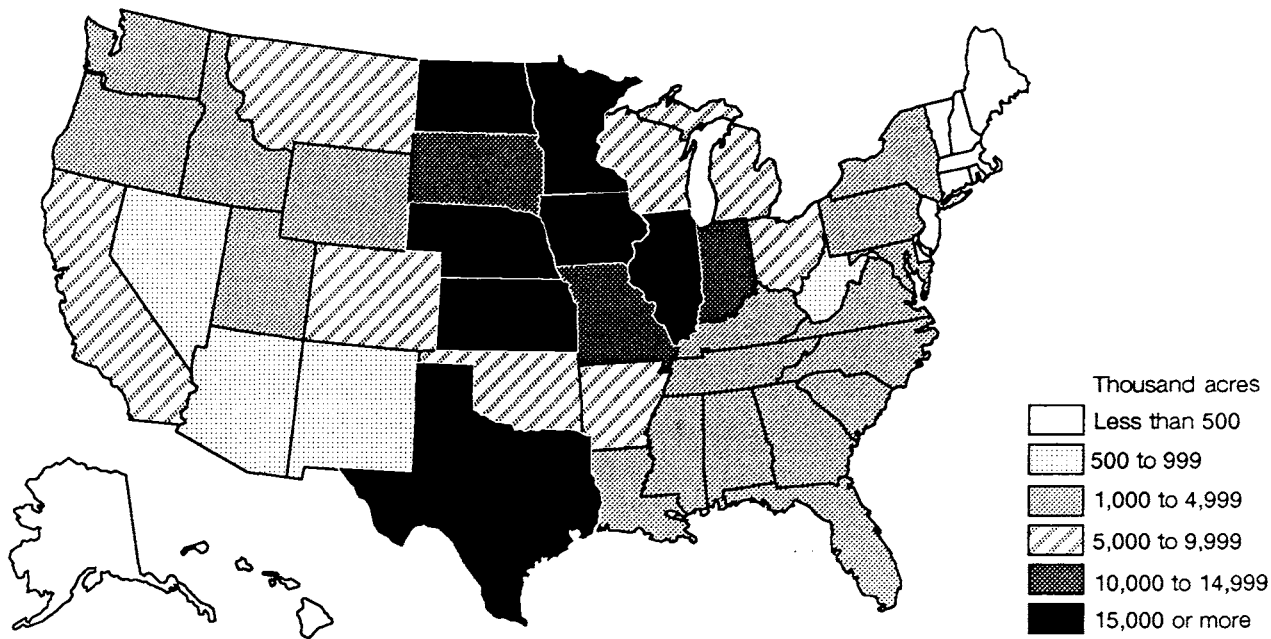
Bureau of the Census  
1987 Census of Agriculture

Figure 6.  
Farms With Sales of \$100,000 or More: 1987



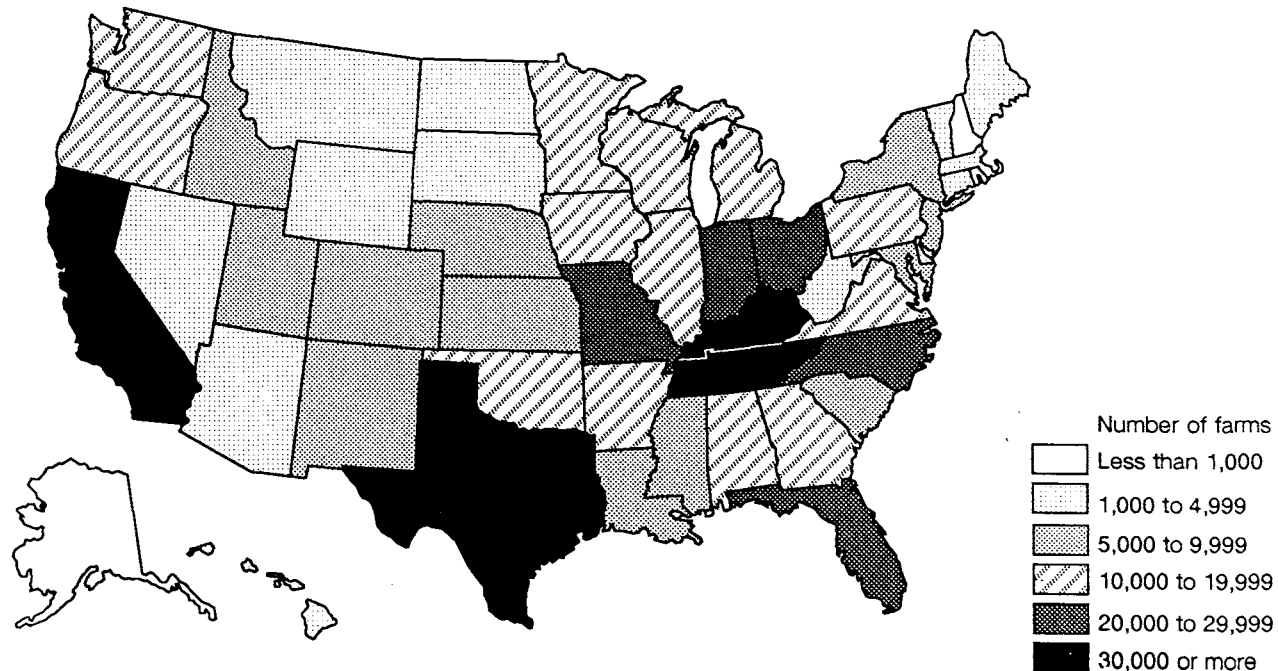
Bureau of the Census  
1987 Census of Agriculture

Figure 7.  
**Cropland Harvested: 1987**



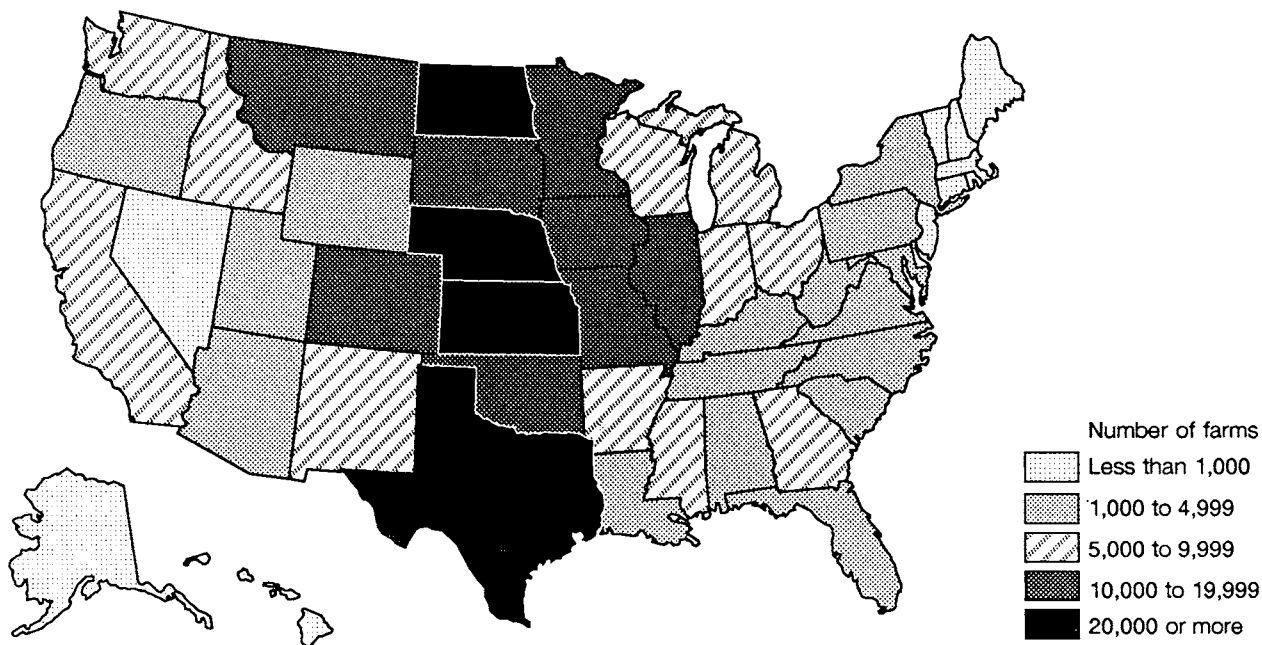
Bureau of the Census  
 1987 Census of Agriculture

Figure 8.  
**Farms With Less Than 50 Acres: 1987**



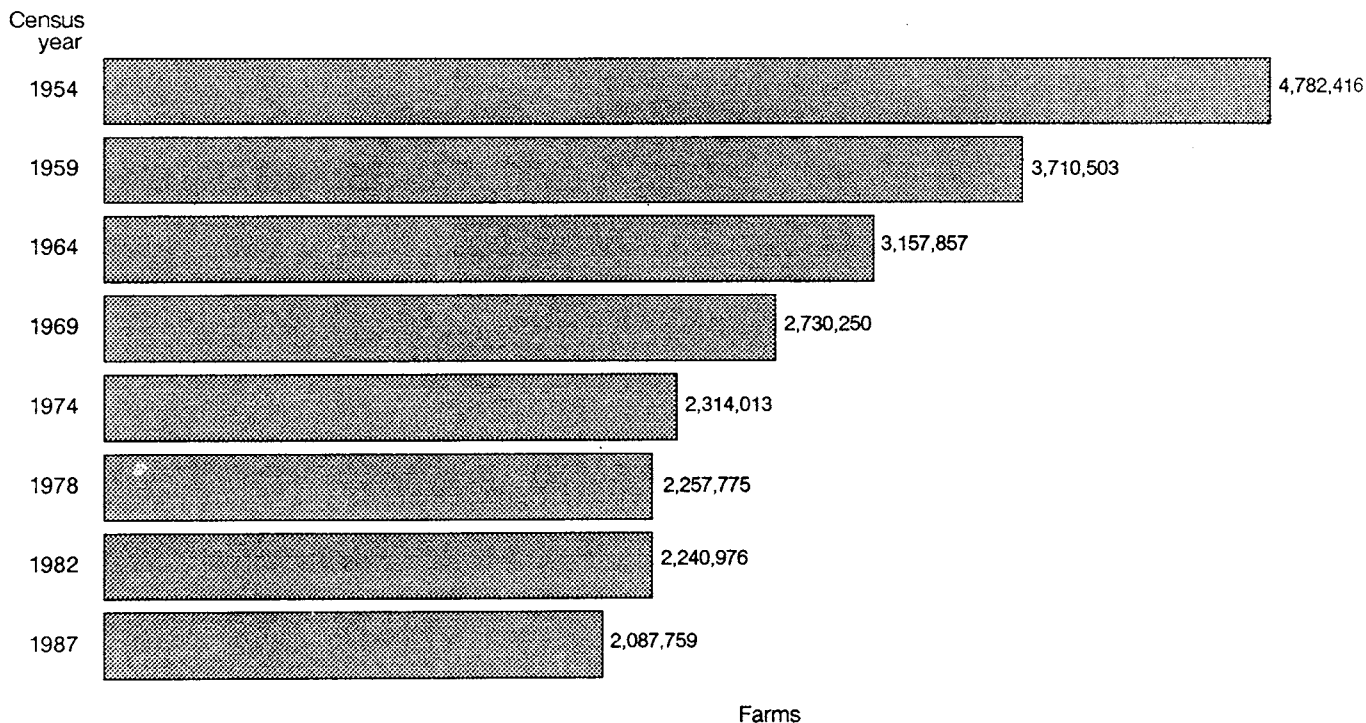
Bureau of the Census  
 1987 Census of Agriculture

Figure 9.  
Farms With More Than 500 Acres: 1987



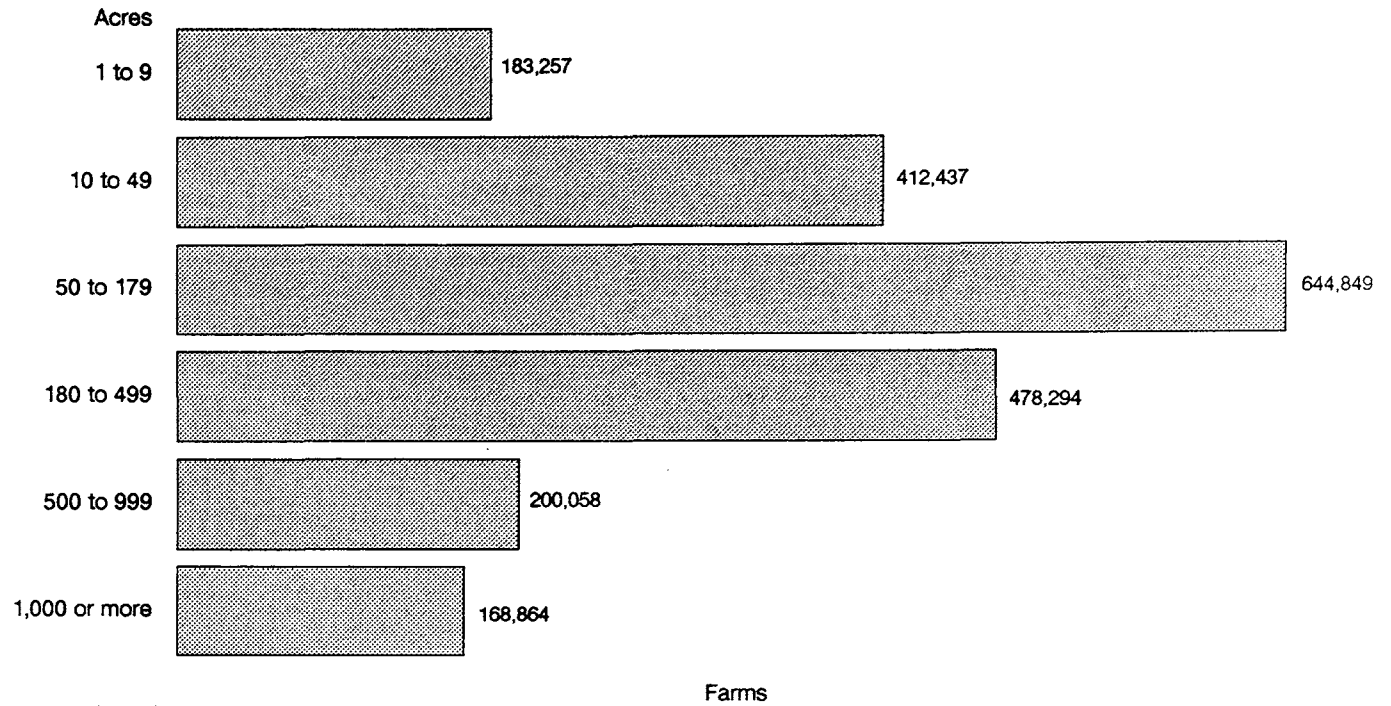
Bureau of the Census  
1987 Census of Agriculture

Figure 10.  
Number of Farms



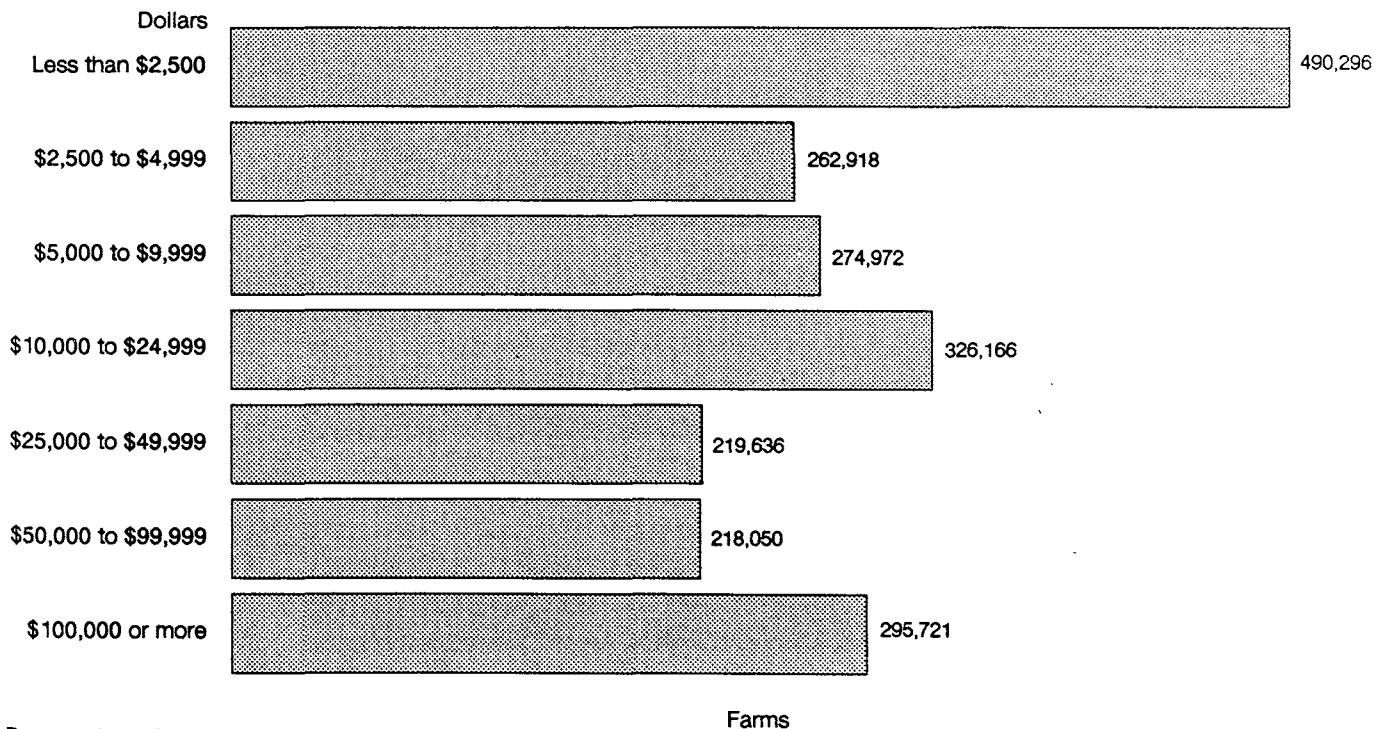
Bureau of the Census  
1987 Census of Agriculture

Figure 11.  
**Farms by Size: 1987**



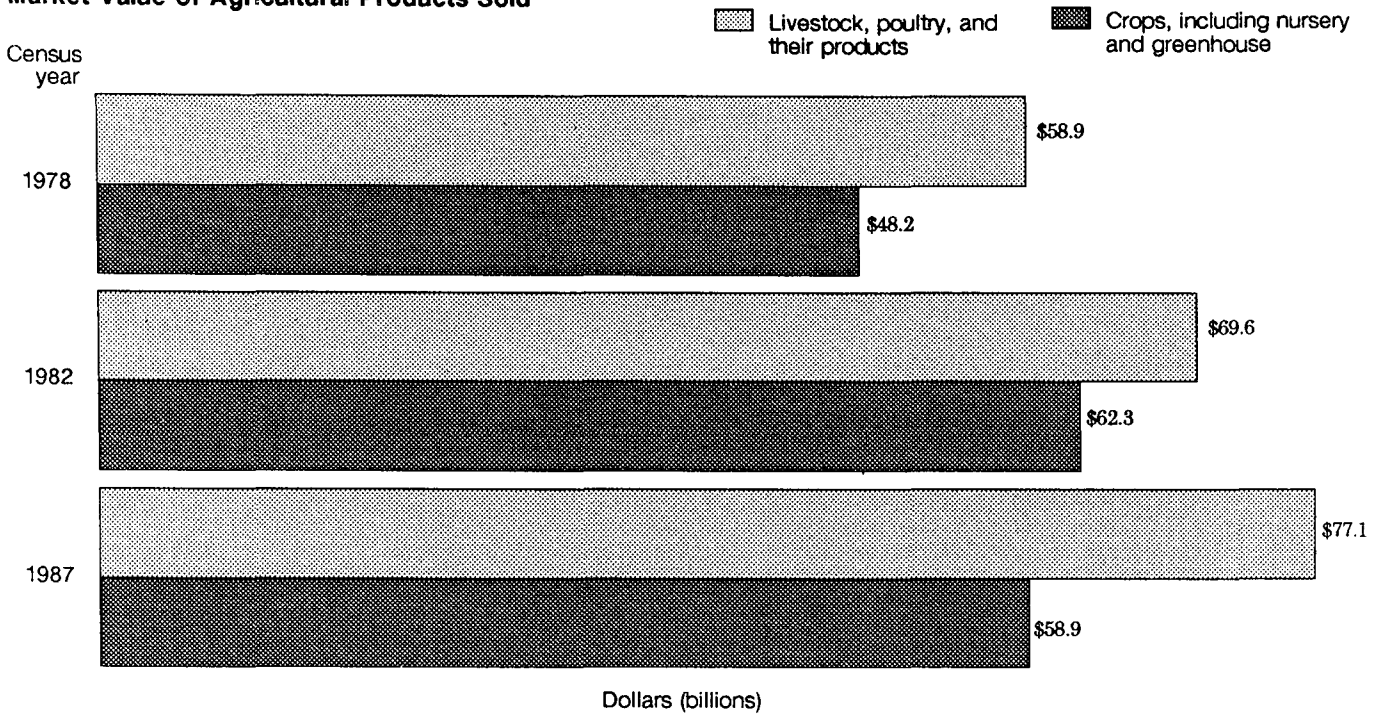
Bureau of the Census  
 1987 Census of Agriculture

Figure 12.  
**Farms by Value of Sales: 1987**



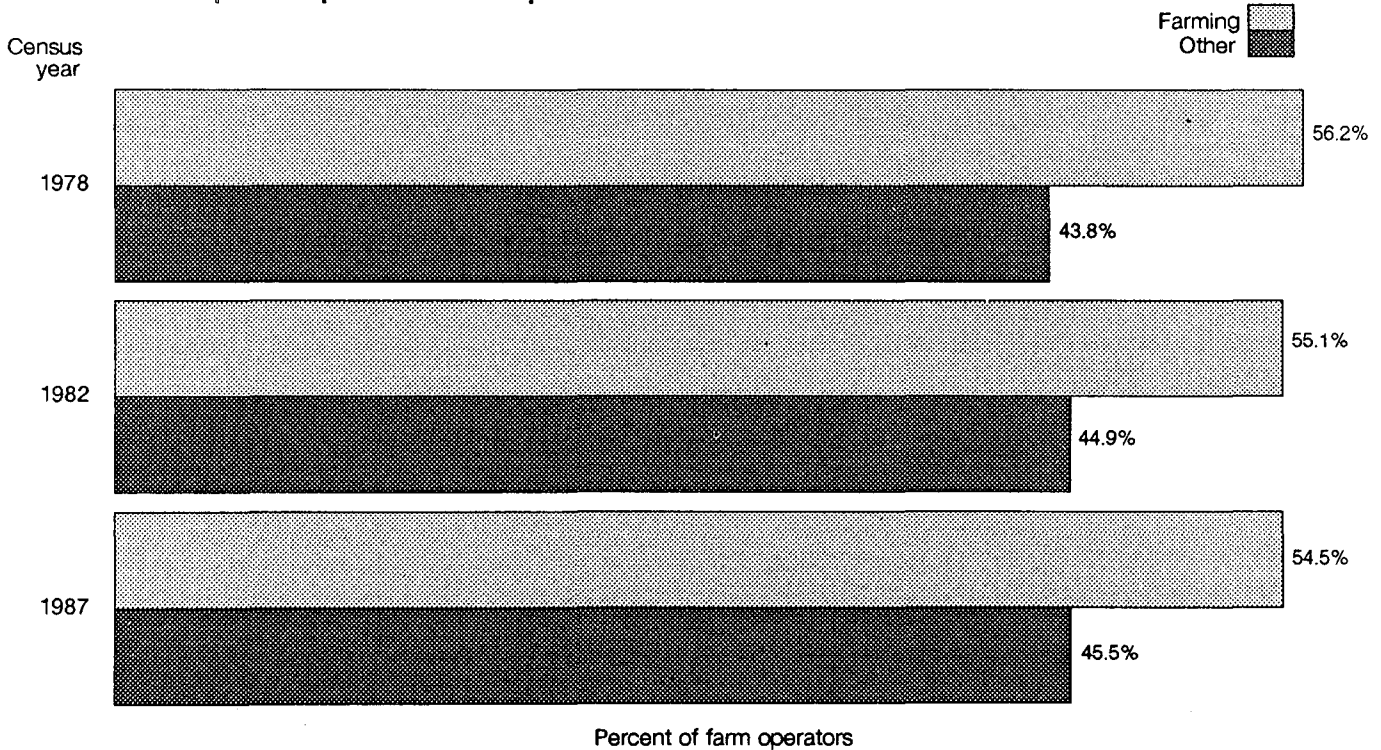
Bureau of the Census  
 1987 Census of Agriculture

Figure 13.  
**Market Value of Agricultural Products Sold**



Bureau of the Census  
 1987 Census of Agriculture

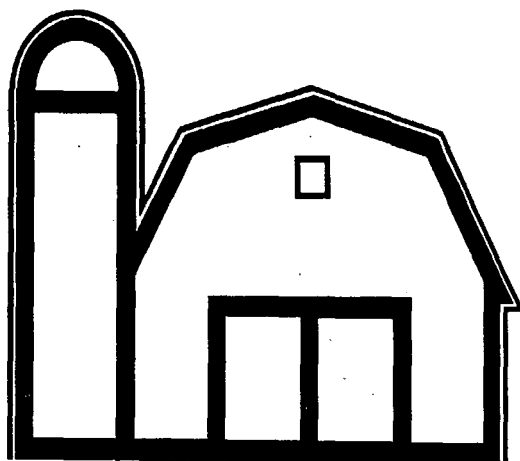
Figure 14.  
**Percent of Principal Occupation of Farm Operators**



Bureau of the Census  
 1987 Census of Agriculture

# Lesson II \_\_\_\_\_

## Production Agriculture



U.S. Department of Commerce  
BUREAU OF THE CENSUS





# Production Agriculture

This lesson is concerned with production agriculture. Table 1 (p. II-4) shows that farm sales in 1987 were slightly more than \$136 billion; a 3.2% increase from the 1982 census. It can be seen that agricultural sales are divided between crops and livestock.

The cash crop with the highest total market value in the U.S. is corn. This corn is not the sweet corn that is eaten during the summer. Feed corn is produced primarily for animal feed, both for domestic livestock and for export. Corn is a major carbohydrate in the diet of agricultural livestock. Corn is also used to make corn oil which is used in cooking; high fructose corn syrup (HFCS) which is a low calorie sweetener used by many food and beverage manufacturers as a substitute for sugar; and for making alcohol, not only as a beverage, but increasingly as a substitute for petroleum.

Figure 1 (p. II-10) shows corn is grown primarily in the midwest which includes Illinois, Iowa, Minnesota, Nebraska, and parts of several other States. The figure also shows that corn is grown in other parts of the United States.

The crop with the second highest total market value is soybeans. It is a legume which when crushed produces a vegetable oil and leaves soybean meal. The oil is used extensively for food production and is a healthy, low cholesterol liquid. The oil is used in making margarine and salad dressing, for cooking food, and for many other purposes in food preparation. Look at the labels on food packages and you will frequently see soybean oil listed as an ingredient. The meal is used to provide protein for the animal diet and is widely used both domestically and for export.

**Table 1. 1987 and 1982 Agriculture Sales**

Commodity	1987		1982	
	Sales (\$billions)	Percentages of total sales	Sales (\$billions)	Percentages of total sales
Corn	10.7	7.8	13.5	10.2
Wheat	4.8	3.5	7.8	5.9
Soybeans	9.1	6.7	10.4	7.9
Sorghum	0.9	0.7	1.4	1.1
Oats	0.2	0.2	3.0	2.3
Other grains	2.5	1.9	3.0	2.3
Cotton and cottonseed	4.2	3.0	3.2	2.4
Tobacco	1.7	1.3	2.8	2.1
Hay, silage, etc.	2.6	1.9	2.3	1.7
Vegetables, sweet corn, and melons	4.7	3.5	4.1	3.1
Fruits, nuts, and berries	7.1	5.2	5.8	4.4
Nursery and greenhouse crops	5.8	4.2	3.8	2.9
Other crops	4.5	3.3	3.7	2.8
Poultry and poultry products	12.8	9.4	9.8	7.4
Dairy products	16.0	11.8	16.3	12.4
Cattle and calves	35.9	26.4	31.6	24.0
Sheep, lambs, and wool	0.8	0.6	0.6	0.4
Hogs and pigs	9.9	7.3	9.9	7.5
Other livestock	1.8	1.3	1.4	1.1
TOTAL	136.0	100.0	131.9	101.9

Soybeans (see figure 2, p. II-10) are produced in much of the same areas that produce corn, but additionally one can see large concentrations of soybean production along the middle and lower Mississippi Valley States (Missouri, Arkansas, Louisiana, Mississippi, western Tennessee, and western Kentucky), Ohio, Indiana, North Carolina, South Carolina, Georgia, and Alabama.

Few farmers plant only one type of crop or raise only one type of livestock. Many farmers, particularly smaller ones, like to diversify their production so that if one crop does poorly, they will have other crops which may do better. Frequently a farmer will grow both corn and soybeans and use his own production of these crops to feed his livestock.

The third most valuable cash grain crop is wheat. Wheat is grown primarily for domestic and foreign human consumption. Some low-grade wheat is used as animal feed. Figure 3 (p. II-11) shows a new pattern. Here the important States are Kansas, Oklahoma, and Colorado east of the Rockies. In addition, there is substantial production in Minnesota, North Dakota, Montana, and in the other northwestern States of Oregon, Washington, and Idaho. Some wheat is also grown in California; a major agricultural State with great diversity in its production. The geographic areas of production of other small grains, such as oats, barley, and rye, are similar to those of wheat.

Figure 4 (p. II-11) shows where cotton is grown. Historically, the lower Mississippi Valley (Arkansas, Louisiana, Mississippi, western Tennessee, and southeast Missouri) and Alabama are associated with cotton production. However, western Texas, New Mexico, Arizona, and California also produce large quantities. Much of this production is through the use of irrigation and leads to some of the world's finest cotton.

Other crops have different geographic areas of production. Silage is produced in the western States, where land may not be as suitable for other more profitable crops, but more extensively in Wisconsin, California, Michigan, New York, Minnesota, and Pennsylvania where it is used for feed.

Sugar is produced from two crops grown in the United States. These crops are sugar beets and sugarcane. Sugar beets are grown primarily in Minnesota, California, Idaho, North Dakota, and Michigan. Sugarcane for sugar is produced in Florida, Louisiana, Hawaii, and Texas.

## **Vegetable and Fruit Production**

Demands for many grains and some other crops have declined in recent years and production of these crops has become less profitable. Two areas where both demand and profitability are growing are in the production of fruits and vegetables. The American consumer seems to have an increasing demand for fresh produce.

The geographic picture for vegetable production (figure 5, p. II-12) is quite different than that for grains or cotton. California, Florida, Texas, Washington, Oregon, the northeastern States of New York, New Jersey, Delaware, Maryland, and the midwestern States of Michigan, Illinois, Wisconsin, and Minnesota are major vegetable production areas.

Orchards (figure 6, p. II-12) present a similar pattern with a great deal of concentration in California, Florida, Texas, Washington, Oregon, Michigan, New York, and Georgia.

## **Livestock and Products**

In the U.S., meats eaten are primarily beef, pork, and poultry. For much of our history, beef was our preferred meat. In recent years, domestic consumption of beef has declined because of consumer concern about the effects of over-consumption of beef. Consumption of pork has increased a little, while consumption of poultry has increased to take up much of the decline in beef consumption. (USDA 1988 Agriculture Statistics)

Ten years ago beef consumption was almost twice as much, in terms of weight, as either pork or poultry. Today, in terms of weight, we consume slightly more poultry than beef, and slightly more beef than pork. In terms of value of agricultural sales, beef remains the leader. Look at the price of each of these meats in your supermarket.

Figure 7 (p. II-13) gives an idea where cattle production is predominant. This is concentrated west of the Mississippi River. The main exceptions are in Wisconsin ("America's Dairyland") and in the Northeast. Both of these areas are primarily States that have dairy rather than beef cattle. The major beef cattle production States are Texas, Nebraska, Missouri, Oklahoma, South Dakota, Iowa, Montana, and Kansas.

Figure 8 (p. II-13) shows that hog production is concentrated mainly in those same States that produce corn and soybeans which is used as the feed.

Chickens (see figure 9, p. II-14) show yet another production pattern with significant production in Arkansas, North Carolina, South Carolina, and Pennsylvania, as well as much of the rest of the Southeast, including Alabama, Georgia, and the Delmarva Peninsula (Delaware, Maryland, and Virginia east of the Chesapeake Bay).

### **Summary**

In summary, agricultural production is spread widely across the country with different regions taking the lead for different types of production. California leads in agricultural sales, producing 10 percent of the total value of agricultural sales or about \$14 billion. California agriculture is diverse. Texas with its cotton, grains, and cattle has the second largest agricultural sales, which in 1987 were \$10.5 billion. Iowa ranked third with sales of almost \$9 billion, mostly of corn, soybeans, cattle, hogs, and pigs. Nebraska, Kansas, Illinois, Minnesota, Wisconsin, Florida, Indiana, Missouri, North Carolina, Ohio, Arkansas, and Colorado ranked 4th through 15th, respectively, among the States in market value of agricultural products sold.

### **Topics for Class Discussion**

- (1) Based on the information in the lesson, how is the average American diet likely to change in coming years? How does this coincide with preferences of those in the class? How will these preferences affect American agriculture?
- (2) What are the benefits of importing and exporting agricultural products?
- (3) Why do you think the major concentration of hogs and pigs is located in Iowa, Illinois, Indiana, Ohio, Nebraska, Minnesota, and bordering States?

## Test for Lesson II

- (1) Which of the following do Americans consume the most in terms of weight?
  - (a) Lamb
  - (b) Beef
  - (c) Poultry
  
- (2) Which of the following is used for human consumption?
  - (a) Feed corn
  - (b) Soybeans
  - (c) Hay
  
- (3) The crop that accounted for the greatest percentage of agricultural sales was:
  - (a) Soybeans
  - (b) Corn
  - (c) Wheat
  - (d) Tobacco
  
- (4) Where is most U.S. cattle production located? Refer to figure 7.
  - (a) All States west of the Mississippi River
  - (b) New England States (Vermont, New Hampshire, Maine, Massachusetts, Rhode Island, and Connecticut)
  - (c) Southwest (Texas, New Mexico, and Arizona)
  
- (5) In which set of States is cotton produced? Refer to figure 4.
  - (a) Arkansas, Texas, New Mexico, Arizona, California
  - (b) Georgia, Alabama, Tennessee, North Carolina, Ohio
  - (c) Louisiana, Mississippi, Arkansas, Missouri, Kansas
  - (d) Virginia, West Virginia, North Carolina, South Carolina

(6) Which State has the smallest hog and pig inventory? Refer to figure 8.

- (a) Iowa
- (b) Nebraska
- (c) Illinois
- (d) Texas
- (e) Indiana

(7) Which two States have the most land in orchards? Refer to figure 6.

- (a) Texas and Louisiana
- (b) California and Florida
- (c) Michigan and Wisconsin
- (d) Maine and Maryland
- (e) Oregon and Washington

(8) Which State is not considered a major corn growing State?

- (a) Iowa
- (b) Nebraska
- (c) Illinois
- (d) Nevada
- (e) Indiana

(9) Which State has the most acres of vegetables for sales? Refer to figure 5.

- (a) Maine
- (b) Minnesota
- (c) Missouri
- (d) Mississippi

Figure 1.  
Corn Harvested for All Purposes

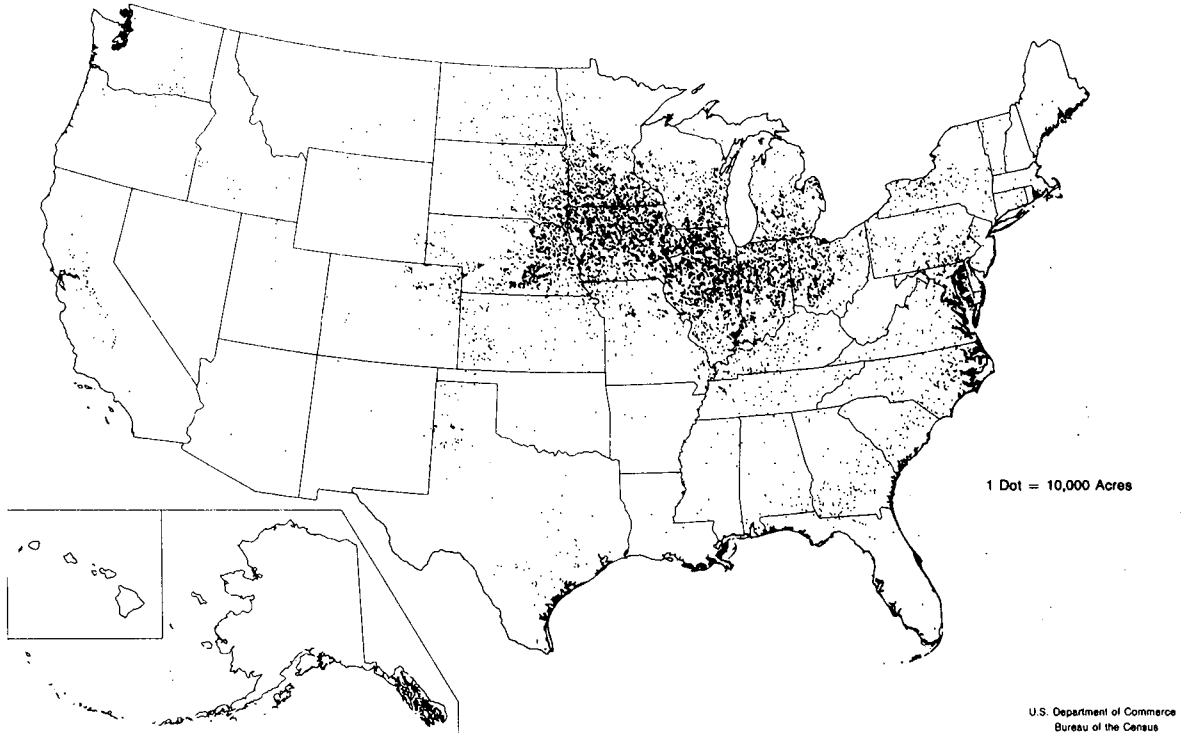


Figure 2.  
Soybeans Harvested for Beans

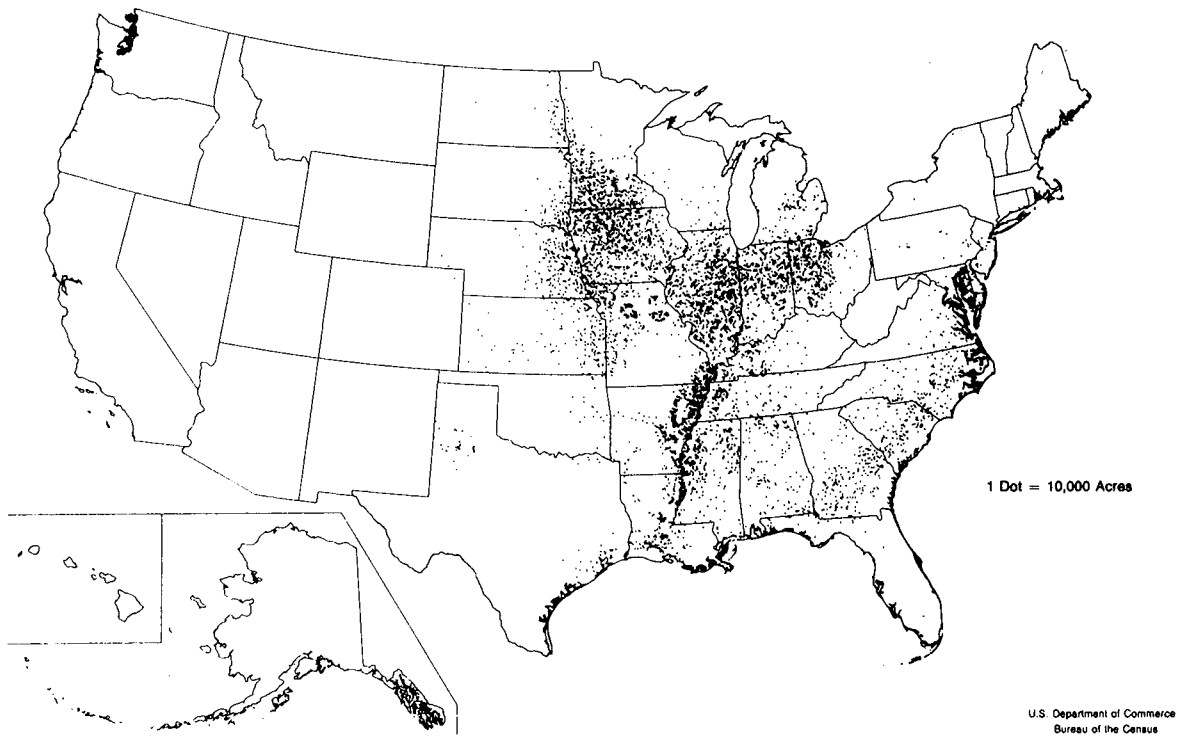




Figure 3.  
Wheat Harvested for Grain

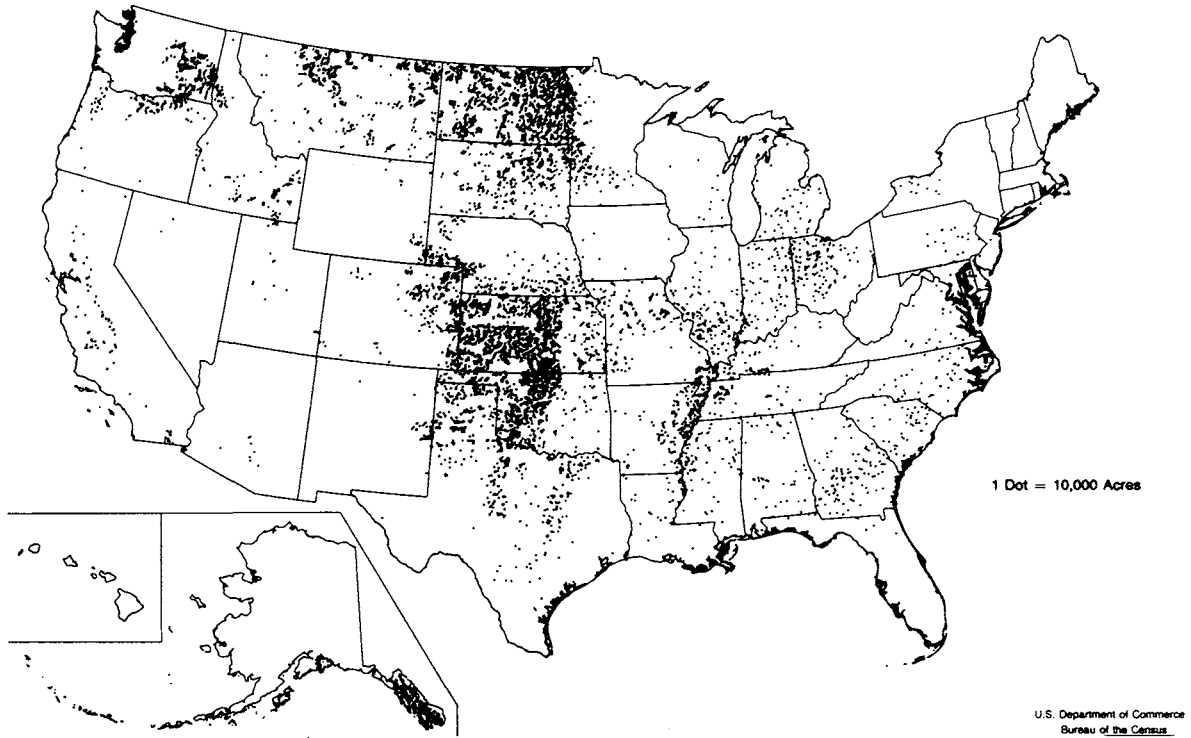
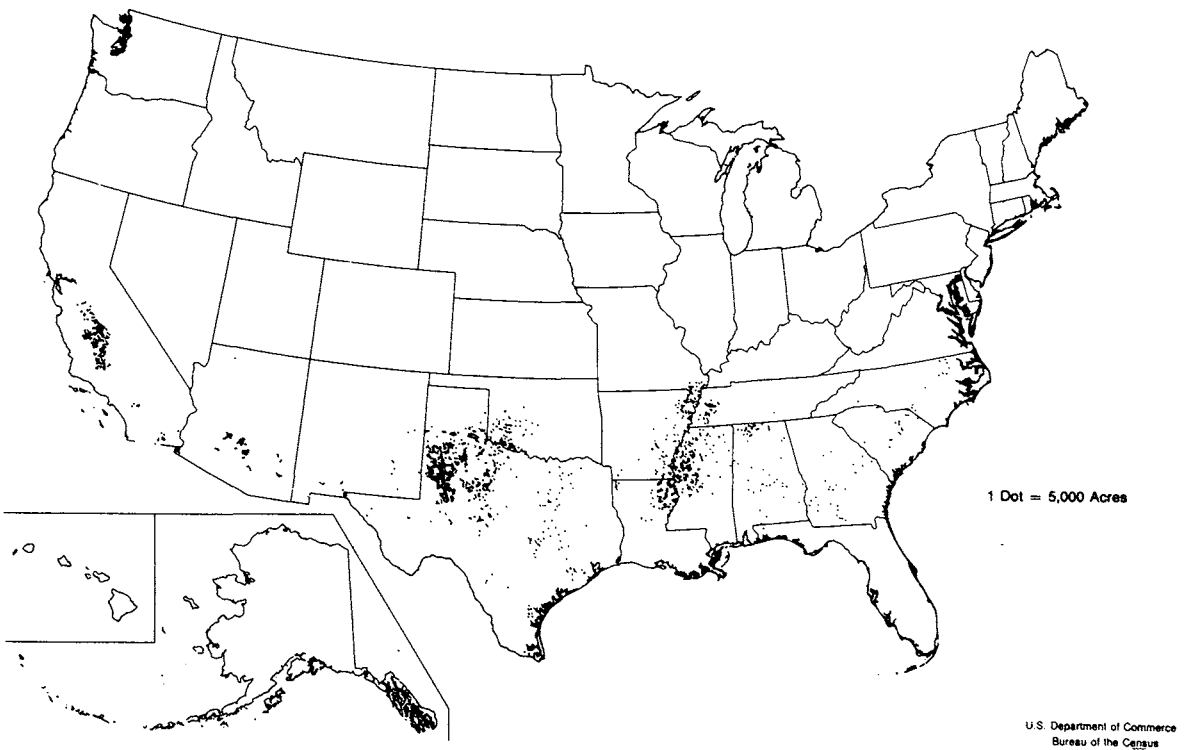
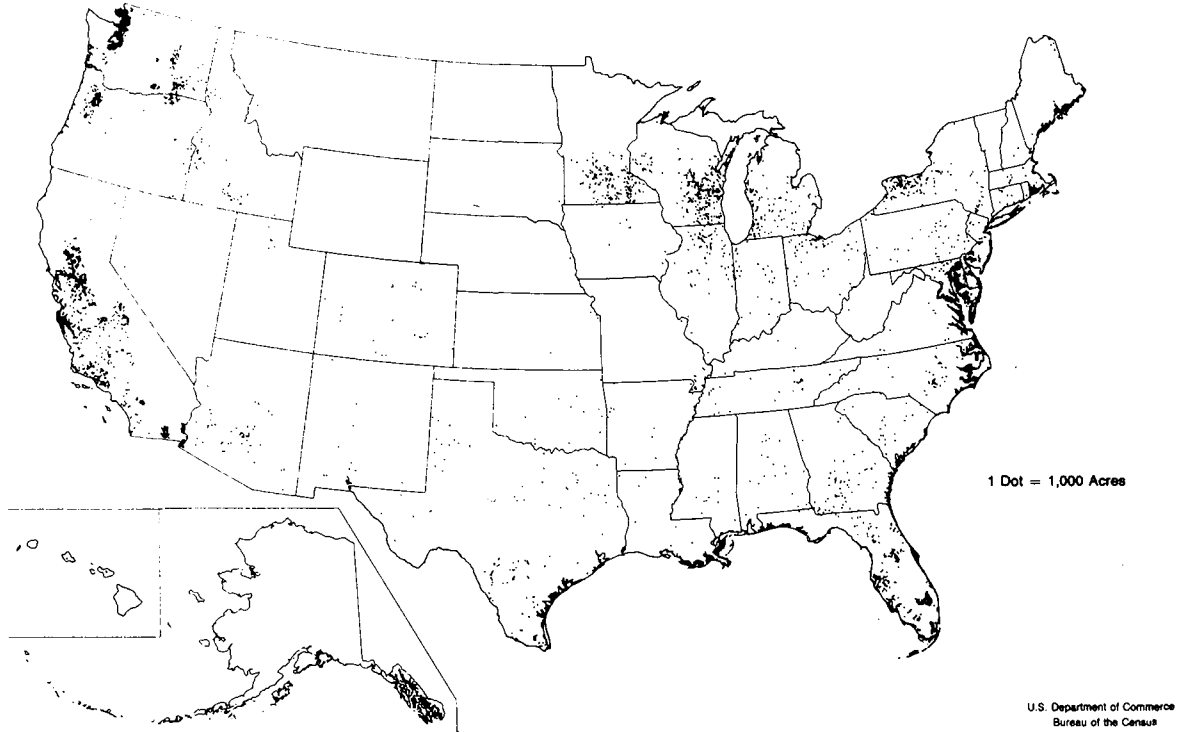


Figure 4.  
Cotton Harvested



**Figure 5.**  
**Vegetables Harvested for Sale**



**Figure 6.**  
**Land In Orchards**

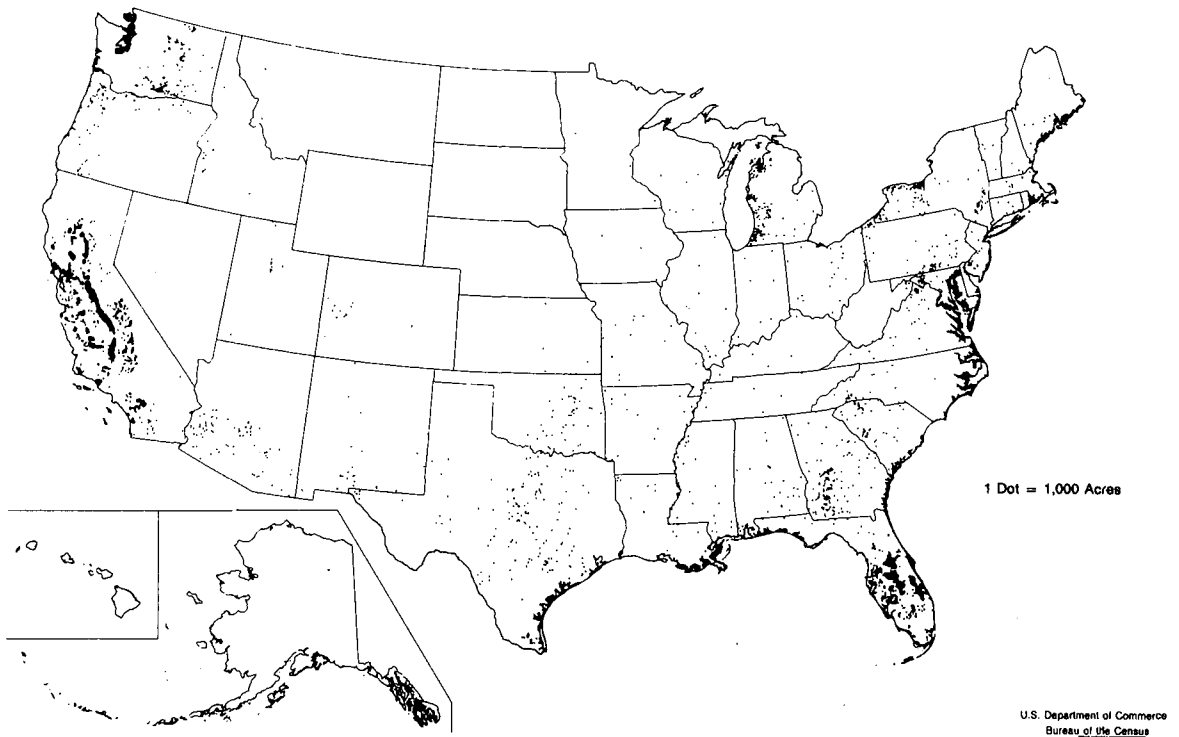


Figure 7.  
Cattle and Calves—Inventory

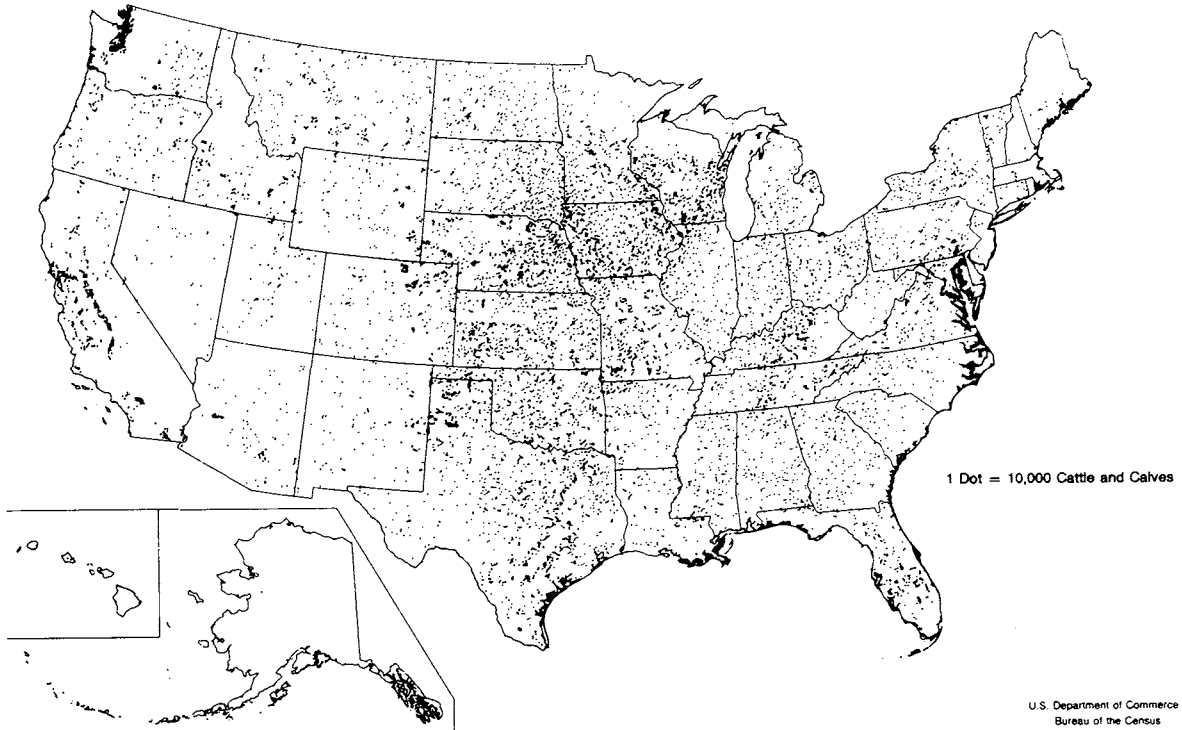


Figure 8.  
Hogs and Pigs—Inventory

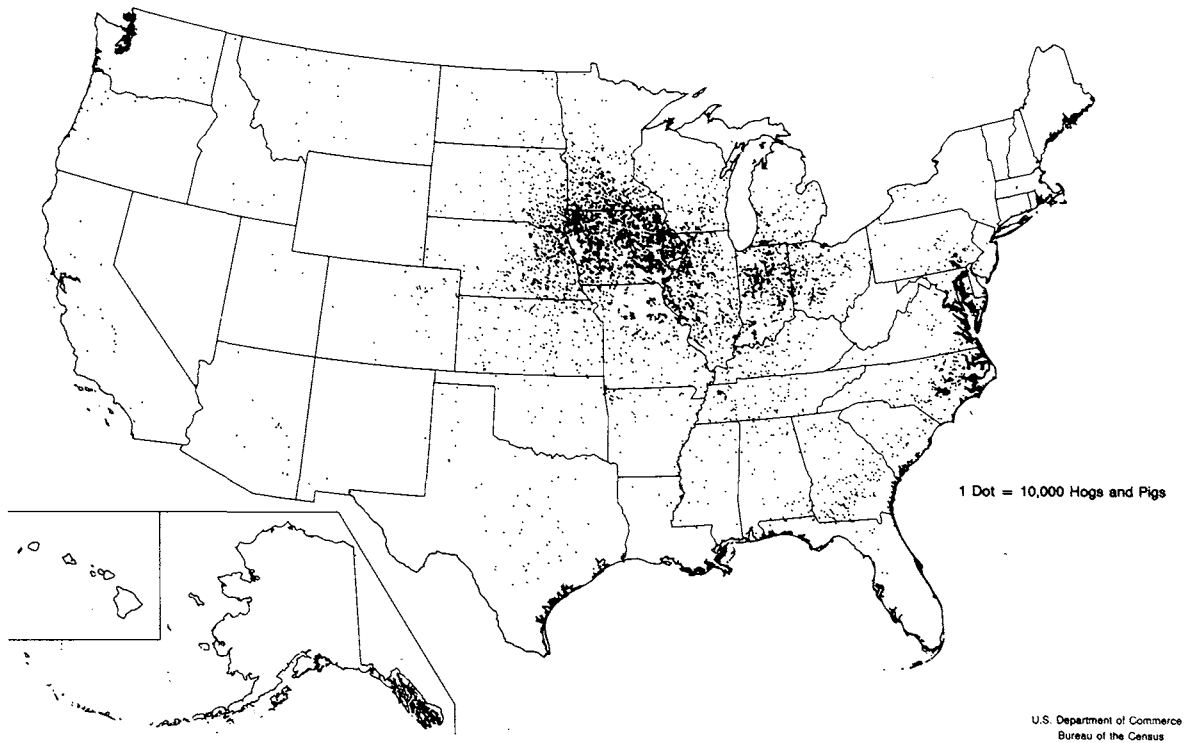
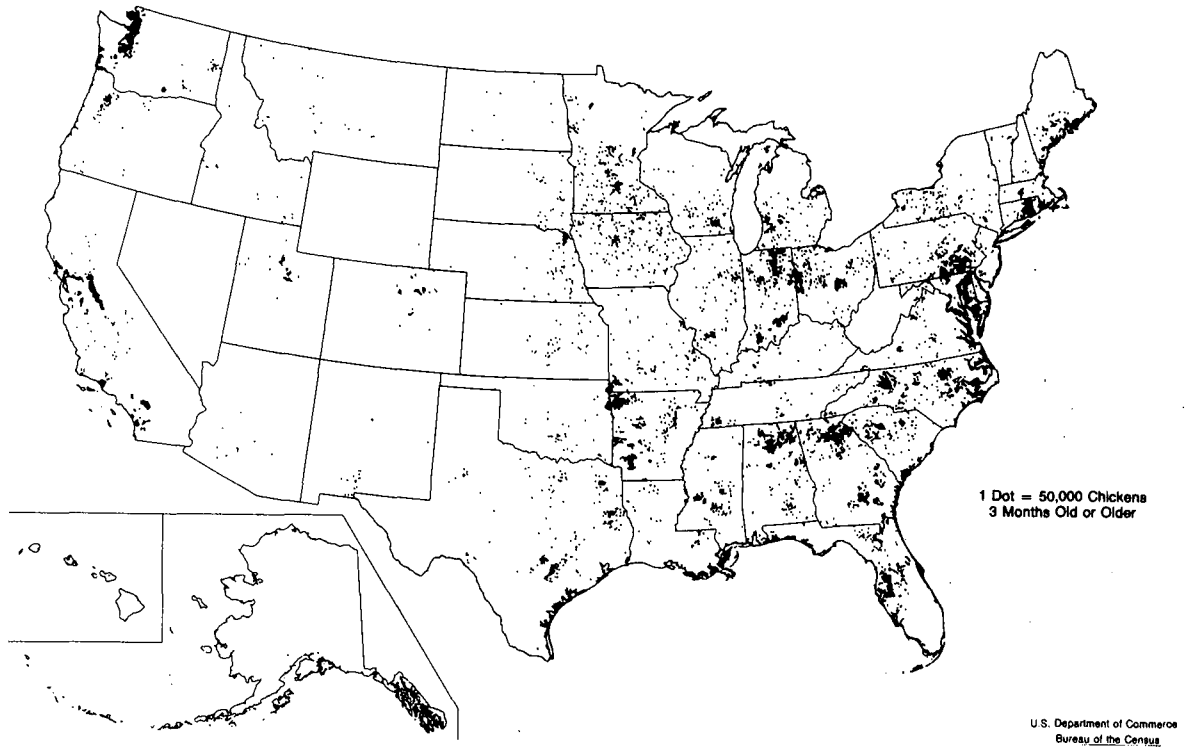
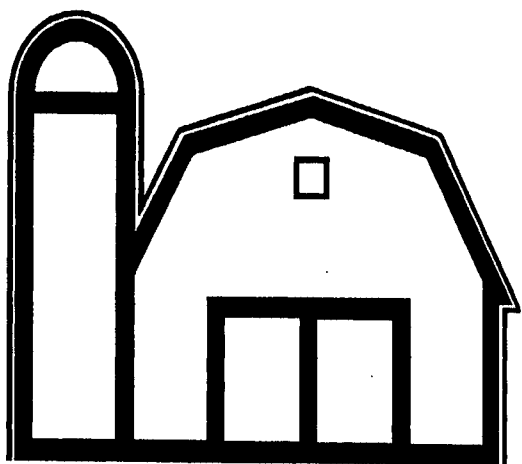


Figure 9.  
Chickens 3 Months Old or Older – Inventory



# Lesson III \_\_\_\_\_

## Agribusiness



U.S. Department of Commerce  
BUREAU OF THE CENSUS



# Agribusiness

**Inputs** are those supplies, materials, equipment, or other resources that go into an agriculture operation. **Outputs** are those commodities produced by agricultural operations that are used in other parts of the economy. In the case of production agriculture, the commodities are used mainly in the preparation of food and fiber. This lesson deals first with the inputs side, then outputs.

## Value of Goods Sold

The census shows that the value of goods sold by the farm sector in 1987 was slightly more than \$136 billion. Five years earlier, in 1982, sales were \$131.9 billion. Farmers use most of these revenues to pay for inputs that they must use in farming. The difference between that which they receive, and that which they pay out represents their **profit**. In the early part of the 1980's, farming was under considerable financial stress. Many farmers found that farming was no longer profitable. In order to stay in farming until times improved, they had to use their savings and borrow money. In many cases, farmer's savings are in the real estate value of their land. Although profit is the major reason why an agricultural operation may continue or cease to operate, other factors such as retirement, economic development, and participation in government programs also play a part. As a result of decline in profits, many farmers had to sell their land. Between 1982 and 1987, the census of agriculture shows that the U.S. lost 6.8% of its farms and 2.3% of the land in farms. This was a loss of more than 150,000 farms.

Not all farms and ranches were equally affected; some regions of the country were hit harder than others and the decline in profitability was also not uniform over all types of farming. For example, parts of farming where the demand remained high such as sugar, fruit and vegetables, horticultural items, and poultry, sustained their profitability.

## Expenditures

In order to see agricultural producer's expenditures, look at table 3, p. III-8-10.

The largest expenditure category was "Livestock and poultry purchased" at \$19.3 billion. Total value of products sold for livestock, poultry, and their products in 1987 was \$77.1 billion. The second highest cost was "Feed for livestock and poultry." To feed and raise livestock in 1987, farmers purchased \$19.1 billion in livestock and poultry feed. Livestock producers paid out just under 50% of the

market value of agricultural sales in these two categories alone, "Livestock and poultry purchased" and "Feed for livestock and poultry." It is easy to see that when these expenditures are added together producers raising livestock will use the majority of the \$77.1 billion in sales.

Those that grow crops also have specialized expenses. Seed, fertilizer, and agricultural chemicals (used to combat pests, disease, and weeds) totalled \$14.7 billion.

While some expenses can be attributed to livestock or crops, other expense categories may be attributable to either or both categories. It can be seen that **hired labor, energy, and interest** (both on mortgages for farmland and short-term operating loans) are all substantial.

There are other costs which are **not** included in this table. One of the largest is the purchase of new equipment, buildings, and other supplies not listed here.

These manufactured inputs are provided by complex distribution chains. Manufacturers generally sell their products through wholesalers and dealers who are an integral part of the farm community. Therefore, much more of the economy is dependent upon farming than just farmers and farm workers.

## Outputs

Turning now to the **output** side of agriculture, only a few people buy food directly from the farmer. Most food is purchased in stores or in restaurants. It is necessary to pay for the complex, yet efficient, chain that moves food from the farm to the processing plant, from the processing plant to warehouses and then to stores and restaurants. This means that the individual pays more for food than the farmer receives.

Some information on the food industry comes from the Census Bureau. It conducts both the Census of Manufactures every 5 years and an Annual Survey of Manufactures, which uses a sampling approach.

Caution must be taken in using these manufacturing surveys because establishments are classified according to their main activities. For example, a bakery that also made chocolates would be classified as a bakery and the entire nature of its activities would be classified as baking, overvaluing the total baking category and undervaluing the chocolate manufacturers. In spite of this problem,



the manufacturing information does provide an enormous amount of insight. Table 2 (p. III-11) shows some information on manufacturing, particularly "Food and kindred products." It can be seen that in 1985, this sector produced \$302 billion worth of goods, \$67 billion of which were meat products, \$41 billion in dairy products, \$43 billion of beverages, and \$34 billion of grain mill products. Remember that because of the classification process, these numbers are actually less than the total number.

In addition to the Census information, USDA also publishes survey information on the food industry. In 1987, food expenditures by families and individuals (which excludes the military, schools, and other institutions) were \$369.6 billion. It is difficult to compare this number directly with farm sales, because farm sales include cotton, tobacco, wool, wood, exports, and institutional purchases. What emerges is that about 25% of each dollar spent on food goes back to the farm. If we buy food to eat at home, 30% goes to the farm. When one eats in a restaurant, 16% goes to the farm. Table 4 (p. III-12) shows where the food dollar goes.

There is considerable variation in what goes back to the farmer by type of commodity. Table 5 (p. III-12) shows the percentages received by the farmer for various commodities. It can be seen that the farm value is a higher percentage of retail prices for meat, eggs, poultry, and dairy products. This means that when prices received by farmers change, the retail prices for these products go up or down noticeably. For other products (such as bread), where the farmer only receives a small amount of the retail price, if the price of the farm product (e.g., the price of wheat ) changes, there should be little impact on the retail price.

One should ask the question: "Where does this additional expenditure go?" Table 6 (p. III-13) shows the breakdown. More than a third goes to **labor: drivers, warehouseworkers, check-out clerks, waiters, and waitresses**. One person in nine in the United States works somewhere in the food distribution chain.

Packaging is also a major cost. In 1987 packaging cost about \$32 billion.

## Topics for Class Discussion

- (1) Enhanced farm productivity comes from increasing prices for the goods sold or reducing the costs of production. How are farmers likely to improve productivity in the next few years?
- (2) What do consumers obtain for the money paid to the food processing industry?
- (3) Speculate on what percentage of the price of a cotton shirt is received by a cotton farmer. Where does the rest of the money go?

## Test for Lesson III

- (1) The early 1980's were:
  - (a) A period of booming profits for U.S. agriculture
  - (b) The same as the 1970's
  - (c) A period of financial difficulty for the industry
- (2) Farmers use most of their revenue:
  - (a) To buy more land
  - (b) To buy antiques and paintings
  - (c) To pay for their inputs
- (3) How much did every American pay on the average for food packaging in 1987?
  - (a) \$13.30
  - (b) \$133.00
  - (c) \$1,330.00
  - (d) None of the above
- (4) The largest fraction of food costs in the supermarket go for:
  - (a) Advertising
  - (b) The farmer or agriculture producer
  - (c) Distribution and marketing labor

(5) How much did agricultural operators pay for livestock and poultry purchased and feed for livestock and poultry purchased in 1987? Refer to Table 3, Farm Production Expenses: 1987, 1982, and 1978.

- (a) \$10.8 billion
- (b) \$19.3 billion
- (c) \$18.5 billion
- (d) \$38.5 billion

(6) Agricultural operators paid \$5,277,227,000 for petroleum products in 1987. How much more or less did they pay for petroleum products in 1982?

- (a) \$2.61 billion more
- (b) \$2.61 billion less
- (c) The same as in 1987
- (d) \$2.61 million more
- (e) \$2.61 million less

**Table 3. Farm Production Expenses: 1987, 1982, and 1978**

[Data are based on a sample of farms; see text. For meaning of abbreviations and symbols, see introductory text]

Item	1987		1982	1978
	Farms	Expenses (\$1,000)		
Total farm production expenses	2 087 734	(X)	(NA)	(NA)
Average per farm		108 138 053	(NA)	(NA)
		51 797	(NA)	(NA)
Farms with expenses of—				
\$1 to \$4,999	687 105	1 703 924	(NA)	(NA)
\$5,000 to \$9,999	359 258	2 582 019	(NA)	(NA)
\$10,000 to \$24,999	391 185	6 277 647	(NA)	(NA)
\$25,000 to \$49,999	237 194	8 496 781	(NA)	(NA)
\$50,000 to \$99,999	205 340	14 609 021	(NA)	(NA)
\$100,000 to \$249,999	144 921	22 003 422	(NA)	(NA)
\$250,000 to \$499,999	40 163	13 625 963	(NA)	(NA)
\$500,000 or more	22 560	38 839 276	(NA)	(NA)
Livestock and poultry purchased	675 677	(X)	755 431	823 998
Average per farm		19 344 645	17 174 334	16 039 244
		17.9	(NA)	(NA)
Farms with expenses of—				
\$1 to \$999	188 418	85 292	269 832	320 567
\$1,000 to \$4,999	234 920	562 883	234 582	236 783
\$5,000 to \$9,999	83 221	572 308	78 370	88 276
\$10,000 to \$24,999	80 114	1 241 434	127 886	178 372
\$25,000 to \$49,999	42 406	1 475 021		
\$50,000 to \$99,999	25 837	1 749 269		
\$100,000 to \$249,999	13 914	2 064 967	44 759	
\$250,000 or more	7 047	11 593 470		
Feed for livestock and poultry	1 180 744	(X)	1 360 243	1 447 725
Average per farm		10 163 364	18 591 984	15 785 995
		17.7	(NA)	(NA)
Farms with expenses of—				
\$1 to \$999	460 045	197 239	574 867	641 037
\$1,000 to \$4,999	391 661	844 947	417 914	452 293
\$5,000 to \$9,999	103 444	712 355	119 117	134 741
\$10,000 to \$24,999	112 328	1 748 508		219 654
\$25,000 to \$49,999	53 148	1 822 955	212 243	
\$50,000 to \$79,999	22 005	1 355 510		
\$80,000 to \$99,999	6 892	591 881		
\$100,000 or more	31 421	11 889 968	36 102	
Commercially mixed formula feeds	544 265	(X)	603 502	623 405
Average per farm		11 325 096	10 415 511	8 793 653
		10.5	(NA)	(NA)
Farms with expenses of—				
\$1 to \$999	210 473	77 070	209 651	226 525
\$1,000 to \$4,999	149 126	344 482	178 858	200 284
\$5,000 to \$9,999	55 716	388 683	67 896	67 741
\$10,000 to \$24,999	61 508	956 113	106 782	128 655
\$25,000 to \$49,999	27 813	955 458		
\$50,000 to \$79,999	12 606	779 049		
\$80,000 or more	27 023	7 824 263	40 315	
Seeds, bulbs, plants, and trees	1 176 932	(X)	1 267 129	1 344 217
Average per farm		3 390 762	3 171 752	2 607 118
		3.1	(NA)	(NA)
Farms with expenses of—				
\$1 to \$499	431 649	84 338	473 827	566 548
\$500 to \$999	183 135	127 645	194 276	227 338
\$1,000 to \$4,999	395 771	922 219	438 858	439 158
\$5,000 to \$9,999	102 065	689 602	102 620	73 489
\$10,000 to \$19,999	45 735	598 124	41 794	26 237
\$20,000 to \$24,999	6 336	136 527		
\$25,000 or more	12 241	631 309	15 954	11 447
Commercial fertilizer <sup>2</sup>	1 379 441	(X)	1 443 766	1 628 090
Average per farm		6 684 944	7 689 365	6 330 561
		6.2	(NA)	(NA)
Farms with expenses of—				
\$1 to \$499	347 152	82 605	406 306	464 117
\$500 to \$999	211 152	146 230	212 360	250 258
\$1,000 to \$4,999	491 290	1 144 600	462 511	580 440
\$5,000 to \$9,999	156 676	1 074 484	159 982	179 023
\$10,000 to \$24,999	126 394	1 877 258	156 663	154 252
\$25,000 to \$29,999	12 732	338 340		
\$30,000 to \$49,999	21 694	794 828		
\$50,000 to \$99,999	9 340	604 654	45 944	
\$100,000 or more	3 011	621 948		
Agricultural chemicals <sup>2</sup>	1 262 680	(X)	1 125 436	1 439 040
Average per farm		4 690 243	4 282 213	2 889 503
		4.3	(NA)	(NA)
Farms with expenses of—				
\$1 to \$499	477 801	87 121	408 360	675 269
\$500 to \$999	174 467	120 241	235 165	250 022
\$1,000 to \$4,999	391 760	910 043	363 998	405 396
\$5,000 to \$9,999	113 617	771 613	106 956	74 621
\$10,000 to \$24,999	78 229	1 136 434		
\$25,000 to \$49,999	18 102	586 360	92 957	48 732
\$50,000 or more	8 704	1 063 431		
Petroleum products	1 964 062	(X)	2 221 449	2 236 884
Average per farm		5 277 227	7 888 052	4 691 425
		4.9	(NA)	(NA)
Farms with expenses of—				
\$1 to \$999	1 035 444	370 016	1 129 293	1 285 309
\$1,000 to \$4,999	652 225	1 533 044	658 686	754 903
\$5,000 to \$9,999	170 877	1 176 064	241 871	147 830
\$10,000 to \$24,999	87 189	1 255 654	177 137	70 842
\$25,000 to \$39,999	11 195	340 880		
\$40,000 to \$49,999	2 512	110 448		
\$50,000 or more	4 610	491 121	14 456	

See footnotes at end of table.

**Table 3. Farm Production Expenses: 1987, 1982, and 1978—Con.**

[Data are based on a sample of farms; see text. For meaning of abbreviations and symbols, see introductory text]

Item	1987		1982	1978
	Farms	Expenses (\$1,000)		
<b>Total farm production expenses—Con.</b>				
Electricity.....	farms.....	(X)	1 482 482	1 474 830
	\$1,000.....	(X)	2 041 384	1 308 290
	percent of total.....	(X)	(NA)	(NA)
Farms with expenses of—				
\$1 to \$499.....	725 614	146 290	750 846	904 803
\$500 to \$999.....	258 412	175 421	279 421	298 474
\$1,000 to \$1,999.....	209 619	293 238	228 437	172 857
\$2,000 to \$4,999.....	172 324	510 953	164 943	80 332
\$5,000 to \$9,999.....	43 662	287 871		
\$10,000 to \$24,999.....	19 371	281 516	60 835	30 364
\$25,000 or more.....	7 710	539 917		
Hired farm labor.....	farms.....	(X)	869 837	951 905
	\$1,000.....	(X)	8 441 180	6 814 428
	percent of total.....	(X)	(NA)	(NA)
Farms with expenses of—				
\$1 to \$999.....	380 204	129 677	352 223	439 307
\$1,000 to \$4,999.....	194 308	442 133	282 189	292 774
\$5,000 to \$9,999.....	73 551	513 292	90 135	96 458
\$10,000 to \$24,999 <sup>1</sup> .....	94 179	1 454 409	120 049	123 366
\$25,000 to \$49,999.....	40 616	1 384 508		
\$50,000 to \$79,999.....	15 796	871 743		
\$80,000 to \$99,999.....	4 543	400 349	25 241	
\$100,000 or more.....	15 150	5 570 028		
Contract labor.....	farms.....	(X)	139 336	189 779
	\$1,000.....	(X)	1 103 773	898 959
	percent of total.....	(X)	(NA)	(NA)
Farms with expenses of—				
\$1 to \$999.....	123 427	52 436	60 281	83 087
\$1,000 to \$4,999.....	95 157	209 920	50 592	58 222
\$5,000 to \$9,999.....	25 488	170 771	12 430	14 216
\$10,000 to \$24,999.....	17 590	260 952		
\$25,000 to \$49,999.....	5 488	187 651	15 723	14 254
\$50,000 or more.....	4 944	961 245		
Repair and maintenance.....	farms.....	(X)	(NA)	(NA)
	\$1,000.....	(X)	(NA)	(NA)
	percent of total.....	(X)	(NA)	(NA)
Farms with expenses of—				
\$1 to \$999.....	721 521	287 300	(NA)	(NA)
\$1,000 to \$4,999.....	842 470	1 449 819	(NA)	(NA)
\$5,000 to \$9,999.....	188 909	1 263 773	(NA)	(NA)
\$10,000 to \$24,999.....	117 595	1 577 210	(NA)	(NA)
\$25,000 to \$49,999.....	21 078	685 246	(NA)	(NA)
\$50,000 or more.....	8 376	998 631	(NA)	(NA)
Customwork, machine hire, and rental of machinery and equipment <sup>2</sup> .....	farms.....	(X)	786 529	980 139
	\$1,000.....	(X)	2 024 693	1 750 875
	percent of total.....	(X)	(NA)	(NA)
Farms with expenses of—				
\$1 to \$999.....	413 971	161 655	427 683	615 436
\$1,000 to \$4,999.....	264 222	569 669	276 987	299 467
\$5,000 to \$9,999.....	50 356	337 907	50 249	42 201
\$10,000 to \$24,999.....	28 545	417 952		
\$25,000 to \$49,999.....	6 599	218 597	31 615	23 035
\$50,000 or more.....	3 691	470 677		
Interest <sup>3</sup> .....	farms.....	(X)	1 050 104	(NA)
	\$1,000.....	(X)	11 668 942	(NA)
	percent of total.....	(X)	(NA)	(NA)
Farms with expenses of—				
\$1 to \$999.....	250 189	108 584	223 921	(NA)
\$1,000 to \$4,999.....	386 598	672 932	365 026	(NA)
\$5,000 to \$9,999.....	164 958	1 139 214	166 294	(NA)
\$10,000 to \$24,999.....	145 584	2 202 369		
\$25,000 to \$49,999.....	47 313	1 582 827	284 863	(NA)
\$50,000 to \$99,999.....	15 071	891 966		
\$100,000 or more.....	5 234	1 160 377		
Interest paid on debt:				
Secured by real estate.....	721 796	5 601 350	(NA)	(NA)
Not secured by real estate.....	534 648	2 556 918	(NA)	(NA)
Cash rent.....	farms.....	(X)	(NA)	(NA)
	\$1,000.....	(X)	(NA)	(NA)
	percent of total.....	(X)	(NA)	(NA)
Farms with expenses of—				
\$1 to \$499.....	99 578	22 873	(NA)	(NA)
\$500 to \$999.....	65 589	45 335	(NA)	(NA)
\$1,000 to \$4,999.....	193 945	475 581	(NA)	(NA)
\$5,000 to \$9,999.....	79 871	557 814	(NA)	(NA)
\$10,000 to \$24,999.....	62 200	1 268 580	(NA)	(NA)
\$25,000 to \$49,999.....	29 909	1 009 453	(NA)	(NA)
\$50,000 or more.....	13 044	1 309 620	(NA)	(NA)
Property taxes paid.....	farms.....	(X)	(NA)	(NA)
	\$1,000.....	(X)	(NA)	(NA)
	percent of total.....	(X)	(NA)	(NA)
Farms with expenses of—				
\$1 to \$499.....	735 555	169 241	(NA)	(NA)
\$500 to \$999.....	393 676	277 307	(NA)	(NA)
\$1,000 to \$4,999.....	654 951	1 412 669	(NA)	(NA)
\$5,000 to \$9,999.....	88 515	585 827	(NA)	(NA)
\$10,000 to \$24,999.....	29 052	403 855	(NA)	(NA)
\$25,000 or more.....	5 064	271 406	(NA)	(NA)

See footnotes at end of table.



**Table 2. Statistics for Industry Groups and Industries: 1985**

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

SIC code	Industry group and industry	1985									
		All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of industry shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
		Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
		A	B	C	D	E	F	G	H	I	J
	<b>All Industries</b>	<b>18 791.2</b>	<b>442 986.2</b>	<b>12 171.1</b>	<b>23 725.4</b>	<b>235 731.7</b>	<b>999 065.8</b>	<b>1 276 013.4</b>	<b>2 279 131.7</b>	<b>83 236.5</b>	<b>322 256.3</b>
20	Food and kindred products	1 422.5	28 077.3	993.6	1 941.2	17 427.7	104 146.0	197 274.5	301 562.0	7 048.7	24 023.0
21	Tobacco products	49.2	1 369.4	36.9	67.8	940.9	11 893.7	6 625.7	18 506.8	668.5	6 230.8
22	Textile mill products	658.4	9 967.1	565.3	1 101.4	7 609.2	20 693.3	32 258.3	53 276.5	1 863.3	6 988.0
23	Apparel and other textile products	1 059.2	12 470.6	904.0	1 580.7	9 003.4	27 728.4	29 130.2	56 993.1	697.1	7 997.5
24	Lumber and wood products	612.9	10 407.4	514.2	996.4	7 835.8	21 065.5	33 168.8	54 185.1	1 663.5	6 354.8
25	Furniture and fixtures	472.3	7 754.6	380.0	726.8	5 345.5	16 478.8	14 764.3	31 293.8	763.3	4 733.6
26	Paper and allied products	604.1	15 350.8	462.1	943.7	10 783.4	40 387.2	53 039.0	93 414.4	6 276.1	9 858.8
27	Printing and publishing	1 359.8	28 169.2	742.1	1 384.4	13 554.4	73 054.3	39 103.8	111 885.0	4 715.3	8 491.4
28	Chemicals and allied products	826.2	23 344.9	476.0	951.2	11 662.0	95 257.5	101 696.1	197 311.3	8 269.0	25 106.8
29	Petroleum and coal products	127.5	4 131.8	83.5	177.6	2 533.9	17 111.6	161 291.2	179 134.9	3 438.0	13 909.3
30	Rubber and miscellaneous plastics products	742.5	14 722.9	578.4	1 137.7	9 794.2	35 708.3	35 754.1	71 324.0	3 427.8	8 384.8
31	Leather and leather products	146.7	1 963.2	124.8	225.1	1 342.3	4 107.5	8 567.2	10 403.4	1 447.2	4 981.9
32	Stone, clay, and glass products	519.5	11 246.1	403.8	813.0	8 196.2	28 841.8	26 178.8	55 061.1	2 780.3	6 981.9
33	Primary metal industries	742.0	19 853.8	571.0	1 134.5	14 277.4	38 081.9	70 803.1	110 300.8	4 755.4	19 383.7
34	Fabricated metal products	1 472.8	33 150.0	1 103.5	2 200.1	21 876.8	69 161.5	70 490.3	139 579.7	4 346.2	21 922.4
35	Machinery, except electrical	1 991.1	50 904.6	1 236.6	2 434.7	26 510.5	110 224.1	102 831.3	215 080.2	8 323.0	44 587.1
36	Electric and electronic equipment	2 007.1	48 504.0	1 233.1	2 373.6	23 658.8	109 861.5	83 079.1	192 731.5	10 470.9	37 567.4
37	Transportation equipment	1 757.0	54 591.8	1 179.6	2 406.6	33 171.4	120 953.1	180 856.2	301 386.0	10 377.4	50 947.2
38	Instruments and related products	604.3	14 666.4	348.0	676.4	6 692.6	40 278.3	20 982.1	61 008.2	2 581.2	12 354.0
39	Miscellaneous manufacturing industries	328.0	5 725.7	234.6	452.5	3 415.3	14 031.6	12 442.4	26 527.1	668.4	4 966.6
	Auxiliaries*	1 268.1	46 484.6	-	-	-	-	-	-	-	-
20	<b>Food and kindred products</b>	<b>1 422.5</b>	<b>28 077.3</b>	<b>993.6</b>	<b>1 941.2</b>	<b>17 427.7</b>	<b>104 146.0</b>	<b>197 274.5</b>	<b>301 562.0</b>	<b>7 048.7</b>	<b>24 023.0</b>
201	Meat products	303.3	4 882.0	253.1	499.3	3 704.6	12 959.3	54 177.9	67 138.1	716.5	1 965.6
2011	Meat packing plants	122.2	2 252.9	98.7	201.4	1 708.1	5 859.4	36 637.2	42 553.5	249.9	856.0
2013	Sausages and other prepared meats	64.6	1 237.2	49.4	98.3	851.4	3 705.1	8 737.3	12 405.7	210.6	685.7
2016	Poultry dressing plants	104.0	1 204.5	94.0	175.4	997.4	2 859.4	7 494.5	10 339.7	208.4	337.2
2017	Poultry and egg processing	12.5	187.4	11.0	24.3	147.7	535.4	1 308.9	1 839.3	47.6	86.7
202	Dairy products	137.6	2 875.6	83.1	166.9	1 595.1	9 629.2	31 486.8	41 075.3	671.3	1 772.7
2021	Creamery butter	2.0	40.9	1.7	3.3	31.1	97.6	1 478.0	1 571.0	10.5	46.0
2022	Cheese, natural and processed	31.5	562.2	23.7	49.8	425.2	1 910.3	9 144.3	11 060.2	133.3	746.8
2023	Condensed and evaporated milk	12.0	315.5	7.9	18.1	185.0	1 628.0	3 689.8	5 287.9	(D)	318.9
2024	Ice cream and frozen desserts	18.9	384.7	11.7	21.5	199.8	1 040.8	2 443.4	3 476.9	(D)	218.7
2026	Fluid milk	73.2	1 572.3	36.1	74.3	754.0	4 952.5	14 731.3	19 679.2	322.3	442.3
203	Preserved fruits and vegetables	221.0	3 781.4	183.1	340.2	2 784.8	14 905.3	20 004.2	35 021.7	1 006.5	6 695.1
2032	Canned specialties	24.2	476.9	19.7	37.0	366.9	2 161.2	2 638.4	4 801.7	113.6	764.9
2033	Canned fruits and vegetables	67.6	1 132.5	57.3	105.4	847.5	4 448.3	6 440.2	10 998.7	264.1	2 869.8
2034	Dehydrated fruits, vegetables, and soups	13.2	243.8	11.0	20.2	175.0	839.9	973.5	1 788.0	61.4	529.8
2035	Pickles, sauces, and salad dressings	22.9	439.3	18.1	34.2	306.4	2 115.6	2 998.0	5 123.2	129.5	606.3
2037	Frozen fruits and vegetables	46.1	698.6	40.2	73.3	538.6	2 355.1	3 435.3	5 802.5	213.5	1 338.5
2038	Frozen specialties	47.0	791.3	36.8	69.9	550.4	2 985.1	3 518.8	6 507.6	224.4	565.8
204	Grain mill products	99.2	2 400.8	67.4	137.9	1 572.3	12 956.4	21 064.1	34 044.3	1 078.9	2 262.3
2041	Flour and other grain mill products	13.3	331.5	9.8	21.0	230.1	1 159.4	4 039.0	5 204.6	82.7	407.0
2043	Cereal breakfast foods	16.3	563.1	13.3	27.3	447.1	3 994.7	1 721.2	5 718.1	228.3	275.6
2044	Rice milling	4.9	97.6	3.5	7.2	60.8	388.8	1 187.1	1 581.4	(D)	397.1
2045	Blended and prepared flour	7.3	180.2	5.1	9.9	102.5	700.1	936.9	1 634.6	(D)	125.2
2046	Wet corn milling	8.7	286.5	6.1	13.0	177.5	1 363.4	2 826.4	4 189.7	450.9	262.2
2047	Dog, cat, and other pet food	16.7	386.1	12.0	23.5	244.4	3 073.7	2 248.5	5 306.2	97.8	273.1
2048	Prepared feeds, n.e.c.	32.0	595.8	17.6	35.9	309.9	2 276.2	8 105.0	10 409.8	141.8	522.1
205	Bakery products	208.8	4 478.2	117.9	231.5	2 289.6	12 994.7	7 865.4	20 834.4	586.4	666.9
2051	Bread, cake, and related products	162.1	3 515.4	82.7	159.9	1 624.0	8 810.8	5 576.8	14 388.5	378.0	330.1
2052	Cookies and crackers	46.7	962.8	35.2	71.5	665.6	4 183.8	2 288.6	6 445.9	208.4	336.8
206	Sugar and confectionery products	91.2	1 845.8	72.4	142.1	1 322.5	7 397.5	9 686.0	17 087.0	629.1	2 472.2
2061	Raw cane sugar	6.8	141.4	5.4	11.6	106.8	451.7	772.3	1 168.6	49.3	310.2
2062	Cane sugar refining	5.8	175.8	4.3	9.4	132.8	583.5	2 029.4	2 616.4	41.0	273.6
2063	Beet sugar	7.9	180.6	6.6	14.7	142.8	524.3	1 203.3	1 788.8	85.3	458.5
2065	Confectionery products	54.6	977.6	43.3	81.2	679.0	4 046.5	3 871.3	7 913.5	313.3	877.1
2066	Chocolate and cocoa products	10.8	251.5	8.6	17.1	176.1	1 136.8	1 459.8	2 595.6	(D)	420.6
2067	Chewing gum	5.3	118.9	4.2	7.9	85.0	654.6	349.9	1 004.1	(D)	132.2
207	Fats and oils	33.8	753.4	22.8	46.9	460.8	2 774.1	14 616.5	17 504.9	337.2	1 344.9
2074	Cottonseed oil mills	3.5	64.5	2.7	6.6	44.3	219.3	640.2	880.8	22.0	155.8
2075	Soybean oil mills	7.3	168.8	4.8	10.1	110.8	711.7	7 911.7	8 629.4	109.5	625.0
2076	Vegetable oil mills, n.e.c.	1.2	21.4	.9	1.8	14.5	43.1	507.3	566.0	(D)	83.0
2077	Animal and marine fats and oils	11.1	233.9	6.9	13.0	122.3	609.6	1 189.2	1 820.2	(D)	62.2
2079	Shortening and cooking oils	10.7	264.8	7.5	15.3	168.9	1 190.4	4 368.1	5 608.4	100.3	418.9
208	Beverages	183.4	4 624.5	87.2	177.0	2 166.4	19 292.7	24 023.8	43 243.8	1 337.8	4 643.8
2082	Malt beverages	40.3	1 357.8	27.0	52.6	952.2	5 681.3	6 529.1	12 215.8	372.2	669.3
2083	Malt	1.6	43.7	1.2	2.3	32.0	161.8	393.4	571.3	29.1	147.5
2084	Wines, brandy, and brandy spirits	13.2	296.6	7.1	13.5	138.8	1 063.1	1 674.1	2 783.4	112.1	1 059.3
2085	Distilled liquor, except brandy	10.5	267.6	7.4	15.1	181.6	1 690.9	1 846.1	3 494.8	37.3	1 301.1
2086	Bottled and canned soft drinks	105.8	2 344.8	37.2	77.8	707.9	7 587.2	11 830.7	19 358.2	720.8	1 032.7
2087	Flavoring extracts and syrups, n.e.c.	12.0	314.0	7.3	15.8	153.9	3 108.4	1 750.4	4 840.3	66.3	433.9
209	Miscellaneous foods and kindred products	144.2	2 435.6	106.6	199.5	1 531.6	11 236.8	14 349.8	25 612.5	685.0	2 199.5
2091	Canned and cured seafoods	5.8	84.5	5.0	9.1	59.6	227.4	471.6	697.0	11.6	159.7
2092	Fresh or frozen packaged fish	36.0	410.7	30.6	53.7	287.5	1 070.1	2 866.1	3 946.9	58.9	539.8
2095	Roasted coffee	11.4	294.5	7.5	15.0	178.1	2 445.8	4 211.2	6 677.1	138.9	498.0
2097	Manufactured ice	4.6	69.4	2.2	3.8	35.2	151.1	79.7	230.9	32.1	6.5
2098	Macaroni and spaghetti	7.7	141.7	5.6	11.7	93.5	628.6	528.1	1 154.7	31.8	92.5
2099	Food preparations, n.e.c.	78.7	1 434.8	55.7	106.1	877.7	6 713.9	6 193.1	12 906.0	411.7	903.0
21	<b>Tobacco products</b>	<b>49.2</b>	<b>1 369.4</b>	<b>36.9</b>	<b>67.8</b>	<b>940.9</b>	<b>11 893.7</b>	<b>6 625.7</b>	<b>18 506.8</b>	<b>668.5</b>	<b>6 230.8</b>
211	Cigarettes	35.5	1 130.7	26.6	47.9	799.7	10 540.7	4 362.1	14 896.8	622.2	5 183.5
2111	Cigarettes	35.5	1 130.7	26.6	47.9	799.7	10 540.7	4 362.1	14 896.8	622.2	5 183.5

**Table 4. Where the Food Dollars Go<sup>1</sup>**

	<u>At home</u>	<u>Away from home</u>
Farm value	30%	16%
Processing	31%	15%
Transportation	6%	3%
Wholesaling	10%	6%
Retailing	23%	-----
Food service	-----	<u>60%</u>
	100%	100%

**Table 5. Farm Value Share of Grocery Store Food Prices<sup>1</sup>**

<u>Food</u>	<u>Retail Price</u>
Eggs	61%
Beef	58%
Chicken	57%
Milk	46%
Orange juice	39%
Pork	38%
Sugar	37%
Cheese	34%
Flour	31%
Peanut butter	26%
Shortening	26%
Margarine	26%
Rice	23%
Potatoes	22%
Oranges	21%
Lettuce	17%
Tomatoes	8%
White bread	8%

<sup>1</sup>Source: USDA's 1989 Food Cost Review



**Table 6. Where the Money Goes<sup>1</sup>**

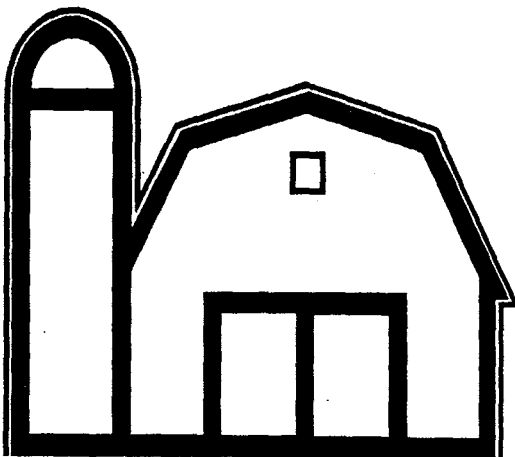
Farm value	25.0%
Labor	34.5%
Packaging	3.0%
Intercity transportation	4.5%
Depreciation	4.5%
Advertising	4.5%
Fuels and electricity	3.5%
Before tax profits	3.0%
Rent	3.0%
Interest	2.0%
Repairs	1.5%
Other costs	6.0%

<sup>1</sup>Source: USDA's 1989 Food Cost Review



# **Lesson IV** \_\_\_\_\_

## **The Effect of Agriculture on Community Characteristics**



U.S. Department of Commerce  
BUREAU OF THE CENSUS



# The Effect of Agriculture on Community Characteristics

Agriculture is one of the major economic sectors in our country. According to the United States Department of Agriculture, it is the Nation's largest industry and largest employer.<sup>1</sup>

About 21 million people work in some phase of agriculture--from growing food and fiber to selling it at the supermarket. In addition to the operators," farming and ranching employs roughly 2.1 million workers, as many as the combined work forces of transportation, the steel industry, and the automobile industry."<sup>2</sup>

The data tables used in this lesson are for the United States. (**NOTE: The same data items are available at the State and county levels, so instructors could develop similar plans for their county.**)

Viewing the United States as one large community, in the census of agriculture we see a variety of agricultural production, agriculture operator characteristics, and related statistics. The census of agriculture is the only source of comparable agricultural information down to the county level for the Nation. The census of agriculture provides a broad range of information, such as:

- Number of farms
- Land in farms
- Principal occupation of operators
- Tenure of operators
- Days worked off farm
- Farm-related income
- Organization of agricultural operation
- Sex, ethnic origin, and race of agricultural operators

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<sup>1</sup> 1989 Fact Book of Agriculture, 1989, United States Department of Agriculture, Miscellaneous Publication Number 1063, p.1.

<sup>2</sup> Ibid, p. 2.

- Livestock, poultry, and animal specialties production
- Harvested cropland
- Farms with irrigated land
- Crop production
- Machinery and equipment
- Production expenses

Information is a vital factor in improving agricultural products and productivity. The Nation's consumers, farmers, elected officials, agricultural administrators, researchers, and educators need facts, figures, and findings to make the best decisions.

The census data show that agriculture, like many industries, operates in cycles. When agriculture does well, much of the immediate community does well. If farmers and ranchers make money, they purchase goods, supplies, and services within their communities--and the community prospers. When agricultural producers operate at a loss, they have less money to spend and their suppliers lose business potential.

The agriculture census data provide snapshots of agriculture in the United States. For example, table 1 (p. IV-11-12) provides a look at the most current census and trends from earlier census years for the highlighted items presented.

The major influence of the census of agriculture data at the community level depends upon who uses the data and how it is used. It was stated earlier that the data are the only comparable agriculture information down to the county level for the entire Nation.

## **Uses of Census of Agriculture Data at the Community Level**

### **Agribusinesses and Farm Cooperatives**

Agribusinesses and farmer cooperatives that provide seeds, commercial fertilizers, chemicals, feed for livestock, farm implements, and other services use the census data to market their products and services. They use it to understand the type of

agricultural production common in their service area. Also, they can determine the size of farms or ranches in their service area, and the value of sales of farms and ranches in their service area.

One question that may arise is, "What are the benefits of this information or knowledge?" It allows agribusinesses to market their goods and services toward the current clientele. For example, feed manufacturers selling feed to cattle and hog producers would likely redirect their marketing efforts toward larger producers based upon the 1987 Census of Agriculture data.

Table 25 (p. IV-18) suggests that larger producers continue to raise more and more of the cattle in the United States. In 1987, producers with over 100 head of cattle raised 70 percent of all cattle, up from 68 percent in 1982. Similarly, those producers with under 100-head herds in 1987 produced 30 percent of all cattle raised in this country, compared with 32 percent for 1982. Therefore, feed manufacturers would direct their marketing strategies toward larger producers to keep and improve their market share, due to a dwindling customer base with small producers.

In addition, the census can provide information for potential agribusinesses as well as established businesses. For example, if four or more counties within a State or region of the country had significant livestock production, a meat packing company may locate a slaughterhouse in a central location to serve these livestock agricultural producers.

Another example of an agribusiness using census data is farm machinery manufacturers. Table 13 (p. IV-14) provides information on selected machinery and equipment on a place. Information is available on motortrucks, wheel tractors, grain and bean combines, cottonpickers and strippers, mower conditioners, and pickup balers. Farm machinery manufacturers use the data on inventory of equipment to determine marketing strategies and number of units to manufacture. The data showing when the equipment was manufactured give the industry an indication of a need for new equipment. Also, the amount of older equipment may indicate a need for additional farm equipment repair shops and the need to stock more parts for repair of older equipment.

## **Government**

The census of agriculture data are not only used by agribusinesses, but also by legislators and government agencies at the national, State, and local levels. The

data influence the community by how it is used. It serves as benchmark statistics for most USDA agencies and State departments of agriculture.

It is used to formulate farm legislation. Legislators use the census data to determine how many of their constituents or voters will benefit or be harmed by certain bills. For example, a potential farm bill could affect agricultural producers that grow small grains (wheat, oats, rye, barley, or triticale). The cut off point for aid or support could be if a producer grew 100 acres or more.

Another example of how census data used by the government may influence our community is in times of crisis. The United States Department of Agriculture uses the data to plan for operations during drought and emergency outbreaks of diseases or infestations of pests. The data were used for avian flu outbreaks in the mid-Atlantic States in the mideighties. It was also used to monitor counties in California during the fruit fly infestation.

State and local governments use the data to analyze and develop policies on land use, water use and irrigation, rural development, and farmland assessment. Also, local governments can determine where the major agricultural production areas are located and create agriculture enterprise zones.

### **Operator Characteristics**

The agriculture census not only collects information on agricultural production, but also selected data on the operator of the farm or ranch. Table 16 (p. IV-15) gives data on tenure of operators and other characteristics for all farms and farms operated by minorities. The classifications of tenure used in the 1987 Census of Agriculture were:

- full owners — operate only land they own.
- part owners — their operation is a combination of land they own and also land they rent from others.
- tenants — their operation is all of the land they rent from others.

Table 17 (p. IV-16) provides selected information on farms and ranches operated by females, persons of Spanish origin, and specified racial groups for 1987 and 1982.

This type of data is useful. Data users get an idea of how important agriculture is



to the community. The census collects information on the operator's principal occupation, days worked off farm, race and ethnic origin, whether operator lived on the farm, age of operator, and other characteristics. For example, the 1987 Census of Agriculture showed 54.5 percent of U.S. agricultural operators considered farming as their principal occupation. Table 2 (p. IV- 13) shows the principal occupation of agricultural operators for each State and the United States by percent.

## Topics for Class Discussion

- (1) What types of agribusinesses would use the census of agriculture to help serve the agricultural producers (farmers, ranchers, greenhouse and nursery, animal specialties) in your community?
- (2) Based upon the type of agricultural production in your community, how could your local elected officials use the census of agriculture to benefit agricultural producers in your area?
- (3) The principal occupation of the major operator of most agricultural operations is farming (55 percent). What is it for your State? What do you think it is for your county?

## Matching

Refer to table 16 (p. IV-15) under the item "operators by age group." Match column A with column B.

A	B
1. Under 25 years	A. 495,816 farms
2. 25 to 34 years	B. 454,910 farms
3. 35 to 44 years	C. 242,688 farms
4. 45 to 54 years	D. 35,851 farms
5. 55 to 64 years	E. 447,341 farms
6. 65 and over	F. 411,153 farms

## Test for Lesson IV

1. According to the data in table 16 (p. IV-15), the type of organization that most farms are classified in our Nation is:
  - a. individual or family (sole proprietorship)
  - b. partnership
  - c. corporation
  - d. other (cooperative, estate, trust, institutional)
  
2. The number of female operators reported in the 1987 Census of Agriculture was (refer to table 16):
  - a. 1,311,614
  - b. 1,956,118
  - c. 131,641
  - d. 113,941
  
3. The number of full owners reported in the 1987 Census of Agriculture was (refer to table 16):
  - a. 1,487,937
  - b. 240,200
  - c. 1,163,336
  - d. 1,238,547
  
4. The number of operators not living on their farms in 1987 was (refer to table 16):
  - a. 411,153
  - b. 442,613
  - c. 240,200
  - d. 303,875
  
5. The average age of female operators reported in 1987 was (refer to table 17):
  - a. 56.0
  - b. 51.5
  - c. 56.6
  - d. 52.0

## True or False

6. There were more tractors on farms manufactured from 1983 to 1987 than manufactured prior to 1983. (refer to table 13, p. IV-14) \_\_\_\_\_
7. There were more tractors on farms with 40 horsepower or more than under 40 horsepower in 1987. (refer to table 13) \_\_\_\_\_
8. Agricultural producers with 100 head of cattle or more raised 70 percent of all cattle in 1987. (refer to table 25, p. IV-18) \_\_\_\_\_
9. Of the farms reporting milk cows, farms with a herd size of 50 to 99 head accounted for over 30 percent of the milk cow inventory. (refer to table 25)  
\_\_\_\_\_

**Table 1. Historical Highlights: 1987 and Earlier Census Years**

[For meaning of abbreviations and symbols, see introductory text]

All farms	1987	1982	1978	1974	1969	1964	1959	1954 <sup>1</sup>
Farms.....number.....	2 087 759	2 240 976	2 267 775	2 314 013	2 730 250	3 157 857	3 710 503	4 782 416
Land in farms.....acres.....	964 470 625	986 796 579	1 014 777 234	1 017 030 357	1 062 892 501	1 110 187 000	1 123 507 574	1 158 191 511
Average size of farm.....acres.....	462	440	449	440	389	352	303	242
Value of land and buildings <sup>2</sup> :								
Average per farm.....dollars.....	289 387	345 869	279 672	147 838	75 714	50 846	34 825	20 405
Average per acre.....dollars.....	627	784	619	336	184	144	115	84
Estimated market value of all machinery and equipment <sup>3</sup> .....\$1,000.....	85 801 360	93 662 947	77 600 689	48 402 624	25 343 077	(NA)	(NA)	(NA)
Average per farm.....dollars.....	41 227	41 919	34 471	22 303	9 770	(NA)	(NA)	(NA)
Farms by size:								
1 to 9 acres.....	183 257	187 865	151 233	128 254	162 111	182 581	244 328	484 291
10 to 49 acres.....	412 437	449 252	391 554	379 543	473 485	637 434	813 218	1 212 831
50 to 179 acres.....	644 849	711 652	759 047	827 884	1 001 706	1 175 370	1 430 498	1 817 172
180 to 499 acres.....	478 294	526 510	581 631	616 098	728 363	806 743	886 022	945 944
500 to 999 acres.....	200 058	203 925	213 209	207 297	215 659	210 437	200 012	191 697
1,000 to 1,999 acres.....	102 078	97 385	97 800	92 712	91 039	84 999	138 427	130 481
2,000 acres or more.....	66 786	64 577	63 301	62 225	59 907	60 293		
Total cropland.....farms.....	1 848 574	2 010 609	2 081 804	2 157 511	2 521 659	2 907 285	3 431 544	4 418 915
Harvested cropland.....farms.....	443 318 233	445 362 028	453 874 133	440 039 087	458 989 605	434 232 200	448 087 341	459 648 961
.....acres.....	1 643 633	1 809 756	1 904 602	1 954 700	2 219 631	2 701 694	3 201 315	4 104 241
Irrigated land.....farms.....	291 628	278 277	280 779	236 733	257 147	297 387	307 783	320 236
.....acres.....	46 386 201	49 002 433	50 349 906	41 243 023	39 121 893	37 056 083	33 162 978	29 552 155
Market value of agricultural products sold <sup>4</sup> .....\$1,000.....	136 048 516	131 900 223	107 073 458	81 526 126	45 563 891	35 292 431	30 492 801	24 644 727
Average per farm.....dollars.....	65 165	58 858	47 425	35 231	16 689	11 176	8 218	5 153
Crops, including nursery and greenhouse crops.....\$1,000.....	58 931 085	62 256 087	48 203 200	41 790 385	18 922 023	16 236 248	13 246 204	12 221 875
Livestock, poultry, and their products.....\$1,000.....	77 117 431	69 644 136	58 870 258	39 503 850	28 480 921	18 841 027	17 059 129	12 282 424
Farms by value of sales <sup>5</sup> :								
Less than \$2,500.....	490 296	536 327	460 535	649 448	1 031 638	1 338 259	1 637 849	2 678 486
\$2,500 to \$4,999.....	262 918	278 208	300 899	257 263	357 922	443 918	617 677	811 965
\$5,000 to \$9,999.....	274 972	281 802	314 088	296 373	390 425	504 614	653 861	706 929
\$10,000 to \$24,999.....	328 166	340 254	384 878				795 505	448 945
\$25,000 to \$49,999.....	219 638	248 828	300 515	956 092	896 159	837 507	-	134 003
\$50,000 to \$99,999.....	218 050	251 501	263 092				-	-
\$100,000 to \$499,999.....	263 698	274 580	203 695	141 187	47 916		-	-
\$500,000 or more.....	32 023	27 800	17 973	11 412	4 079	31 401	-	-
Farms by type of organization:								
Individual or family (sole proprietorship).....	1 809 324	1 945 639	1 965 860	(NA)	(NA)	(NA)	(NA)	(NA)
Partnership.....	189 559	223 274	232 538	(NA)	(NA)	(NA)	(NA)	(NA)
Corporation.....	66 969	59 792	50 231	(NA)	(NA)	(NA)	(NA)	(NA)
Other—cooperative, estate or trust, institutional, etc.....	11 907	12 271	9 148	(NA)	(NA)	(NA)	(NA)	(NA)
Operators by days worked off farm <sup>6</sup> :								
None.....	844 476	861 798	942 803	829 843	(NA)	(NA)	(NA)	2 580 019
Any.....	1 115 560	1 187 374	1 203 286	1 011 476	1 482 292	1 462 183	1 663 841	2 153 737
200 days or more.....	737 206	774 844	770 045	657 971	870 815	824 173	877 819	1 027 348
Operators by principal occupation <sup>7</sup> :								
Farming.....	1 138 179	1 234 787	1 269 305	1 427 368	(NA)	(NA)	(NA)	(NA)
Other.....	949 580	1 006 189	988 470	851 902	(NA)	(NA)	(NA)	(NA)
Average age of operator <sup>7</sup> .....years.....	52.0	50.5	50.3	51.7	51.2	51.3	50.5	49.6
Total farm production expenses <sup>2</sup> .....\$1,000.....	108 138 053	(NA)	(NA)	61 007 649	37 559 615	(NA)	(NA)	(NA)
Selected farm production expenses <sup>8</sup> :								
Livestock and poultry purchased.....\$1,000.....	19 344 645	17 174 334	16 039 244	9 953 946	8 077 779	4 177 785	3 856 777	(NA)
Feed for livestock and poultry.....\$1,000.....	19 163 364	18 591 984	15 785 995	13 647 816	7 082 274	5 511 813	4 755 471	3 906 048
Commercial fertilizer <sup>9</sup> .....\$1,000.....	6 684 944	7 689 365	6 330 581	5 137 361	2 209 185	1 771 617	1 323 912	(NA)
Petroleum products.....\$1,000.....	5 277 227	7 888 052	4 691 425	3 087 606	1 906 579	1 786 796	1 554 367	1 366 244
Hired farm labor.....\$1,000.....	10 868 236	8 441 180	6 814 428	4 652 075	3 375 203	2 798 571	2 821 651	2 279 347
Interest expense <sup>9</sup> .....\$1,000.....	8 158 268	11 668 942	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
Agricultural chemicals <sup>9</sup> .....\$1,000.....	4 690 243	4 282 213	2 889 503	1 757 779	908 036	(NA)	(NA)	(NA)
Livestock and poultry:								
Cattle and calves:								
Inventory.....farms.....	1 178 346	1 354 992	1 346 106	1 503 244	1 719 403	2 283 881	2 674 176	3 850 714
.....number.....	95 847 289	104 475 827	103 985 109	113 174 700	106 345 741	105 557 830	92 534 082	95 027 041
Beef cows.....farms.....	841 778	957 898	954 380	1 024 935	(NA)	1 323 912	(NA)	(NA)
.....number.....	31 652 593	34 202 607	34 326 274	41 257 898	34 337 320	32 719 198	24 751 452	25 026 574
Milk cows.....farms.....	202 068	277 782	312 095	403 754	568 237	1 133 912	1 792 393	2 935 842
.....number.....	10 084 697	10 849 690	10 221 692	10 654 516	11 174 036	14 822 604	16 522 026	20 182 803
Cattle and calves sold.....farms.....	1 150 523	1 278 609	1 320 183	1 437 101	1 645 518	1 990 968	2 303 737	2 611 031
.....number.....	72 603 841	71 216 727	78 020 351	70 019 180	74 616 155	62 952 104	51 251 240	44 350 808
Hogs and pigs inventory.....farms.....	243 398	329 833	445 117	470 258	686 097	1 081 438	1 848 784	2 365 708
.....number.....	52 271 120	55 366 205	57 697 318	45 503 604	55 454 828	54 080 194	67 949 509	57 092 819
Hogs and pigs sold.....farms.....	238 819	315 095	423 578	449 841	645 129	802 620	1 273 293	1 423 943
.....number.....	96 569 359	94 783 598	90 757 143	79 897 397	89 313 449	83 537 060	80 899 553	57 418 588
Chickens 3 months old or older inventory <sup>10</sup> .....farms.....	144 438	215 812	240 891	316 243	471 284	1 210 669	2 172 264	3 418 204
.....number.....	373 577 186	362 464 897	354 357 427	335 740 245	371 008 459	343 161 807	351 029 294	375 800 447
Broilers and other meat-type chickens sold.....farms.....	27 645	30 100	31 743	34 340	33 753	35 128	41 743	50 094
.....number.....	4 361 975 830	3 516 622 889	3 062 154 490	2 518 513 032	2 429 773 426	1 915 373 928	1 414 259 366	796 207 023

See footnotes at end of table.

**Table 1. Historical Highlights: 1987 and Earlier Census Years—Con.**

[For meaning of abbreviations and symbols, see introductory text]

All farms	1987	1982	1978	1974	1969	1964	1959	1954 <sup>1</sup>
<b>Selected crops harvested:</b>								
Corn for grain or seed ---- farms...	627 602	715 171	810 577	883 309	985 629	1 382 773	1 889 622	(NA)
acres...	58 701 505	69 857 993	70 043 480	61 653 842	52 540 249	53 751 095	70 064 959	(NA)
Wheat for grain ----- bushels...	6 725 001 837	7 508 721 493	6 805 185 861	4 396 912 922	4 441 808 244	3 381 141 669	3 697 190 984	(NA)
farms...	352 237	446 075	378 574	533 520	583 605	739 662	(NA)	(NA)
acres...	53 224 174	70 910 293	54 155 168	62 957 215	45 372 868	47 958 382	49 586 924	51 361 684
Soybeans for beans ----- bushels...	1 887 103 964	2 373 246 659	1 607 540 430	1 691 553 354	1 328 003 477	1 217 791 675	1 055 924 506	908 927 557
farms...	441 899	511 229	537 037	542 029	529 798	560 158	499 710	(NA)
acres...	55 291 205	64 832 842	61 339 849	48 118 849	38 549 663	29 643 540	22 079 846	(NA)
bushels...	1 838 053 979	1 989 993 158	1 722 154 229	1 145 788 470	1 041 489 049	669 664 562	515 627 957	(NA)
Cotton----- farms...	43 046	38 266	52 628	89 538	199 785	324 361	509 540	864 138
acres...	9 826 081	9 781 404	12 693 772	12 223 500	11 496 220	13 916 648	14 649 264	18 858 145
bales...	13 280 143	11 375 524	10 686 447	10 887 205	10 360 171	14 734 217	13 913 505	12 921 376
Tobacco----- farms...	136 682	179 141	188 649	197 764	276 188	331 365	415 315	511 503
acres...	633 310	931 655	963 224	877 113	876 927	1 025 240	1 108 274	1 557 239
pounds...	1 215 221 360	1 871 309 459	1 918 189 782	1 733 365 121	1 643 934 600	1 987 526 882	1 646 512 924	1 821 525 672
Hay—alfalfa, other tame, small grain, wild, grass silage, green chop, etc. (see text) ----- farms...	994 551	1 050 892	1 132 997	1 145 540	1 229 877	(NA)	(NA)	(NA)
acres...	57 967 530	56 743 836	60 241 391	56 236 381	53 203 606	65 294 703	63 548 557	69 940 058
tons, dry...	128 816 054	128 474 661	130 713 685	115 028 236	111 813 581	115 760 894	106 589 630	103 597 282
Vegetables harvested for sale (see text) <sup>11</sup> ----- farms...	60 819	69 109	73 183	78 566	101 760	131 653	182 327	279 606
acres...	3 467 563	3 330 637	3 534 142	3 124 257	3 352 385	3 333 772	3 490 763	3 739 894
farms...	120 434	123 863	121 852	105 897	133 311	224 568	319 481	424 747
acres...	4 560 163	4 750 667	4 463 627	4 190 340	4 233 697	4 251 130	4 119 626	4 003 426

<sup>1</sup>Data for 1954 exclude Alaska and Hawaii.

<sup>2</sup>Data are based on a sample of farms.

<sup>3</sup>Data for 1974 and prior years include the value of forest products sold.

<sup>4</sup>Data for 1982 and prior years exclude abnormal farms.

<sup>5</sup>Data for 1959 are for \$10,000 or more.

<sup>6</sup>Data for 1954 are for \$25,000 or more.

<sup>7</sup>Data for 1974 apply only to individual or family operations (sole proprietorship) and partnerships; see text.

<sup>8</sup>Data for 1987 include cost of custom applications; data for agricultural chemicals exclude the cost of lime for 1987 and 1982.

<sup>9</sup>Data for 1982 do not include imputation for item nonresponse.

<sup>10</sup>Data for 1964 and prior years are for chickens 4 months old or older.

<sup>11</sup>Data for 1974 were from land area used.

**Table 2. Operators by Principal Occupation (1987)****Percent**

<u>U.S. &amp; States</u>	<u>Farming</u>	<u>Other</u>
United States	54.5	45.5
Alabama	37.9	62.1
Alaska	43.2	56.8
Arizona	49.3	50.7
Arkansas	50.2	49.8
California	50.4	49.6
Colorado	60.5	39.5
Connecticut	51.5	48.5
Delaware	59.8	40.2
Florida	43.3	56.7
Georgia	44.7	55.3
Hawaii	57.8	42.2
Idaho	60.3	39.7
Illinois	64.3	35.7
Indiana	52.0	48.0
Iowa	71.6	28.4
Kansas	62.1	37.9
Kentucky	44.8	55.2
Louisiana	49.3	50.7
Maine	51.4	48.6
Maryland	53.3	46.7
Massachusetts	51.1	48.9
Michigan	51.0	49.0
Minnesota	68.8	31.2
Mississippi	44.3	55.7
Missouri	50.6	49.4
Montana	70.8	29.2
Nebraska	75.0	25.0
Nevada	33.3	66.7
New Hampshire	45.8	54.2
New Jersey	46.3	53.7
New Mexico	50.8	49.2
New York	60.9	39.1
North Carolina	51.8	48.2
North Dakota	82.3	17.7
Ohio	49.9	50.1
Oklahoma	47.1	52.9
Oregon	48.0	52.0
Pennsylvania	57.8	42.2
Rhode Island	49.2	50.8
South Carolina	43.8	56.2
South Dakota	78.1	21.9
Tennessee	38.6	61.4
Texas	44.3	55.7
Utah	45.1	54.9
Vermont	64.0	36.0
Virginia	46.0	54.0
Washington	52.6	47.4
West Virginia	41.8	58.2
Wisconsin	71.0	29.0
Wyoming	64.7	35.3

**Table 12. Value of Machinery and Equipment on Place: 1987 and 1982**

[Data are based on a sample of farms; see text. For meaning of abbreviations and symbols, see introductory text]

Value of machinery and equipment	1987		1982	
	Farms	Value (\$1,000)	Farms	Value (\$1,000)
Estimated market value of all machinery and equipment .....	2 081 218	85 801 380	2 234 365	93 662 947
Average per farm <sup>1</sup> .....	(X)	41 227	(X)	41 919
By value group:				
\$1 to \$4,999 .....	218 289	595 818	209 848	623 639
\$5,000 to \$9,999 .....	456 902	3 055 017	551 413	3 692 241
\$10,000 to \$19,999 .....	389 031	5 150 955	413 797	5 438 321
\$20,000 to \$29,999 .....	255 033	5 831 552	248 420	5 670 140
\$30,000 to \$49,999 .....	246 819	9 017 970	242 316	8 884 862
\$50,000 to \$99,999 .....	158 208	8 780 014	165 245	9 175 399
\$70,000 to \$99,999 .....	117 902	9 491 712	129 590	10 419 630
\$100,000 to \$199,999 .....	168 409	21 595 177	189 785	24 484 447
\$200,000 to \$499,999 .....	64 283	16 560 236	77 207	19 857 464
\$500,000 to \$999,999 .....	5 100	3 091 308	6 745	5 416 604
\$1,000,000 or more .....	1 262	2 631 600		

<sup>1</sup>Data are in whole dollars.

**Table 13. Selected Machinery and Equipment on Place: 1987 and 1982**

[Data are based on a sample of farms; see text. For meaning of abbreviations and symbols, see introductory text]

Selected machinery and equipment	1987						1982		
	Total		Manufactured 1983 to 1987		Manufactured prior to 1983		Farms	Number	Number manufactured 1978 to 1982
	Farms	Number	Farms	Number	Farms	Number			
Motortrucks, including pickups .....	1 808 431	3 437 042	613 773	748 738	1 506 844	2 690 306	1 914 101	3 435 194	1 060 344
2 or 3 .....	819 174	1 415 940	76 406	185 937	479 720	1 096 469	812 981	1 385 269	276 091
4 or more .....	185 037	1 016 862	8 637	52 069	131 195	698 108	163 564	902 369	89 077
Wheel tractors .....	1 842 654	4 609 388	302 412	426 837	1 731 082	4 182 551	1 919 714	4 523 849	716 263
2 or 3 .....	757 238	1 908 587	65 987	145 297	718 477	1 714 177	811 374	1 942 612	263 313
4 or more .....	404 410	2 119 795	10 188	55 303	351 394	1 807 163	361 203	1 834 100	87 658
Less than 40 horsepower (PTO) .....	1 071 604	1 641 691	106 719	125 682	992 667	1 516 009	(NA)	(NA)	(NA)
40 horsepower (PTO) or more .....	1 333 317	2 967 697	221 092	301 155	1 245 927	2 666 542	(NA)	(NA)	(NA)
Grain and bean combines <sup>1</sup> .....	568 846	667 128	62 542	67 192	514 431	599 936	560 977	644 311	148 721
Cottonpickers and strippers .....	27 748	42 914	5 805	7 783	23 858	35 131	31 894	49 563	13 579
Mower conditioners .....	585 603	652 193	118 259	124 736	479 572	527 457	543 629	594 480	173 768
Pickup balers .....	702 477	822 927	113 477	121 956	616 300	700 971	712 614	799 714	184 740

<sup>1</sup>Data for 1982 include self-propelled only.



**Table 16. Tenure and Characteristics of Operator and Type of Organization for All Farms and Farms Operated by Black and Other Races: 1987, 1982, and 1978**

[For meaning of abbreviations and symbols, see introductory text]

Characteristics	All farms			Farms operated by Black and other races <sup>1</sup>		
	1987	1982	1978	1987	1982	1978
<b>Tenure of operator:</b>						
All operators	farms 2 067 759	2 240 976	2 257 775	44 640	54 367	57 988
Harvested cropland	acres 964 470 625	966 796 579	1 014 777 234	51 974 575	52 910 625	53 624 951
Full owners	farms 1 643 633	1 809 756	1 904 602	30 940	40 294	45 891
Harvested cropland	acres 282 223 820	320 308 462	317 145 955	2 256 492	2 861 357	3 102 963
Part owners	farms 1 238 547	1 325 773	1 267 902	28 407	33 965	34 150
Harvested cropland	acres 317 787 149	342 448 434	331 920 878	43 553 565	42 175 419	42 924 391
Tenants	farms 891 288	985 976	1 021 644	18 108	23 243	25 161
Harvested cropland	acres 67 278 104	86 861 630	8 064 028	760 996	986 361	931 890
Part owners	farms 609 012	656 249	661 112	8 996	13 093	15 026
Harvested cropland	acres 519 814 523	530 703 476	561 138 719	6 375 531	9 350 836	8 539 689
Tenants	farms 532 372	603 063	637 146	8 050	11 164	13 307
Harvested cropland	acres 168 718 930	193 219 488	187 442 844	1 017 704	1 407 216	1 579 289
Tenants	farms 240 200	258 954	278 761	6 237	7 309	8 812
Harvested cropland	acres 126 868 953	113 644 669	121 717 637	2 045 479	1 384 370	2 160 871
Harvested cropland	farms 199 973	220 697	245 812	4 782	5 887	7 423
Harvested cropland	acres 46 226 846	46 225 344	49 062 683	457 792	467 780	591 784
Percent of tenancy	percent 11.5	11.6	12.3	14.0	13.4	15.2
<b>Operators by place of residence:</b>						
On farm operated	1 487 937	1 581 101	1 585 704	26 412	31 597	33 906
Not on farm operated	442 613	429 322	421 790	13 362	14 132	13 749
Not reported	157 209	230 553	250 281	4 846	8 639	10 333
<b>Operators by principal occupation:</b>						
Farming	1 138 179	1 234 787	1 269 305	21 376	26 387	30 054
Other	949 590	1 006 189	988 470	23 264	27 980	27 934
<b>Operators by days of work off farm:</b>						
None	844 476	861 798	942 803	16 329	19 077	22 388
Any	1 115 560	1 187 374	1 203 286	25 002	29 487	31 403
1 to 49 days	135 118	156 421	181 471	3 086	3 458	4 500
50 to 99 days	64 915	67 312	71 000	1 987	2 327	2 711
100 to 149 days	70 622	74 300	72 852	2 072	2 519	2 597
150 to 199 days	107 701	114 497	107 918	2 824	3 427	3 663
200 days or more	737 206	774 844	770 045	15 033	17 756	17 932
Not reported	127 723	191 804	111 686	3 309	5 803	4 197
<b>Operators by years on present farm:</b>						
2 years or less	113 554	127 176	(NA)	3 130	3 350	(NA)
3 or 4 years	135 473	192 714	(NA)	3 225	4 399	(NA)
5 to 9 years	303 875	360 458	(NA)	6 326	7 035	(NA)
10 years or more	1 163 338	1 097 660	(NA)	19 132	20 150	(NA)
Average years on present farm	18.8	17.3	(NA)	17.1	16.6	(NA)
Not reported	371 521	462 968	(NA)	12 827	19 433	(NA)
<b>Operators by age group:</b>						
Under 25 years	35 851	62 336	66 575	428	629	767
25 to 34 years	242 688	293 810	285 420	3 591	4 713	4 912
35 to 44 years	411 153	443 420	433 900	7 928	8 786	8 754
45 to 49 years	223 275	505 412	549 159	4 306	11 636	12 953
50 to 54 years	231 635	536 402	552 175	4 815	14 292	15 880
55 to 59 years	247 908	399 596	370 546	5 064	14 311	14 702
60 to 64 years	247 908	399 596	370 546	5 734	14 311	14 702
65 to 69 years	191 435	399 596	370 546	4 977	14 311	14 702
70 years and over	255 906	399 596	370 546	7 797	14 311	14 702
Average age	52.0	50.5	50.3	55.0	54.6	54.3
<b>Operators by sex:</b>						
Male	farms 1 956 118	2 119 377	2 144 976	40 480	49 348	52 425
acres 924 579 864	951 437 904	979 434 374	51 138 089	52 149 157	52 823 823	
Female	farms 131 641	121 599	112 799	4 160	5 019	5 563
acres 39 890 761	35 358 675	35 342 860	836 486	761 466	801 128	
<b>Operators of Spanish origin (see text)</b>	farms 17 476	16 183	17 572	5 535	4 239	3 576
acres 8 340 701	8 872 066	11 426 343	1 832 997	1 265 780	1 874 214	
<b>Operators not of Spanish origin</b>	farms 1 453 364	(NA)	(NA)	21 820	(NA)	(NA)
Spanish origin not reported	farms 616 919	(NA)	(NA)	17 285	(NA)	(NA)
<b>Type of organization:</b>						
Individual or family (sole proprietorship)	farms 1 809 324	1 945 639	1 965 860	38 903	47 919	51 249
acres 627 559 205	642 380 423	673 187 925	6 945 311	7 550 982	8 445 504	
Partnership	farms 199 559	223 274	232 538	3 546	4 224	4 785
acres 153 283 239	151 860 157	158 078 005	1 332 931	1 180 719	1 278 489	
Corporation	farms 66 969	59 792	50 231	1 480	1 387	1 380
acres 119 375 386	127 308 766	120 120 499	1 045 953	1 028 877	1 071 340	
Family held:						
More than 10 stockholders	farms 1 172	1 810	1 275	19	42	32
acres 7 730 867	12 193 725	11 068 495	44 902	89 857	155 217	
10 or less stockholders	farms 59 599	50 842	43 138	1 282	1 126	1 205
acres 98 215 437	100 664 435	92 933 845	677 797	591 933	704 225	
Other than family held:						
More than 10 stockholders	farms 919	1 143	1 130	25	34	30
acres 4 714 851	5 979 237	5 537 275	251 636	278 555	135 872	
10 or less stockholders	farms 5 379	5 997	4 688	134	185	113
acres 6 714 431	8 471 369	10 580 884	71 618	68 532	76 026	
Other—cooperative, estate or trust, institutional, etc.	farms 11 907	12 271	9 148	731	837	574
acres 64 252 795	65 247 233	63 390 805	42 650 380	43 150 047	42 829 618	

<sup>1</sup>For classification of social and ethnic groups, see text.

**Table 17. Selected Characteristics of Farms Operated by Females, Persons of Spanish Origin, and Specified Racial Groups: 1987 and 1982**

[For meaning of abbreviations and symbols, see introductory text]

Characteristics	Female operators	Operators of Spanish origin <sup>1</sup>	Farms operated by Black and other races				
			Total	Black	American Indian	Asian	Other (see text)
<b>FARMS AND LAND IN FARMS</b>							
Farms..... number, 1987...	131 641	17 476	44 640	22 954	7 134	7 900	6 652
..... number, 1982...	121 599	16 183	54 367	33 250	7 211	8 000	5 906
Land in farms..... acres, 1987...	39 690 761	8 340 701	51 974 575	2 636 896	45 674 158	1 270 473	2 393 048
..... acres, 1982...	35 358 675	8 672 066	52 910 625	3 474 573	46 151 992	1 378 641	1 905 419
Harvested cropland..... farms, 1987...	84 022	11 141	30 940	15 284	4 298	7 073	4 285
..... farms, 1982...	82 052	10 584	40 294	24 495	4 727	7 112	3 960
..... acres, 1987...	6 508 984	1 148 619	2 256 492	764 377	630 597	523 548	307 972
..... acres, 1982...	6 113 289	1 266 975	2 861 357	1 251 468	705 376	560 439	324 072
<b>1987 FARMS BY SIZE</b>							
1 to 9 acres.....	20 227	3 177	6 587	3 182	902	3 097	1 406
10 to 49 acres.....	35 200	4 871	14 470	7 993	1 751	2 710	2 016
50 to 139 acres.....	33 632	3 251	10 988	7 263	1 502	1 027	1 196
140 to 219 acres.....	15 003	1 474	3 701	2 137	766	269	529
220 to 499 acres.....	15 615	2 006	3 658	1 647	905	414	692
500 acres or more.....	11 964	2 697	3 236	732	1 308	383	813
<b>1987 OWNED AND RENTED LAND IN FARMS</b>							
Owned land in farms..... farms...	122 313	15 010	38 403	20 648	6 325	5 895	5 535
..... acres...	28 883 068	4 467 647	46 557 573	1 668 576	42 909 654	718 179	1 261 164
Rented or leased land in farms..... farms...	27 296	6 294	16 233	8 000	2 527	3 244	2 462
..... acres...	11 007 693	3 873 054	5 417 002	968 320	2 764 504	552 294	1 131 884
<b>TENURE OF OPERATOR</b>							
Full owners..... farms, 1987...	104 345	11 182	28 407	14 954	4 607	4 656	4 180
..... farms, 1982...	96 818	10 032	33 965	20 695	4 701	4 789	3 800
..... acres, 1987...	19 843 957	2 745 808	43 553 565	1 207 980	41 202 404	341 642	801 539
..... acres, 1982...	17 529 211	2 564 499	42 175 419	1 637 799	39 475 354	345 612	716 654
Part owners..... farms, 1987...	17 968	3 828	9 996	5 694	1 718	1 239	1 345
..... farms, 1982...	16 251	3 877	13 083	8 788	1 761	1 322	1 222
..... acres, 1987...	16 594 843	3 999 069	6 375 531	1 143 323	3 410 055	689 970	1 132 183
..... acres, 1982...	15 049 433	5 101 923	9 350 836	1 420 338	6 195 390	800 914	934 194
Tenants..... farms, 1987...	9 328	2 466	6 237	2 306	809	2 005	1 117
..... farms, 1982...	8 532	2 274	7 309	3 767	749	1 909	684
..... acres, 1987...	3 451 961	1 595 824	2 045 479	265 593	1 061 699	238 661	459 326
..... acres, 1982...	2 780 031	1 205 644	1 384 370	416 436	481 248	232 115	254 571
<b>1987 FARMS BY TYPE OF ORGANIZATION</b>							
Individual or family (sole proprietorship).....	115 300	15 026	38 903	20 961	6 226	5 954	5 742
Partnership.....	11 275	1 602	3 546	1 508	432	968	638
Family held corporation.....	3 353	600	1 301	211	90	814	186
Other than family held corporation.....	317	111	159	29	11	89	30
Other—cooperative, estate or trust, institutional, etc.....	1 398	137	731	225	376	75	56
<b>1987 MARKET VALUE OF AGRICULTURAL PRODUCTS SOLD</b>							
Total sales..... farms...	131 641	17 476	44 640	22 954	7 134	7 900	6 652
..... \$1,000...	3 683 183	1 060 544	2 261 232	332 444	273 498	1 341 276	334 014
Crops, including nursery and greenhouse crops..... farms...	56 473	8 040	22 984	10 549	2 605	6 679	3 151
..... \$1,000...	1 373 575	732 944	1 750 846	182 371	109 821	1 222 623	236 031
Livestock, poultry, and their products..... farms...	85 967	10 367	25 017	15 073	5 084	1 188	3 672
..... \$1,000...	2 309 609	327 600	530 386	150 073	163 677	118 653	97 983
Farms by value of sales:							
Less than \$2,500.....	47 883	6 225	17 223	10 662	2 674	1 383	2 504
\$2,500 to \$9,999.....	41 456	4 978	13 672	7 866	2 171	1 669	1 966
\$10,000 to \$19,999.....	14 847	1 828	4 300	1 943	759	940	658
\$20,000 to \$24,999.....	3 899	479	1 166	469	197	325	175
\$25,000 or more.....	23 556	3 966	8 279	2 014	1 333	3 583	1 349
<b>1987 FARMS BY STANDARD INDUSTRIAL CLASSIFICATION</b>							
Cash grains (011).....	14 528	1 002	4 380	3 150	731	204	295
Field crops, except cash grains (013).....	15 900	2 126	6 545	4 311	811	604	819
Cotton (0131).....	959	616	949	627	31	24	267
Tobacco (0132).....	6 995	130	2 742	2 460	264	12	6
Sugarcane and sugar beets; Irish potatoes; field crops, except cash grains, n.e.c. (0133, 0134, 0139).....	7 946	1 380	2 854	1 224	516	568	546
Vegetables and melons (016).....	1 550	765	2 418	703	72	1 230	413
Fruits and tree nuts (017).....	7 934	2 613	4 921	298	225	3 214	1 184
Horticultural specialties (018).....	3 483	461	1 792	110	54	1 477	151
General farms, primarily crop (019).....	3 599	428	1 126	666	210	92	158
Livestock, except dairy, poultry, and animal specialties (021).....	58 831	8 416	20 636	12 593	4 197	750	3 096
Beef cattle, except feedlots (0212).....	46 276	7 048	15 073	8 539	3 458	457	2 619
Dairy farms (024).....	4 662	361	467	246	85	49	107
Poultry and eggs (025).....	4 246	193	546	285	85	108	60
Animal specialties (027).....	15 256	918	1 335	368	531	150	266
General farms, primarily livestock and animal specialties (029).....	1 654	183	454	224	123	24	83

See footnotes at end of table.

**Table 17. Selected Characteristics of Farms Operated by Females, Persons of Spanish Origin, and Specified Racial Groups: 1987 and 1982—Con.**

[For meaning of abbreviations and symbols, see introductory text]

Characteristics	Female operators	Operators of Spanish origin <sup>1</sup>	Farms operated by Black and other races				
			Total	Black	American Indian	Asian	Other (see text)
<b>1987 OPERATOR CHARACTERISTICS</b>							
<b>Operators by place of residence:</b>							
On farm operated.....	96 800	10 381	26 412	13 255	5 033	4 510	3 614
Not on farm operated.....	24 880	6 883	13 382	6 468	1 452	2 794	2 688
Not reported.....	9 961	432	4 848	3 231	648	598	370
<b>Operators by principal occupation:</b>							
Farming.....	67 488	7 998	21 378	10 071	3 103	5 265	2 937
Other.....	64 153	9 478	23 264	12 883	4 031	2 635	3 715
<b>Operators by days of work off farm:</b>							
None.....	64 308	5 616	18 329	8 668	2 189	3 542	1 830
Any.....	58 187	11 080	25 002	12 333	4 505	3 722	4 442
1 to 99 days.....	10 405	2 308	5 073	2 426	704	912	1 031
100 to 199 days.....	11 748	2 149	4 896	2 348	880	800	868
200 days or more.....	36 034	6 623	15 033	7 559	2 921	2 010	2 543
Not reported.....	9 146	780	3 309	1 953	440	636	280
<b>Operators by years on present farm:</b>							
2 years or less.....	9 343	1 588	3 130	1 195	490	721	724
3 or 4 years.....	11 263	1 801	3 225	1 221	537	728	739
5 to 9 years.....	21 783	3 480	6 328	2 458	1 105	1 445	1 318
10 years or more.....	62 561	8 100	19 132	9 871	3 181	3 589	2 681
Average years on present farm.....	18.1	14.5	17.1	19.6	16.0	16.1	13.0
Not reported.....	26 691	2 529	12 827	8 409	1 821	1 407	1 190
<b>Operators by age group:</b>							
Under 25 years.....	1 583	202	428	172	99	68	89
25 to 34 years.....	10 162	1 742	3 581	1 261	764	731	835
35 to 44 years.....	21 656	3 622	7 928	3 309	1 553	1 483	1 583
45 to 54 years.....	23 272	4 302	9 121	4 285	1 762	1 394	1 680
55 to 59 years.....	14 527	2 264	5 064	2 574	807	910	773
60 to 64 years.....	15 775	2 096	5 734	3 000	776	1 279	679
65 to 69 years.....	14 511	1 416	4 977	2 985	580	997	415
70 years and over.....	30 155	1 832	7 797	5 368	793	1 038	588
Average age.....	56.8	51.9	65.0	57.9	51.5	54.1	49.9
<b>Operators by sex:</b>							
Male.....	(X)	16 131	40 480	20 901	6 328	7 058	6 193
Female.....	131 641	1 345	4 160	2 053	806	842	459
Operators of Spanish origin <sup>1</sup> .....	1 345	17 476	5 535	98	150	125	5 162
<b>1987 COMMODITY CREDIT CORPORATION LOANS AND GOVERNMENT PAYMENTS</b>							
<b>Amount received from Commodity Credit Corporation loans..... farms...</b>							
..... \$1,000.....	6 087	659	1 589	1 065	245	109	170
..... \$1,000.....	118 506	15 338	19 120	8 485	3 126	3 149	4 380
<b>Government payments received..... farms...</b>							
..... \$1,000.....	23 170	2 223	6 187	4 115	968	486	620
..... \$1,000.....	184 109	31 444	43 061	16 533	8 771	8 705	9 052

<sup>1</sup>See chapter 1, table 16 for operators not of or not reporting Spanish origin.

**Table 25. Cattle and Calves—Inventory: 1987 and 1982**

[For meaning of abbreviations and symbols, see introductory text]

Item	1987		1982	
	Farms	Number	Farms	Number
<b>Cattle and calves</b> .....	<b>1 176 346</b>	<b>95 847 299</b>	<b>1 354 992</b>	<b>104 475 827</b>
Farms with—				
1 to 9.....	212 947	1 132 157	254 421	1 350 733
10 to 19.....	209 553	2 899 513	241 480	3 341 516
20 to 49.....	326 788	10 275 835	373 306	11 754 283
50 to 99.....	208 610	14 412 562	242 418	16 754 831
100 to 199.....	130 137	17 497 300	147 714	19 788 970
200 to 499.....	66 023	19 121 471	72 272	20 797 810
500 to 999.....	14 904	9 881 888	15 750	10 427 720
1,000 to 2,499.....	5 648	8 043 581	5 892	8 335 715
2,500 or more.....	1 736	12 583 084	1 739	11 944 249
<b>Cows and heifers that had calved</b> .....	<b>997 879</b>	<b>41 737 290</b>	<b>1 153 892</b>	<b>45 052 497</b>
Farms with—				
1 to 9.....	282 585	1 365 749	354 435	1 635 066
10 to 19.....	207 753	2 836 482	233 872	3 183 213
20 to 49.....	286 980	8 893 980	327 159	10 121 245
50 to 99.....	135 744	9 002 077	150 177	9 914 568
100 to 199.....	55 483	7 218 251	58 258	7 545 198
200 to 499.....	23 293	6 560 417	23 785	6 659 158
500 to 999.....	4 426	2 884 009	4 576	2 958 008
1,000 or more.....	1 615	2 976 325	1 630	3 038 041
<b>Beef cows</b> .....	<b>841 778</b>	<b>31 652 593</b>	<b>957 698</b>	<b>34 202 607</b>
Farms with—				
1 to 9.....	268 980	1 318 423	330 440	1 554 530
10 to 19.....	195 899	2 961 281	216 515	2 926 970
20 to 49.....	225 996	6 782 582	247 492	7 414 029
50 to 99.....	87 763	5 823 407	96 408	6 377 956
100 to 199.....	39 754	5 188 789	42 375	5 505 807
200 to 499.....	18 677	5 259 836	19 405	5 431 807
500 to 999.....	3 483	2 241 057	3 679	2 372 883
1,000 or more.....	1 246	2 377 218	1 384	2 618 525
<b>Milk cows</b> .....	<b>202 068</b>	<b>10 084 697</b>	<b>277 762</b>	<b>10 849 890</b>
Farms with—				
1 to 4.....	42 394	70 288	81 563	129 609
5 to 9.....	7 468	49 904	11 128	74 813
10 to 29.....	35 902	707 300	52 636	1 030 447
30 to 49.....	47 628	1 821 875	59 420	2 252 255
50 to 99.....	46 317	3 173 173	53 341	3 474 899
100 to 199.....	14 638	1 895 618	14 608	1 851 516
200 to 499.....	4 253	1 187 307	4 014	1 114 480
500 or more.....	1 268	1 179 432	1 052	921 891
<b>Heifers and heifer calves</b> .....	<b>905 535</b>	<b>28 379 481</b>	<b>1 073 631</b>	<b>28 684 283</b>
<b>Steers, steer calves, bulls, and bull calves</b> .....	<b>983 988</b>	<b>27 730 528</b>	<b>1 150 443</b>	<b>30 739 047</b>

\*U.S. Government Printing Office: 1990-748-034/00422







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