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Final Report—Vol. V—Part 5—Special Reports

1960 Sample Survey of Agriculture

SPECIAL REPORTS

Prepared under the supervision of
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U.S. DEPARTMENT OF COMMERCE

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PREFACE

Part 5 of volume V of the reports of the 1959 Census of Agriculture presents the results of a special supplementary survey for the 1959 Census of Agriculture. This survey covered a sample of approximately 12,000 of the farms included in the 1959 Census of Agriculture. The purpose of this survey, taken during the latter part of 1960, was to provide data for many items for which information could not be secured in the 1959 census because of the cost and the difficulty of obtaining the information from a large number of farm operators and farm landlords by a large number of census enumerators.

The 1960 Sample Survey of Agriculture was taken primarily to provide statistics on the sources and amount of income received by farm operators and members of their families from sources other than the farm operated; the number and extent of the use of some principal farm machines; the distribution of tractors on farms by year of manufacture and type of fuel used; the extent of the farmers' use of contracts with processors, dealers, and others for the production and marketing of 14 selected farm products; and the characteristics of the provisions of such contracts in regard to price, grade of the product, and the furnishing of financial and other assistance by the contractor; the number of buildings constructed on farms, classified by principal use and the kinds of materials used in the construction of those buildings; and the amount and source of debts owed by both farm operators and farm landlords. Statistics for some of these items were secured in 1960 for the first time by any nationwide survey and provide indicators for some important and new characteristics for a rapidly changing agriculture.

The collection of data was carried out, mainly, by census enumerators working under the direction of Jefferson D. McPike, Chief, Field Division, of the Bureau of the Census. The planning of the survey and the compilation of the statistics were supervised by Ray Hurley, Chief, Agriculture Division, assisted by Orvin L. Wilhite, Assistant Chief, and M. Vincent Lindquist, Thomas Jabine, Helen Teir, Donald Larson, Wilmer Maxham, Dean Prochaska, Joseph Horak, Albert Graybill, Lois Miller, Margaret Wood, and Helen Turner.

Acknowledgment is made of the financial assistance in the collection and compilation of data on farm landlords' debt by the Economic Research Service of the United States Department of Agriculture, the Federal Reserve Board, and the Farm Credit Administration; and of the technical assistance of personnel of the U.S. Department of Agriculture and the Federal Reserve Board in connection with the planning of the part of the survey relating to farm debt.

December 1962

UNITED STATES CENSUS OF AGRICULTURE: 1959

FINAL REPORTS

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

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

Volume II—General Report—In 1 volume and also as 13 separates (for the Introduction and for each chapter). Statistics by subjects for 1959 and prior censuses. Statistics are presented for the United States, geographic regions, and divisions, and for the States.

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

Volume III—Irrigation of Agricultural Lands—Data from the Irrigation Censuses of 1959 and 1950, by drainage basins, for the conterminous United States and for each of the 17 western States and Louisiana. Separate maps are available. Report also includes data from the 1959 Census of Agriculture for land irrigated and acres and production of crops on irrigated land in the 18 conterminous States and Hawaii.

Volume IV—Drainage of Agricultural Lands—Statistics for States and counties and for the conterminous United States, presenting 1960 data on number, area, physical works, and costs for drainage projects of 500 or more acres by size, type, and year organized. Maps are included.

Volume V—Special Reports

Part 1.—Special Census of Horticultural Specialties—Statistics for States, except Alaska and Hawaii, and for the conterminous United States, presenting 1959 data on number and kinds of operations, gross receipts and/or sales, sales of specified products, inventories, employment, and structures and equipment.

Part 2.—Irrigation in Humid Areas—Statistics for 30 eastern States showing 1960 data on acres irrigated, number of constructed ponds and reservoirs, source and method of applying water, type of pumping power, acreage of individual crops irrigated, and frequency of irrigation by States and counties.

Part 3.—Ranking Agricultural Counties—Statistics for selected items of inventory and agricultural production for the leading counties in the United States.

Part 4.—Farm Taxes and Farm Mortgage—A cooperative report by the Economic Research Science, U.S. Department of

Agriculture and the Bureau of the Census, U.S. Department of Commerce, presenting 1961 data by States on taxes on farms, number of mortgaged farms operated by full owners and part owners, amount of mortgage debt held by principal lending agencies, and amount of interest paid.

Part 5.—1960 Sample Survey of Agriculture—Statistics by economic class and type of farm, showing 1960 data on farm-operator-family income from farm and off-farm sources; inventory and use of selected types of farm equipment, tractors by year made and fuel used; number, size, and materials used for new buildings constructed 1958 to 1960; number of farmers having contracts with dealers, processors, or others for the production and marketing of 15 farm products; and real estate and non-real-estate debts of farm operators and farm landlords by lending agencies.

Part 6.—A Graphic Summary of Agriculture, 1959—A cooperative report by the Economic Research Service, U.S. Department of Agriculture and the Bureau of the Census, U.S. Department of Commerce, presenting graphically for 1959 and prior census years some of the significant uses of agricultural land; the extent and nature of the various kinds of tenure under which farms are held and operated; and changes and developments in the use of agricultural resources and production of agricultural products.

Special Publication—Principal Data-Collection Forms and Procedures: United States Census of Agriculture, 1959, and Related Surveys—Facsimiles of the enumeration forms used, showing variations for the 50 States, Puerto Rico, American Samoa, Guam, and the Virgin Islands, together with brief descriptions of the census field procedures for the census and the related surveys.

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INTRODUCTION

(VII)

INTRODUCTION

Purpose of the survey.—The 1960 Sample Survey of Agriculture was undertaken to provide data for items for which information was needed, but not obtained in the 1959 Census of Agriculture. For many of these items, it was believed national estimates would be satisfactory for the major statistical needs.

DEFINITIONS AND EXPLANATIONS

Introduction.—The definitions and explanations that follow relate only to those items that are considered to be inadequately described in the tables where the data appear. Although the descriptive terms and explanations refer specifically to 1960, some of them also apply to the periodic censuses of agriculture. Most of the definitions consist of a résumé of the questionnaire wording, supplemented by excerpts from instructions given to enumerators. The format used and the wording of the questions and instructions included on the questionnaire are indicated on the facsimile of an agriculture questionnaire in the appendix of this report. For the exact wording of the questions and instructions, see the facsimile of the A2 Listing form and the agriculture questionnaire for the 1960 Sample Survey of Agriculture in the appendix of this report. There were three versions of the agriculture questionnaire—one for the Northern States, one for the Southern States, and one for the Western States. These questionnaires differed only in the questions contained in Section III relating to crops harvested. *The 1960 survey covered only the 48 States comprising the conterminous United States. Alaska and Hawaii were not included in the survey.*

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

The word "place" was defined to include all land under the control or supervision of one person or partnership at the time of enumeration, and on which agricultural operations were conducted at any time in 1960. Control may have been exercised through ownership or management; or through a lease, rental, or cropping arrangement.

Places of 10 or more acres in 1960 were counted as farms if the estimated sales of agricultural products for the year amounted to at least \$50. Places of less than 10 acres in 1960 were counted as farms if the estimated sales of agricultural products for the year amounted to at least \$250. Places not meeting the minimum estimated level of sales in 1960 were nevertheless counted as farms if they could normally be expected to produce agricultural products in sufficient quantity to meet the requirements of the definition. This additional qualification was used in order to include as farms some places that were engaged in farming operations for the first time in 1960, as well as places affected by crop failure or other unusual conditions.

To avoid biases arising from an enumerator's personal judgment and opinion, enumerators were not given the definition of a farm. Instead, enumerators were instructed to obtain questionnaires for all places considered farms by their operators and for all other places that had sales of agricultural products of \$50 or more in 1960.

Land in farms.—The land to be included in each farm was determined by inquiries on the questionnaire and by instructions to enumerators and farm operators. Enumerators and farm operators were instructed to report for the farm operator the number

of acres owned, then the number of acres rented from others or worked on shares for others, and the number of acres rented to others. This latter entry was subtracted from the sum of the two previous entries. The remainder was designated as "*acres in this place*" or "*acres in the farm*." If the place was operated by a hired manager, the enumerator obtained the total acreage managed and the number of acres rented to others or worked on shares by others. Again, the acres rented to others were subtracted from the gross acres managed to obtain the "acres in this place."

The entry in "*Acres in this place*" often included land not under cultivation and land not used for grazing. Some of it was woodland, wasteland, etc. This acreage was retained as a part of the farm unless it was held for purposes other than agricultural, or the acreage was unusually large. If a farm contained 1,000 or more acres of nonagricultural land and less than 10 percent of the total acreage in the place was used for agricultural purposes, the nonagricultural land in excess of the number of acres used for agricultural purposes was excluded from the farm area during the office processing. In applying this rule, land used for crops, pasture, or grazing, and land rented to others was considered to be used for agricultural purposes. Open range and grazing lands used under government permit were not included in farms. Grazing lands operated by grazing associations were to be reported in the name of the manager of the association. Land used rent free was included with land rented from others.

Land in farms according to use.—Land in farms was classified according to the use made of it in 1960. The acreage in each farm was allocated among the three land-use categories only once, and any acreage that had two or more uses during the year was classified according to its most important use.

Cropland harvested.—This includes land from which crops were harvested; land from which hay (including wild hay) was cut; and land in berries and small fruits, orchards, vineyards, nurseries, and greenhouses. Land from which two or more crops were harvested was to be counted only once. The entry for cropland harvested was obtained directly from the farm operator and then verified by the census enumerator by adding the acres of each crop reported and subtracting from this total the acres of land from which two or more crops were harvested. This checking was repeated during the office processing for farms with 100 or more acres of cropland harvested. The enumerator was directed to list under "Cropland harvested" only, any acreage that had additional uses during the year. For example, any land from which hay was cut was classified as cropland harvested, regardless of the use of the land for grazing later in the year.

Pastureland.—Pastureland includes cropland used only for pasture in 1960, woodland pastured, and other land pastured.

"Other" land includes woodland not pastured, idle land, land in cultivated summer fallow, land in soil-improvement grasses and legumes not harvested and not pastured, wasteland, and land in house lots, barn lots, roads, etc.

Irrigated land in farms.—This represents land to which water was applied by artificial means during 1960. It includes not only irrigated land from which crops were harvested, but also irrigated pastureland and irrigated fallow land.

Value of land and buildings.—The farm operator was asked to report the amount for which the land and the buildings on it would sell. Separate values were obtained for owned land, land rented from others, and land rented to others; and for each of these three categories, either the value per acre or total value was

to be reported. Where value per acre was reported, it was converted to total value during the processing in the central processing office.

The farm operator and the census enumerator were instructed to exclude, when reporting the value of the farm, the value of nonagricultural buildings such as hospitals, dormitories, stores, filling stations, administrative offices, restaurants, and factories. The value of processing plants (except cotton gins and sugar mills) used to prepare farm produce for sale from the farm was included.

It was not always possible to obtain the value of land and buildings for all the farms for which this value was to be reported. Respondents often were reluctant to estimate the value of their holdings, claiming that they were not in position to make accurate estimates. Some farm operators inherited their farms and others had acquired them in the distant past. Parts of many farms were acquired piecemeal and others have been subdivided since they were purchased. Some respondents were willing to estimate the value of the portion they owned of the land they operated, but were unwilling to estimate the part rented from others. During the office processing, estimates were made for farms for which the value of land and buildings was not reported. These estimates were based on the value reported for the same farm in the 1959 Census of Agriculture, or, if the value was not available from the 1959 Census of Agriculture, upon the value reported in the same county for farms of similar type, size, and location.

Farms reporting or operators reporting.—Figures for farms reporting or operators reporting, represent the number of farms, or farm operators, for which the specified item was reported.

Land owned, rented, and managed.—The land to be included in each farm was determined by asking for the number of acres owned, the number of acres rented from others or worked on shares for others, and the number of acres rented to others or worked on shares by others. The acres in the farm were obtained by adding the acres owned and the acres rented from others or worked on shares for others, and subtracting the acres rented to others or worked on shares by others. In case of a managed farm, the person in charge was asked the total acreage managed for his employer. The acreage that was rented to others or cropped by others was subtracted from the total managed acreage.

Land owned.—Land owned includes all land that the operator or his wife, or both, hold under title, purchase contract, homestead law, or as one of the heirs, or as a trustee of an undivided estate, and land allocated to Indian farm operators.

Land rented from others.—Land rented from others includes land rented or leased under other formal or informal arrangements as well as land worked on shares for others, and land used rent free. Grazing land used under government permit is not included.

Land rented to others.—This item includes all land rented or leased to others, except land leased to the government in compliance with the Soil Bank program, and all land worked by others on shares or on a rent-free basis. For the most part, the land rented to others represents agricultural land but it also includes tracts rented for residential or other purposes. The tenant or cropper is considered the farm operator of land leased, rented, or cropped on shares, even though his landlord may exercise supervision over his operations. The landlord is considered as operating only that portion of the land not assigned to tenants or croppers.

Land managed.—This item includes all tracts of land managed for one or more employers by a person hired on a salary basis. A hired manager was considered to be the operator of the land he managed since he was responsible for the agricultural operations on that land and frequently supervised others in performing those operations. Managed land was always to be reported on a separate questionnaire whenever the manager also operated a farm on his own account.

CLASSIFICATION OF FARMS

Scope of classification.—Data were tabulated for land in farms and for cropland harvested in farms classified by size of farm and by tenure of operator. The farm classifications by size of farm and type of farm were made in the operations office on the basis of data reported on the questionnaire.

Farms by size.—Farms were classified by size according to the total land area established for each farm.

Users of size-of-farm statistics should give consideration to the definition of a farm for census purposes. By definition, a farm is essentially an operating unit, not an ownership tract. All land operated by one person, partnership, or manager represents one farm. In the case of a landlord who has assigned land to croppers or other tenants, the land assigned to each cropper or tenant is considered a separate farm even though the landlord may operate the entire landholding as one unit in respect to supervision, equipment, rotation practice, purchase of supplies, or sale of products.

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

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

The various classifications of tenure, as used, are defined below:

- a. Full owners operate only land they own.
- b. Part owners operate both land they own and land rented from others.
- c. Managers operate land for others and are paid a wage or salary for their services. Persons acting merely as caretakers or hired as laborers are not classified as managers. If a farm operator managed land for others and also operated land on his own account, the land operated on his own account was considered as one farm and the land managed for others, a second farm. If, however, he managed land for two or more employers, all the managed land was considered to be one farm. Generally, all farms operated by corporations, institutions, governmental agencies, and Indian reservations were considered as managed. Farms, other than those operated by a corporation or institution, etc. reported as managed, were classified as manager-operated only when—
 1. The acres in the farm were 1,000 or more, or—
 2. There were 10 or more acres in vegetables harvested for sale, small fruits, or land in fruit orchards, vineyards, groves, and planted nut trees, or—
 3. The sale of nursery and greenhouse products totaled \$5,000 or more, or—
 4. There were 5 or more cattle and calves, or 25 or more milk cows, or 1,000 or more poultry on the farm, or—
 5. The acres of land from which crops were harvested plus the acreage of land rented to others equaled 200 acres or more.
- d. Tenants rent from others or work on shares for others all the land they operate. They are further classified, as described below, on the basis of rental arrangements in regard to the payment of cash rent, the sharing of crops, the sharing of livestock or livestock products, and the furnishing of work power by the landlord.
 1. Cash tenants pay cash rent, either on a per acre basis or for the farm as a whole.
 2. Share-cash tenants pay part of the rent in cash and part in a share of the crops and/or of the livestock and livestock products.
 3. Crop-share tenants pay a share of the crops but not of the livestock or livestock products.
 4. Livestock-share tenants pay a share of the livestock or livestock products. They may or may not also pay a share of the crops.

5. **Croppers** are tenants whose landlords furnished all the work animals or tractor power. They usually work under the close supervision of the landowners or their agents, or other farm operators. Also, the land assigned to them is often merely a part of a multi-unit operation. Croppers may or may not also pay cash rent or a share of crops, livestock, or livestock products. Data for croppers are available for only 16 southern States.
6. **Other tenants** are those who did not qualify for inclusion in any of the foregoing subclassifications. They may have had the use of land rent free or in return for a fixed quantity of products, payment of taxes, maintenance of buildings, etc.
7. **Unspecified tenants** are those for whom the rental arrangement was not reported.

Farms by economic class.—The economic classifications represent groupings of farms that are similar in characteristics and size of operation. The economic classes for 1960 and 1959 were established on the basis of one or more of four factors: (1) Total value of all farm products sold, (2) number of days the farm operator worked off the farm, (3) the age of the farm operator, and (4) the relationship of income received by the operator and members of his household from nonfarm sources to the value of all farm products sold. Institutional farms, Indian reservations, agricultural experiment stations, and grazing associations were always classified as "abnormal."

The total value of farm products sold was obtained by addition of the reported or estimated values for all products sold from the farm. The value of cattle and calves, horses and mules, dairy products, some poultry products, vegetables, nursery and greenhouse products, standing timber, and other forest products was obtained from the farm operator during the enumeration. The quantity sold was obtained during enumeration for corn, sorghums, small grains, hay, small fruits, chickens and chicken eggs, hogs, sheep, and goats. To obtain the value of sales of these products, the quantity sold was multiplied by State average prices.

For each of the other products, to provide estimated total value of farm products sold for the purpose of classifying individual farms, the entire production was multiplied by the State average price. If the resulting value amounted to \$100 or more, the entire quantity produced was considered as sold.

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

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

<i>Economic class of farm</i>	<i>Value of farm products sold</i>
I-----	\$40,000 and over
II-----	\$20,000 to \$39,999
III-----	\$10,000 to \$19,999
IV-----	\$5,000 to \$9,999
V-----	\$2,500 to \$4,999
VI*	\$50 to \$2,499

* Provided the farm operator was under 65 years of age, and—(1) he did not work off the farm 100 or more days, and (2) the income that he and members of his household received from sources other than the farm operated was less than the total value of farm products sold.

Other farms were divided into three economic classes as follows:

- a. **Class VII, Part-time.**—Farms with a value of sales of farm products of \$50 to \$2,499 were classified as "part-time" if the operator was under 65 years of age and he either worked off the farm 100 or more days or the income he and members of his household received from sources other than the farm operated was greater than the total value of farm products sold.
- b. **Class VIII, Part-retirement.**—Farms with a value of sales of farm products of \$50 to \$2,499 were classified as "part-retirement" if the farm operator was 65 years old or over. Many of these are farms on which the income from sources other than the farm operated was greater than the value of sales of agricultural products. Others are residential, subsistence, or marginal farms. In previous censuses, the age of the farm operator was not a criterion for grouping farms by economic class. Since the number of elderly people in our population has been steadily increasing during recent years, a separate classification for farms operated on a part-retirement basis was considered important for an adequate analysis of the agricultural structure.
- c. **Class IX, Abnormal.**—All institutional farms and Indian reservations were classified as "abnormal," regardless of the value of sales. Institutional farms include those operated by hospitals, penitentiaries, schools, grazing associations, government agencies, etc. A more detailed description of the comparability of 1959 economic-class-of-farm definitions and data with those for prior censuses is given in chapter XI of volume II of the reports for the 1959 Census of Agriculture.

Farms by type.—The data for farms by type are estimates based on data tabulated for the commercial farms in the sample. The type represents a description of the major source of income from estimated farm sales. To be classified as a particular type, a farm had to have sales of a particular product or group of products amounting in value to 50 percent or more of the total value of all products sold during the year.

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

<i>Type of farm</i>	<i>Source of sales of farm products</i>
	[Products with sales value representing 50 percent or more of total value of all farm products sold]
Cash-grain-----	Corn, sorghums, small grains, soybeans for beans, cowpeas for peas, dry field and seed beans and peas.
Tobacco-----	Tobacco.
Cotton-----	Cotton.
Other field-crop-----	Peanuts, potatoes (Irish and sweet), sugarcane for sugar or sirup, sweet sorghums for sirup, broomcorn, popcorn, sugar beets, mint, hops, and sugar beet seed.
Vegetable-----	Vegetables.
Fruit-and-nut-----	Berries, other small fruits, tree fruits, grapes, and nuts.
Poultry-----	Chickens, chicken eggs, turkeys, ducks, and other poultry products.
Dairy-----	Milk and cream. The criterion of 50 percent of total sales was modified in the case of dairy farms. A farm having value of sales of dairy products amounting to less than 50 percent of the total value of farm products sold was classified as a dairy farm if— <ol style="list-style-type: none"> (a) Milk and cream sold accounted for more than 30 percent of the total value of products sold and— (b) Milk cows represented 50 percent or more of total cows and— (c) The value of milk and cream sold plus the value of cattle and calves sold amounted to 50 percent or more of the total value of all farm products sold.

<i>Type of farm</i>	<i>Source of sales of farm products</i>
Livestock other than dairy and poultry.	Cattle, calves, hogs, sheep, goats, wool, and mohair except for farms in the 17 conterminous Western States, Louisiana, and Florida that qualified as livestock ranches.
Livestock ranches---	Farms in the 17 conterminous Western States, Louisiana, and Florida were classified as livestock ranches if the sales of livestock, wool, and mohair represented 50 percent or more of the total value of farm products sold and if pastureland or grazing land amounted to 100 or more acres and was 10 or more times the acreage of cropland harvested.
General-----	Nursery and greenhouse products; forest A farm was classified as general also if it had cash income from three or more sources and did not meet the criteria for any other type.
Miscellaneous-----	Nursery and greenhouse products; forest products; and mules, horses, colts, and ponies.

Value of farm products sold.—Data for the value of farm products sold in 1960 were obtained by enumeration for some products and by estimation for others. The questionnaire used for the 1960 and 1959 census provided for farm operators to report value of sales for the following products:

Vegetables	Miscellaneous poultry products
Nursery and greenhouse products	Milk and cream
Standing timber	Cattle
All forest products except standing timber	Calves
	Horses, mules, colts, and ponies

For all other agricultural products, the value of sales was estimated during the office processing. The State average prices used for calculating the value of farm products sold were furnished by the Agricultural Marketing Service of the U.S. Department of Agriculture. One of three following procedures was used for estimating the value of farm products sold.

(1) For the products for which data on quantities sold were obtained during enumeration, the State average prices were multiplied by the county totals of the quantities reported as sold or the quantities reported as produced for sale. The following products were covered by this procedure:

Corn for grain	Chickens (broilers and others)
Sorghums for grain, seed, sirup, or dry forage	Chicken eggs
All small grains	Hogs and pigs
Hay crops	Sheep and lambs
All berries and small fruits	Goats and kids

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

Cotton	Sugarcane for sugar
Popcorn	Tobacco
Sugar beets for sugar	Wool
Broomcorn	Mohair

(3) For all other crops, the State average prices were multiplied by the quantities sold as estimated on the basis of crop-disposition data furnished by the Agricultural Marketing Service, or on the basis of data reported in questions for "other crops" on the questionnaire.

For all tree fruits, nuts, and grapes, the entire quantity produced was considered as sold.

Data for the sales of farm products represent total sales for the entire farm, regardless of who shared the receipts. For tenant-operated farms, the landlord's share of agricultural products was considered as sold provided the products were moved off the tenant farm. All crops, livestock, and poultry raised under a

contract arrangement were considered as sold from the farm where they were raised. For institutional farms, all agricultural items produced on land operated by the institution and consumed by the inmates were to be reported as sold.

All sales data relate to one year's farm operations. Crop sales are for crops harvested during the crop year, whether the crops were actually sold immediately after harvest or placed in storage for later sale. Sales of livestock and livestock products relate to the calendar year, regardless of when the livestock or products were raised or produced. All wool and mohair reported as shorn or clipped was considered as sold.

Enumerators were instructed to record gross values of quantities sold, with no deductions for feed, seed, fertilizer, water, labor, or marketing costs. For some products, however, net values may have been reported. In the case of milk, particularly, some farm operators may have reported the payments they received as the gross value of sales, even though the buyer had deducted handling and hauling charges before making payment. Adjustments were made in the data reported only in cases of obvious error. The value of farm products sold does not include government payments for soil conservation, lime and fertilizer furnished, and subsidy payments.

Description of the sample.—The estimates given in this report for 1960 are based on data collected for a sample of the farms (referred to hereafter as 1960 farms) existing at the time of the survey.

The sample of 1960 farms consisted of two parts:

1. The 1960 farms whose operators were the same persons (or their direct successors—see definition below) that operated a sample of the farms included in the 1959 Census of Agriculture. There were 12,250 1959 census farms in this sample, of which 10,559, or 86.2 percent, had corresponding 1960 farms. The sample of census farms was selected in several parts, in order that it might include higher proportions of farms with a high value of farm products sold in 1959.
2. The 1960 farms whose headquarters (as defined below) were located in one of a sample of small areas or segments and whose operators were not included in the 1959 census in the same county and were not direct successors to 1959 census operators in the same county. The sample chosen for this purpose included approximately 2,700 small areas or segments, and these segments contained 577 farms meeting the above requirements.

All 1960 farms were represented and had a chance to be included in the sample. Most 1960 farms were associated with farms included in the 1959 census, either by having the same operator or by having an operator qualifying as a direct successor, and were, therefore, represented through the sample of farms included in the census. The few remaining 1960 farms, i.e., those not corresponding to farms included in the 1959 census, were represented by the area sample.

The area sample was selected in two stages. First, a sample of counties was selected with probability proportionate to the total value of farm products sold in 1954. All the 207 counties with a value of farm products sold in 1954 of \$20 million or more were included in the sample. The remaining counties were grouped by economic subregion (for a description of economic subregions, see page XLIV of the Introduction to volume II of the reports for the 1959 Census of Agriculture) and sampled systematically with an interval of \$21,818,000 for the total value of farm products sold in 1954. The total number of counties selected for the sample was 999.

The second stage of the selection for the area sample consisted of the selection of a sample of small areas, or segments, containing an average of about 3 farms each, within the 999 sample counties. This stage of selection was carried out separately for three

kinds of areas—open country, master sample (for a description of the Master Sample of Agriculture, see King, A. J. and Jessen, R. J., "Master Sample of Agriculture," *Journal of the American Statistical Association*, 40, 1945), unincorporated places, and urban enumeration districts. (The urban or Group III enumeration districts are described on page XVI of the Introduction to volume II of the reports of the 1959 Census of Agriculture.) These three kinds of areas were or were made mutually exclusive and contained virtually all the farms in the 48 conterminous States.

For the open-country areas, a sample of master sample segments was selected in such a way that the overall sampling rate was equal to 1 out of every 160 segments or areas in the counties with a value of farm products sold of \$20 million or more in 1954 in the 11 Western States and 1 out of every 425 segments or areas in all the remaining counties. For the unincorporated places, as defined by the master sample, areas or segments were selected in such a way that the overall sampling rate was one-half the sampling rate for open-country segments or areas, i.e., the sampling rates were 1 out of 320 in selected counties in the 11 Western States and 1 out of 850 in all other counties.

A sample of 73 urban enumeration districts was selected from the 999 counties selected in the first stage of the area sample. Each of the urban enumeration districts in the 999 counties was assigned a measure of size on the basis of the 1959 number of farms. (The average number of farms per measure of size was 5.) The 73 enumeration districts were then selected with probability proportionate to size. Each selected enumeration district having a measure of size greater than one was subsampled by dividing it into a number of segments equal to its measure of size. From each of these enumeration districts, one segment was selected at random. The 73 segments or areas representing urban enumeration districts were selected with an overall sampling rate of 1 out of 320 in counties with sales of \$20 million or more in the 11 Western States and 1 out of 850 in all other counties.

The result of the two stages of selection described above was the selection of approximately 2,700 segments or areas in 999 counties.

The sample of farms included in the 1959 Census of Agriculture was selected in two parts. The first part comprised a sample of census farms with a value of farm products sold of \$40,000 or more in 1959. (These farms were designated as "special farms" in the instructions and procedures for the 1960 Sample Survey of Agriculture.) The 102,000 farms in 1959 with a value of farm products sold of \$40,000 or more were separated into 5 groups on the basis of the value of farm products sold and sampled at the rates indicated in the following table.

Value of farm products sold in 1959	Approximate number of farms in group in 1959 census	Sampling rate	Number of 1959 farms included in sample for 1960 sample survey
\$40,000 or more.....	101,938	-----	3,981
\$1,000,000 or more.....	408	1 out of 1.....	408
\$500,000-\$999,999.....	800	1 out of 2.....	400
\$200,000-\$499,999.....	4,570	1 out of 10.....	457
\$100,000-\$199,999.....	12,480	1 out of 20.....	624
\$40,000-\$99,999.....	83,680	1 out of 40.....	2,092

The sample of farms with sales of \$100,000 or more was selected systematically from all 1959 farms in this group, regardless of State or county where located. The sample of farms with sales of \$40,000 to \$99,999 was selected from the 999 counties included in the area sample.

The second part of the sample of farms included in the 1959 census was selected from the 999 sample counties and consisted

of farms with sales of less than \$40,000 in 1959. This sample consisted of all census farms whose locations were "spotted" by census enumerators within the boundaries of segments or areas selected for the area sample. These farms were identified in the manner described below.

In the 1959 Census of Agriculture, enumerators were required to indicate or "spot" on the maps for their enumeration districts the location of every farm and most dwellings in rural areas. (For a description of census enumeration procedures relating to listing of dwellings and to the indicating of location of dwellings and places on the enumeration maps, see Enumeration Assignments and Enumeration Districts, Enumerators Record Book, Form A9, and Enumeration Maps, pages XV and XVI of the Introduction to volume II of the reports of the 1959 Census of Agriculture.) For the enumeration districts in which the sample segments or areas of the 1960 survey were located, the indications of location of farms or places listed for the 1959 census were checked to insure that the locations of all farms and other listings were indicated on the enumerator's maps once and only once. Then the boundaries of the sample segments or areas were drawn onto the enumerators' maps. For each segment, the names and addresses or locations of operators of all 1959 farms located within the segment boundaries (excluding those with 1959 sales of \$40,000 or more) were entered in columns 2 and 3 of part I of the A2 Listing form for the 1960 Sample Survey of Agriculture. (See page 27 for a facsimile of this form.) The names of the heads of households for places not counted as farms but listed for the 1959 census and located within the segment boundaries were entered in part II of the A2 Listing form for the 1960 Sample Survey of Agriculture.

The number of farm operators from the 1959 census listed in part I of the A2 Listing form for the 1960 Sample Survey of Agriculture was 8,440 and the number of persons listed from the the 1959 census in part II of the A2 Listing form for the 1960 sample survey was 10,795.

The role of enumerators in identifying 1960 farms in the sample.—For each segment in the area sample, the enumerator to whom it was assigned was required, by following specific and detailed instructions, to accomplish the following:

1. To identify all 1960 farms, i.e., those existing at the time of the survey enumeration, associated with the 1959 census farms which had been prelisted in part I of his A2 Listing form. (1960 farms associated with 1959 farms included (1) farms operated in 1960 by the same operator as the 1959 farms, provided some of the land in the farm in 1960 was located in the county where the farm was enumerated in the 1959 census, (2) 1960 farms comprising the same land operated by a 1959 farm operator, but operated by a "direct successor" farm operator who had not operated a farm in the same county in 1959.)
2. To identify all 1960 farms whose "headquarters" was in the segment, the headquarters being defined as the operator's residence, if he lived on the place, and the north-west corner (the point furthest north of all points furthest west on the place) if he did not live on the place. For each of these farms, the sample survey enumerator was also required to obtain enough information so that the central office staff could determine, by matching this information against the census results, whether or not the farm was associated (through the same operator or a direct successor) with a 1959 census farm.

It was also necessary to determine for each "special" farm (with 1959 sales of \$40,000 or more) in the sample of census farms whether or not it had an associated 1960 farm. This was done partly by mail, and partly by sample survey enumerators, in those cases where there was no response, or an incomplete one, by mail.

The enumeration.—The enumeration was performed largely by 208 specially selected enumerators working under the supervision of 17 crew leaders and 17 staff members of the 17 regional offices of the Bureau of the Census. Most of the enumerators had been employed as the enumerators for the 1959 Census of Agriculture or other surveys and had a very satisfactory work record. Enumerators, crew leaders, and regional staff members were required to have at least 24 hours of training under the supervision of an experienced agricultural statistician, using completely programmed training procedures and instructions. The training included eight hours of study of instructions, two hours of completing of review exercises in connection with study of instructions, and one hour for filling a questionnaire. This part of the training program was completed by the enumerator or crew leader at his home and before reporting for classroom training. Enumerators were given eight to ten hours of classroom instructions on two consecutive days and were required to perform at least five hours of actual enumeration before the last training session.

Enumerators were paid \$12 per diem for each day they were away from their residence overnight, \$1.81 per hour they worked, and 7 cents per mile for use of their automobiles. They were paid also for the time spent in studying instructions and attending training classes.

Enumerators were provided with—

- (1) A county highway map showing the approximate boundaries of each segment to be covered during the enumeration.
- (2) An aerial photograph of the segment with the exact boundaries of the segment drawn on the photograph.
- (3) An A2 Listing form for the 1960 Sample Survey of Agriculture. (See appendix for facsimile.) In part I of this listing, appeared the names and mailing addresses or location of the operators of farms located within the segment boundaries according to the 1959 Census of Agriculture. In part II, appeared the names and mailing addresses of the heads of other households living within the segment boundaries according to the records of the 1959 Census of Agriculture.
- (4) A supply of agriculture questionnaires.
- (5) Administrative forms for making a daily report regarding work performed, etc., and for recording information needed for paying the enumerator.

The enumeration was started during the week of November 14 to 19, 1960.

A few days prior to the start of the actual enumeration, a copy of the questionnaire and a letter (see exhibit in the appendix) were mailed to each 1959 farm operator listed on part I of the A2 Listing form for the 1960 Sample Survey of Agriculture.

Enumerators were required to enumerate or account for and list on the A2 Listing form for the 1960 Sample Survey of Agriculture—

1. All 1959 census farm operators listed in part I of the listing form regardless of whether the farm operator lived within the segment or operated any land within the segment.
2. All places with headquarters in the segment. The headquarters was considered within the segment when (1) the dwelling occupied by the person in charge was on the place and within the segment boundaries or (2) the dwelling occupied by the person in charge of the farming operations was not on the place, but the northwest corner of the place was inside the segment boundaries.
3. All farmland located in the segment, regardless of whether the farm operator lived within the segment.

Enumerators were required to draw the boundaries and designate on the aerial photograph all places enumerated or accounted

for on the A2 Listing form. Nonfarmlands within the segment boundaries were to be sketched on the aerial photograph and a brief description of the use of the land was to be given.

A listing of persons living within the segment boundaries or who were in charge of farmland in the segment at the time of the 1959 census was to be made in part II of the A2 Listing form for the 1960 Sample Survey of Agriculture. Enumerators were required to provide the answers for the appropriate questions on part II of the listing form and to fill an agriculture questionnaire when required. Enumerators were required to list in part II of the listing form, persons living in dwellings located within the segment boundaries and persons in charge of any farmlands located within the segment boundaries, if the names of such persons were not already listed in part I or part II of the A2 Listing form and to answer the questions on part II of the A2 Listing for each person and to obtain an agriculture questionnaire when required.

Each enumerator's work was carefully reviewed by the crew leader, or a member of the regional field office staff. There were detailed instructions for the making of the review and for recording the results. (See Form A39—Field Review of Completed Segments and A1's for Special Farms and instructions for filling Form A39 in the appendix.) Enumerators were not permitted to enumerate more than three segments until their work had been reviewed. Crew leaders or staff members of the regional office reviewed each aerial photograph to make sure that all land in the segment was accounted for. The A2 Listing form was reviewed to determine that all required questions were answered and that agriculture questionnaires had been obtained when required. Segments for which the aerial photograph or the A2 Listings were not complete, were returned to the enumerator for correction. All agriculture questionnaires were reviewed and enumerators were required to make corrections when the agriculture questionnaires contained significant errors or omissions.

Enumeration of farms with a value of farm products sold of \$40,000 or more.—Questionnaires were mailed to the sample of operators of the 3,981 farms with sales of \$40,000 or more and the operators were requested to fill and return these questionnaires to the central office. The sample of farm operators of farms with a value of farm products of \$40,000 to \$99,999 was selected from the 999 counties in which the sample segments or areas were located and, generally, enumerators were used to obtain questionnaires for farms for which agriculture questionnaires were not obtained by mail by early December. For farms located outside the 999 counties, questionnaires for farm operators from whom agriculture questionnaires were not obtained by mail, were secured by personal interview, either by an experienced enumerator or a member of the regional staff. For approximately one-half of the farm operators of farms with a value of farm products sold of \$40,000 or more, the agriculture questionnaire was obtained by mail.

Estimation procedure.—

1. For those items such as number of farms and land in farms classified according to use for which data were collected both in the 1959 census and in the 1960 sample survey, estimates were made in the following way:
 - a. An estimate of the 1959 census total was made by multiplying the 1959 totals for the item from each part of sample of census farms by the reciprocal of the sampling fraction used to select that part of the sample. Thus, totals for farms selected with a sampling fraction of 1 in 40 were multiplied by 40; totals for farms selected at the rate of 1 in 20 were multiplied by 20; etc. These weighted totals for the different parts of the sample were then combined.

b. In a similar way, an estimated 1960 total was obtained. Totals for 1960 farms associated with special census farms (sales of \$40,000 or more in 1959) were multiplied by the reciprocals of the sampling rates used to select those farms. Totals for 1960 farms associated with census farms located in segments, and for those not associated with census farms, were multiplied by the reciprocals of the sampling rates used in selecting the segments in the area sample. These weighted totals for the different parts of the sample were then combined.

c. The 1959 estimate was subtracted from the 1960 estimate, and the difference added to the published 1959 census total for the item for the conterminous United States. In other words, the sample was used to estimate the difference between 1959 and 1960, and this estimated difference was added to the census total to obtain the final estimate for 1960.

Estimates of this kind are presented in tables 1 and 2.

2. For all other items for which data were collected in the 1960 sample survey, estimates were made in the following way:

a. Estimated totals by region for 1960 farms associated with special census farms were obtained by multiplying the sample totals for these farms by the reciprocals of the sampling rates used to select the census farms. Each regional total was then multiplied by the ratio, for that region, of the number of special farms according to the 1959 census to the estimated number of special farms in 1959 based on the sample.

b. Estimated totals by region for 1960 farms associated with census farms located in segments and for 1960 farms not associated with census farms were obtained by multiplying the sample totals for these farms by the reciprocals of the sampling rates used in selecting the segments in the area sample. Each regional total was then multiplied by the ratio, for that region, of the number of farms, excluding special farms, according to the 1959 census to the estimate of this number based on the sample.

c. The regional totals for special farms and for other farms were added to obtain estimated United States totals for all farms.

The estimates in tables 3 to 24 are of this kind.

Reliability of estimates.—The estimates given in this report are based upon data obtained for a sample of farms and hence they are subject to sampling errors. Approximate measures of sampling errors are given in tables A and B. Table A contains general measures of the reliability of estimates, applicable to nearly all items. The measures of sampling reliability given in table A are for varying numbers of farms or farms reporting. To use the measures for sampling reliability given in table A it is necessary to ascertain the number of farms reporting the item or dollar amount. The first column in table A provides for levels of farms or farms reporting from 5,000 to 3,000,000. Columns 2 and 3 provide measures of sampling reliability for two different groups of items. Column 2 provides estimates for number of farms, number of buildings constructed, and number for items of farm equipment. The sampling error for these items is given in terms of numbers (i.e., number of farms, number of buildings, etc.). The measures given in column 3 are for estimates of dollar amounts and are stated in terms of percents of the estimated dollar amounts. Table B provides more precise measures of sampling reliability for selected items.

While the measures given in tables A and B indicate the general level of sampling reliability of the estimates, they do not

completely reflect the effect of errors arising from sources other than sampling, as for example, errors in the original data obtained from farm operators or farm landlords.

Table A.—SAMPLING RELIABILITY OF ESTIMATES FOR FARMS REPORTING AND FOR DOLLAR AMOUNTS FOR THE CONTERMINOUS UNITED STATES: 1960 SAMPLE SURVEY OF AGRICULTURE

Estimated number of farms (or number of farms reporting item)	Sampling error ¹	
	For farms reporting, number of buildings constructed, and number of farm equipment (number)	For dollar amounts (percent)
5,000.....	2,000	52
10,000.....	3,000	37
25,000.....	4,000	23
50,000.....	6,000	16
100,000.....	8,000	12
250,000.....	14,000	7
500,000.....	20,000	5
1,000,000.....	28,000	4
2,000,000.....	40,000	3
3,000,000.....	48,000	2

¹ The chances are about 2 out of 3 that the estimated total would not differ by more than the number or percent shown from a total obtained by a complete census using the same procedures.

Table B.—SAMPLING RELIABILITY OF ESTIMATES FOR SELECTED ITEMS FOR THE CONTERMINOUS UNITED STATES: 1960 SAMPLE SURVEY OF AGRICULTURE

Item	Estimate (1,000)	Sampling error of estimate ¹ (percent)
Number of farms.....	2 3,253	2 1.0
Land in farms..... acres.....	1,133,907	1.0
Cropland harvested..... farms reporting.....	2,950	1.0
..... acres.....	317,980	0.9
Total value of farm products sold..... dollars.....	30,146,980	1.8
Total cash operating expenses..... dollars.....	19,017,532	1.9
Income other than farm operated:		
Total..... farms reporting.....	2,534	2.8
..... dollars.....	7,415,924	3.4
Cash wages, salaries..... farms reporting.....	1,454	3.1
..... dollars.....	4,175,654	4.1
Custom work..... farms reporting.....	521	3.3
..... dollars.....	243,497	5.5
Farm operator debt, total..... farms reporting.....	1,898	2.5
..... dollars.....	16,797,817	2.9
Secured by mortgages, deeds of trust, or land purchase contracts..... dollars.....	11,238,161	3.9
To Federal Land Bank..... farms reporting.....	254	4.7
..... dollars.....	1,962,136	5.3
To individuals from whom all or part of farm was purchased—		
Under a mortgage or deed of trust..... farms reporting.....	156	5.8
..... dollars.....	1,508,644	6.3
To other lending institutions..... farms reporting.....	187	6.0
..... dollars.....	861,586	9.2
Farm landlord debt, total..... landlords reporting.....	481	3.4
..... dollars.....	3,089,343	5.1
Secured by mortgages, deeds of trust, or land purchase contracts..... dollars.....	2,629,575	5.4
To a Federal Land Bank..... dollars.....	602,865	8.9
To individuals from whom all or part of farm land was purchased—		
Under a deed of trust..... dollars.....	395,841	15.4
Under a land purchase contract..... dollars.....	379,755	24.3
To other lending institutions..... dollars.....	87,931	19.8
Contracts with dealers, processors, and others for production and marketing of—		
Broilers..... farms reporting.....	33	18.2
Vegetables for sale..... farms reporting.....	46	14.6
Certified seed..... farms reporting.....	8	23.2
Number of buildings constructed 1958-1960—		
General purpose barns..... number.....	62	8.8
Primarily for grain storage..... number.....	124	7.1
Trench silos constructed 1958-1960..... number.....	24	15.1

¹ The chances are about 2 out of 3 that the estimated total would not differ by more than the number or percent shown from a total obtained by a complete census using the same procedures.

² See text, p. XVIII and XIX, for a discussion of possible sources of error, other than sampling, in the estimate of total number of farms.

Relationship of persons renting or leasing land to their landlords.—Each farm operator renting or leasing land from others was asked, "Do you rent any of this land from your own or your wife's parent, grandparent, brother, or sister?" Table 3 presents estimates of the number of farm operators leasing or

renting land by tenure of farm operator and also estimates for the number leasing or renting land from a relative.

Off-farm work and income.—Farm operators reporting off-farm work vary from those who supplement their farm income with odd or spare-time jobs to those operators who have regular nonfarm jobs and use the farm to either supplement their regular income or as a rural residence. The operators with odd or spare-time jobs usually consider their nonfarm employment to be of secondary importance, and they may work part time on someone else's farm or work at seasonal nonfarm jobs.

Many persons who may be employed in cities, or have other regular nonfarm jobs, are living in rural areas, but have sufficient agricultural activities to qualify their places as farms. Some of these operators may be producing agricultural products largely for home use, while others are using the farm to supplement their regular nonfarm income. Some of the farm operators working off their farms are using their nonfarm income as a source of capital for expanding their farming operations.

The question regarding off-farm work was the same as that used for the general censuses of agriculture from 1950 to 1959.

Other sources of income.—The questionnaire contained 11 inquiries regarding the amount of income received by the farm operator and members of his family from sources other than the farm operated. Each inquiry asked for income received by the farm operator and all members of his family who live at home. In the case of income from owner-operators the inquiry called for net income, i.e., total cash receipts after deductions for cash-operating expenses.

Cash wages and salaries were to include the total amount of money earned by the operator and members of his family for work performed for a private employer or for the government in 1960. Piece-rate payments, nonmilitary cash bonuses, Armed Forces pay, and National Guard pay were to be included. The total was to include also commissions and tips. Only cash payments were to be reported. The value of food, clothing, and services received in connection with employment was not to be included.

Income from nonfarm business or professional practice.—Professional practices were to include work of a doctor, dentist, lawyer, nurse, etc., working on his or her own account and not an employee of someone else. The amount to be reported was the total cash receipts from goods sold plus the value of net inventory increase minus business expenses. Business expenses were to include cost of goods purchased, rent, heat, light and power expenses for the business quarters, decrease in the value of inventory, wages and salaries paid employees, business taxes, and interest on business mortgages and debts.

Income from custom work.—This was to represent the amount received in 1960 for such work off the farm operated as corn picking, combining, hay baling, plowing, spraying, etc. performed for others on a contract or custom basis by machines and equipment kept on the farm. The machines or equipment may have been operated by the farm operator, by members of his family, or by hired employees. The income was to represent the net amount, i.e., total receipts minus cash operating costs for gasoline, oil, repairs, and wages of hired employees.

Income from roomers and boarders.—This income was to represent total receipts received from roomers and boarders minus all related expenses such as cost of food served to boarders, laundry, cleaning, utilities, and other services provided roomers and boarders and also depreciation on furniture and accommodations used by roomers and boarders.

Income from rental of farm property.—This was to represent net income received in 1960 from farmland, farm buildings, and farm machinery and equipment rented to others. Net income

was to represent cash rent plus the sales value of farm products received as rent minus all expenses (insurance; taxes; cost of fertilizer, lime, feed, seed, and other items furnished to the tenant; repairs on farm machinery and buildings; depreciation on farm buildings and machinery; and interest on mortgages and other debts incurred in connection with the farm property rented to others).

Income from the rental of nonfarm property.—Nonfarm property includes dwellings, garages, stores, etc. rented to others. The income was to represent total cash rent received minus total expenses for insurance, taxes, depreciation, interest, and repairs.

Income from interest, dividends, and trust funds was to include receipts from interest on notes, bonds, savings bank deposits, postal savings, patronage refunds, regular payments from trust funds, etc.

Income from Federal Social Security, pensions, retirement pay, veterans' payments, and annuities includes periodic payments from the Government to persons who have retired, survivors' benefits, and veterans' payments (allowances and annuities); U.S. Social Security payments; pension payments or survivors' benefits received from the U.S. Bureau of Old Age and Survivors' Insurance; retirement and disability pensions, subsistence allowances, and annuities received from the Veterans Administration; Civil Service pensions and retirement benefits; etc.

Income from unemployment insurance, workmen's compensation, and old age assistance was to include unemployment insurance, workman's compensation, and all types of welfare payments received from nongovernmental sources.

Contributions for family support from persons outside the family were to include funds from persons living away from the family, such as money a son, daughter, or other person living outside the farm operator's home contributed for the support of parents or other relatives living together as a family in the farm operator's household. Included also are child support payments made by separated or divorced parents, but alimony was not to be included.

Other income includes Soil Bank payments; receipts from oil, gas, and mineral leases; alimony; royalties; prizes and gambling gains.

Total value of farm products sold was to include the receipts from the sales of all crops, poultry, livestock, poultry and livestock products, and forest products, regardless of who did the selling or shared in the receipts. In the case of crops, the total sales were to represent sales of crops harvested in 1960. The value at current local farm prices of crops to be sold, but not sold at the time of enumeration, was to be estimated and included in the total. The total was to include the receipts from the sale of livestock and livestock and poultry products sold in 1960 regardless of when raised. The total was to include the value of farm products sold for or given to the landlord, if all or part of the land in the farm was leased or rented, or worked on shares. The questionnaire contained inquiries regarding either the amount sold or the value of sales for individual farm products or groups of farm products sold. The reported total value of farm products sold was checked, during the office processing, against the total of the reported or estimated value of the individual farm products sold.

Total cash operating expenses were to represent the total cash expenditures made by the farm operator and members of his family for farming operations on the farm in 1960. The total was to include all expenses incurred in 1960, regardless of whether payment was made before January 1, 1961. Expenses were to include cash expenditures for purchase of livestock, poultry, and baby chicks; seeds, bulbs, plants, and trees; fertilizer, lime, sprays, and insecticides; feed; grazing fees; custom work; wages

paid to hired labor, including social security taxes and cash cost of food, lodging, and services paid by the farm operator; marketing charges; containers; fuel, oil, and electricity; and water used for the farm business; repairs and maintenance of farm buildings, machinery, and equipment; taxes on farmland and buildings; crop and livestock insurance; interest charges payable in 1960 on farm mortgage debt and short-term loans; hardware, tools, and miscellaneous farm production supplies. The total was not to include—

- (1) Expenditures made by the landlord for land leased, rented, or worked on shares by the farm operator.
- (2) Repairs, taxes, insurance, etc. on the farm dwelling.
- (3) Depreciation of farm buildings and machinery, rent paid for rental of farmland, improvement of the farm dwelling, or the purchase of buildings and equipment.
- (4) Expenditures connected with land rented to others.

Total value of farm products sold minus total cash operating expenses does not represent net farm income, as it does not include rental payments to the landlord, depreciation of farm buildings and farm machinery, nor adjustments because of changes in the inventory of value of crops, livestock, etc. during 1960.

Farm equipment on the place relates to farm equipment on the farm at the time of the enumeration and includes equipment owned in partnership and hired equipment used for custom work if such equipment was on the farm at the time of the enumeration. Pick-up balers do not include stationary balers. Side-delivery rakes include horse-drawn, tractor-drawn, tractor-mounted, and revolving wheeltypes side-delivery rakes.

Field equipment and acreage on which used.—Farm operators were asked to report the number of the various kinds of field equipment on their farms at the time of the enumeration, regardless of whether owned by the farm operator or by someone else. Equipment was to be reported even if it was temporarily out of order, or if it had not been used in 1960.

The data on acres on which used provides a measure of the extent of use of each kind of field equipment. If the field equipment was used on the same acreage more than once, in 1960, the acreage was counted more than once. For example, if a pick-up baler was used for harvesting two crops of alfalfa hay on a 40-acre field, then the acres on which used were to be reported as 80 acres. The acreage on which used was reported separately for the farm of the farm operator and for other farms. If the farm operator owned land rented to others or worked by sharecroppers, the acres rented to such persons and on which his equipment was used was to be reported as on other farms, and not for the farm operator's farm.

Farms classified by ownership of tractors used in 1960.—In table 8, farms are classified according to whether or not wheel and crawler tractors were used on the place in 1960, and farms reporting the use of tractors (other than garden) are further classified on the basis of the ownership of the tractors used.

New farm buildings.—The data on new farm buildings relate to farm buildings completed between January 1, 1958, and December 31, 1960. Only buildings for which the cost was \$100 or more were to be reported. Buildings were classified by kind on the basis of principal use in 1960. The average size of building was determined on the basis of the measurement of width and length.

Contracts with dealers, processors, and others for the production and marketing of selected farm products.—Data were secured regarding the existence and the characteristics of the agreement between farms and dealers, processors, cooperatives, and others

for the production and/or marketing of 14 selected farm products (eggs for hatching, eggs for market; broilers; turkeys; feeder pigs, hogs for market; feeder cattle, cattle other than feeders for market; feeder lambs; vegetables for canning or other processing and for market; fruits for canning and other processing and for sale as fresh fruit; Irish potatoes for seed; and certified seed).

Contracts were to include both verbal and written agreements. Rental contracts between tenants and landlords, sales contracts for the purchase of farm supplies, government contracts, custom work contracts, labor and wage contracts, and contracts relating only to the financing of production were excluded.

Farm operator debt.—Farm operators and enumerators were instructed to report as debt the unpaid principal of the loans, charge accounts, sales contracts, and other bills owed by the farm operator and his wife at the time of the enumeration (November–December 1960) and to exclude price support loans of the Commodity Credit Corporation and debts to merchants and dealers for home appliances and family living expenses (groceries, clothing, medicine bills, etc.). In case the farm operator (or his wife) owned farmland rented or leased to others, or worked on shares by others, or a nonfarm business, and had debts, he was asked to prorate his debt so the amount reported would relate only to the farmland he operated. Secured debts represent those secured by farm mortgages, deeds of trust, and land purchase contracts.

Farm landlord debt.—The data on farm landlord debt were collected largely by mail. A copy of the questionnaire used, and the accompanying letter appear in the appendix. Reports for landlords owning 100 acres or more of farmland that could not be secured by mail, were obtained by telephone. Estimates were prepared for landlords for whom reports were not obtained by mail, if the landlord owned less than 100 acres of farmland. These estimates were made on the basis of reports for landlords owning similar acreage and value in the same county. A statement of the magnitude of these estimates for landlords for whom a report was not secured, is given on page XVIII.

The instructions and procedures for the reporting of farm landlord debt were the same as those for reporting farm operator debt.

Farm operator and farm landlord debt.—The estimates of debt for 1960 differ from those made by other agencies and on the basis of other surveys. The differences in the various estimates may be the result at least in part of—

1. The definition of a farm used in the 1960 sample survey and by loaning and other agencies may not have been the same. In some cases, loans, especially long-term loans made on what was once farmland, may still exist on the records of loaning agencies even though the land is no longer part of an operating farm. For example, approximately two thirds of the places included in "whole" farm contracts of the Conservation Reserve were not included in the 1959 Census of Agriculture nor in the 1960 Sample Survey of Agriculture, because such places did not qualify as census farms. (There were approximately 214,000 "whole" farm contracts covering approximately 20 million acres in effect under the Conservation Reserve at the end of 1960.) The debt on or related to these places would not have been included in the estimated totals for the 1960 sample survey. Many loaning agencies consider loans on such places as farm loans.

2. The estimated totals of debt for the 1960 survey include only debts of farm operators and farm landlords. Debts of persons or organizations providing custom work, custom feeding services, and of dealers and processors having contracts

with farm operators and farm landlords for the production or marketing of farm products are not included. A considerable number of persons and organizations provide such services as harvesting, combining, packaging, spraying, cultivating, leasing of farm equipment, etc. and the debts of these persons and organizations are not included in the estimates for the 1960 survey. Approximately 147,000 farms had contracts in 1960 with dealers, processors, and others for the production and marketing of 14 selected farm products. These dealers, processors, and others provided feed for poultry, broilers, and other livestock; provided baby chicks; and furnished machinery and equipment to farm operators and farm landlords. These dealers, processors, and others having contracts with farmers had debts for agricultural purposes, but the totals for these debts are not included in the estimates given in tables 17 to 24.

3. As explained on page XIX, approximately 79,000 farms were omitted from the 1960 Sample Survey of Agriculture. The estimated totals for the sample survey do not include debts on these farms.

4. Some farm operators and farm landlords may have used funds obtained for agricultural purposes, for purposes other than agriculture and, consequently, may not have reported such loans as debts for the 1960 sample survey.

5. Some farm operators and farm landlords may have not fully reported the total amount of their loan. The under-reporting for debts may have been greater for unsecured debts than for secured debts. In the case of farm landlords, reports as to amount of debt were not obtained from an estimated 333,000 landlords. Most of these landlords owned less than 100 acres of farmland. The amount of debt was estimated for these landlords on the basis of proportion of landlords having debt and average amount of debt per indebted landlord, for landlords owning less than 100 acres of farmland and reporting amount of debt. It was estimated that 73,000 of the 333,000 landlords from whom reports were not obtained, had debts in 1960. The estimated amount of debt of these 73,000 farm landlords was \$273,081,000. This estimated debt was equivalent to 9 percent of the total estimated debt for all farm landlords.

6. Since the estimates of debt were made on the basis of reports for only a sample of farms, the estimates are subject to sampling errors. The estimate of total debt for farm operators has a sampling error of 2.9 percent and the estimate of total farm landlord debt has a sampling error of 5.1 percent.

7. The estimates of debt by lending agency or source of loan are subject to reporting errors arising because the farm operator or farm landlord did not know the actual lending agency. For example, at the end of 1960, the Farmers Home Administration was servicing for other lending agencies approximately \$201 million of farm mortgages. Many farm operators and farm landlords having loans secured from the Farmers Home Administration probably considered the Farmers Home Administration as the lending agency and this probably accounts for the estimates of secured loans from Farmers Home Administration exceeding the mortgage loans of that agency by approximately \$231 million.

Differences between estimates for farm mortgages or secured debt for the 1960 special survey of farm mortgage debt and the 1960 Sample Survey of Agriculture.—Estimates of farm mortgage or secured debt based on a special farm mortgage survey for 1960 are given in part 4 of volume V of the reports for the 1959 Census of Agriculture. These estimates are also for the year 1960. A comparison of the estimates by lending agency given in part 4 of volume V and the 1960 Sample Survey of Agriculture follows:

Item or type of lending agency	Amount of debt secured by mortgages, deeds of trust, and land purchase contracts (1,000 dollars)		
	Special farm mortgage survey	1960 Sample Survey of Agriculture	Differences between estimates for farm mortgage survey and 1960 sample survey
Total.....	12,812,210	13,867,736	+1,055,526
Federal land banks.....	2,568,085	2,565,001	-3,084
Farmers Home Administration.....	735,421	712,432	-22,989
Life insurance companies.....	2,591,718	2,584,027	-7,691
Operating banks.....	2,186,604	2,347,519	+160,915
Production Credit Association.....	-----	531,549	+531,549
Individuals and others.....	4,730,382	5,127,208	+396,826

In the special farm mortgage survey, none of the loans made by the production credit associations were considered as secured by mortgage or deeds of trust when the farm operator or the farm landlord reported such debts as secured. The difference between the totals of the two surveys (\$13,867,736,000 for the 1960 Sample Survey of Agriculture and \$12,812,210,000 for the farm mortgage survey) is \$1,055,526,000.

The difference in secured loans by production credit associations accounts for more than half of the difference in the two estimates. If secured loans by production credit associations are excluded from the totals for the 1960 sample survey, then the totals for debt secured by mortgages, deeds of trust, and land purchase contracts for the special farm mortgage survey and the 1960 sample survey differ by 4 percent. Since the estimates for both surveys were made on the basis of reports for a sample of farms, the totals for the two surveys are not significantly different if the sampling reliability of the totals is considered.

There are considerable differences between the estimates for the two surveys for debts owed to various lending agencies. Some, and probably a major part, of these differences arise because the respondents did not have accurate knowledge of the actual lending agency. In many cases, banks, other agencies, and individuals make and service loans made for other lending agencies. In such cases, the farm operator or farm landlord may have reported as the lender, the agency, or individual servicing the loan rather than the actual lending agency.

SUMMARY OF RESULTS

Number of farms.—The number of farms as estimated from the sample survey was 3,253,000, the number shown for the 48 conterminous States. Because the number of farms shown for 1960 is considerably less than the number shown for 1959, detailed data are presented in regard to the change.

A detailed re-examination was made of the classification of all farms for which questionnaires were obtained in the 1960 sample survey. This examination revealed that approximately 29,000 farms were excluded from the 1960 estimate in error. These farms were places for which questionnaires were obtained in the 1959 census, but which had insufficient sales to qualify as farms at that time. Of these 29,000 farms, 7,000 were commercial farms and 22,000 were noncommercial farms.

For the 131,000 1959 farms with insufficient sales of farm products to qualify as farms in 1960, enumerators filled questionnaires for the operations in 1960 and provided information regarding the acreage, quantity harvested, and quantity sold for individual crops and regarding the number of various kinds of livestock on hand and the quantities of livestock and poultry products sold. While the quantities of the individual farm products sold from these farms were not sufficient to qualify them as farms, an intensive examination of the quantities of individual crops produced, feed requirements for livestock and poultry on the farm, and of the number of livestock and poultry on the farm in relation to the quantities of livestock and poultry

and livestock and poultry farm products reported as sold, indicated that some of the operators may not have reported fully all farm products sold. On the basis of this detailed examination, it is estimated that the maximum overstatement, because of the underreporting of sales of farm products, in the number of farms with insufficient sales would not exceed 50,000. Of this 50,000, over 91 percent were classified as "Other farms" in 1959.

The farms excluded from the 1960 estimates because of insufficient sales of farm products, but probably qualifying as farms and the farms excluded from the 1960 estimates in error because they had insufficient sales of farm products in 1959, total 79,000. If an adjustment was made because of these errors or probable errors, then the estimated decrease in the number of farms from 1959 to 1960 would be 372,000, or 10.1 percent, instead of the 451,000, or 12.2 percent, as shown by table 1.

Moreover, the estimate of the number of farms in 1960 is based, in part, on the number of farms shown by the 1959 Census of Agriculture and as there was an estimated undercounting of 341,000, or 8.4 percent, in the number of farms for the 1959 census, there may be some understatement of the number of farms in 1960, because the less intensive procedures used for the 1960 Sample Survey of Agriculture than those used to determine the undercounting of farms for the 1959 census, may have resulted in some undercounting of farms for 1960 also.

Inasmuch as data are available for a sample of farms for both 1959 and 1960, it is possible to provide data indicating the nature as well as the extent of the change in the number of farms. The following data have been obtained from a summary of the records for individual farms, most of which were in the sample areas for both 1959 and 1960.

The distribution of the change in the number of farms from 1959 to 1960, by reasons for the change, was as follows:

<i>Reason for change in number of farms 1959-1960</i>	<i>Estimated change in number of farms</i>
1959 farms combined with other farms.....	- 269, 000
1959 farms disappearing because the land in the farm was used for housing developments or new highways or was placed in the Soil Bank.....	- 38, 000
1959 farms with no agricultural operations in 1960.....	- 258, 000
1959 farms with insufficient sales of farm products to qualify as a farm in 1960.....	- 131, 000
Farms in sample areas not included in 1959 census.....	+ 245, 000
Net change in number of farms 1959 to 1960....	- 451, 000

The net changes in the number of farms from 1959 to 1960 by economic class of farm and by size of farm are shown by the following table:

CHANGE IN NUMBER OF FARMS FROM 1959 TO 1960, BY ECONOMIC CLASS AND BY SIZE OF FARM

<i>Classification of farms</i>	<i>Change in number of farms (000)</i>
Total.....	-451
Economic class:	
Commercial farms.....	-147
Class I.....	+3
Class II.....	+18
Class III.....	+8
Class IV.....	-62
Class V.....	-73
Class VI.....	-41
Other farms.....	-304
Part-time.....	-211
Part-retirement.....	-93
Size of farm:	
Under 10 acres.....	-91
10 to 49 acres.....	-201
50 to 99 acres.....	-45
70 to 99 acres.....	-45
100 to 139 acres.....	-46
140 to 259 acres.....	-55
260 acres and over.....	+32

For the 269,000 farms combined with other farms between 1959 and 1960, sample survey enumerators reported the name of the 1960 operator who took over the farm that existed in 1959. The estimate that 38,000 farms disappeared between 1959 and 1960 because the land in the farm was used for housing developments, new highways or the land was placed in the Soil Bank, was based upon reports by enumerators. This estimate may understate the decrease in the number of farms disappearing for these reasons. Between August 1959 and July 1960, the number of "whole" farm contracts for the Conservation Reserve increased from 155,000 to 215,000. A comparison of records of the 1959 census with records of 1959 "whole" farm contracts, indicated that approximately one-third of the operators having "whole" farm contracts were included in the 1959 census because they had sufficient livestock or other agricultural operations to qualify as census farms. On the basis of this comparison of 1959 census and "whole" farm contracts, it is estimated that the increase of 60,000 in "whole" farm contracts may have accounted for a reduction of approximately 40,000 in the number of farms from 1959 to 1960. The census enumerator may not have indicated in his notes that the land in the 1959 farm was placed in the Soil Bank and some of the farms which disappeared because of being placed in the Soil Bank may have been included in the group of 258,000 census farms having no agricultural operations in 1960.

For 1959 farm operators listed on Part I of the listing form for the 1960 Sample Survey of Agriculture, enumerators asked "Did you operate a farm in 1960?" If the answer to this question was "No," the enumerator was required to ask, "Did you sell farm products with a value of \$50 or more in 1960?" When the answer of the farm operator to both of these questions was "No," enumerators were not required to fill agricultural questionnaires for 1960 and the 1959 farm was considered as having no agricultural operations in 1960.

Data are available regarding the characteristics in 1959 of the 258,000 farms classified as having no agricultural operations in 1960. The distribution of these farms by economic class in 1959 was as follows:

<i>Economic class of farm</i>	<i>Estimated number of farms</i>
Total.....	258, 000
Commercial farms.....	58, 000
Economic class I to V.....	32, 000
Economic class VI.....	26, 000
Other farms.....	200, 000
Part-time farms.....	129, 000
Part-retirement farms.....	71, 000

The distribution of these farms by size of farm in 1959 was as follows:

<i>Size of farm</i>	<i>Estimated number of farms</i>
Total.....	258, 000
Under 10 acres.....	51, 000
10 to 49 acres.....	103, 000
50 to 99 acres.....	48, 000
100 acres and over.....	56, 000

Inasmuch as the operators of part-time and part-retirement farms often do not consider that they operate farms, it may be that some of them may have not answered correctly the inquiry, "Did you sell farm products with a value of \$50 or more in 1960?" Because additional inquiries regarding the keeping of livestock and the growing of crops were not asked (such inquiries were asked in the 1959 census) it is not possible to make a determination regarding the accuracy of the classification of the 258,000 1959 farms which were reported as having agricultural operations in 1960. Some of these places might have qualified as farms in 1960 if detailed inquiries regarding the various groups of farm products had been made.

Much of the indicated change in the number of farms from 1959 to 1960 is in the number of marginal farms which are difficult to identify and count in both sample surveys and censuses.

Enumerators were required to list every place and every tract of land located within the sample segments or areas in 1960. As the result of this listing, 245,000 places were found that qualified as farms in 1960 although these operators were not included as farm operators in the same county in the 1959 Census of Agriculture. These farms were operated by persons who lived on the farm in the sample area (or if the operator did not live on the farm, the headquarters for the farm was in the sample area). For 45,000 of these farms, the farm operator reported that he started operating the farm in 1960. Of these 45,000 farms, 27,000 were classified as commercial farms and 18,000 were part-time. For 200,000 of the 245,000 farms, the farm operator reported that he began operating the farm prior to 1960. Some of these 200,000 farms represent farms missed in the 1959 Census of Agriculture. Of the 200,000, 106,000 were classified as commercial farms, 82,000 as part-time farms, and 12,000 as part-retirement farms or abnormal farms.

Land in farms and land use.—The estimated acreage of land in farms and the acreage of land used for harvested crops and pasture were approximately the same in 1960 as shown by the 1959 census for the conterminous United States. There was an increase in the acreage of irrigated land in farms.

Farm operators renting land from relatives.—Approximately one out of every three part owners and tenants were renting land from a relative (from operator's or his wife's parents, grandparents, brother, or sister) in 1960.

Income of farm operators' families from sources other than the farm operated.—The relative importance of income of the families of farm operators from sources other than the farm operated has been increasing. While the number of farm-operator families declined almost one-third, from 4,760,000 in 1955, to 3,253,000 in 1960, the income received by farm operators' families from sources other than the farm operated decreased

less than 8 percent. In 1960, 4 out of 5 farm-operator families received income from other sources as compared with 7 out of 10 who received income from sources other than the farm operated in 1955. The average income, per farm-operator family, from other sources was 36 percent greater in 1960 than in 1955. The average income from other sources per operator-family with income from other sources was \$2,926 in 1960, as compared with \$2,405 in 1955.

Income from wages and salaries, nonfarm businesses, social security, and soil bank payments have become increasingly important sources of income of farm-operator families. In 1960, 45 out of 100 farm-operator families received income from wages and salaries, one out of 10 farm-operator families received income from nonfarm businesses or professional practices, and one out of 6 received income from social security, pensions, retirement pay, etc. Wages, salaries, and income from nonfarm businesses or professional practices were important income sources on part-time farms. Almost half the income from wages, salaries, and nonfarm businesses or professional practices for all farm operators was received by operators of part-time farms. The average income per part-time farm operator family from these sources was \$3,768. Almost 4 out of 5 families of part-retirement farm operators received income from social security, pensions, etc., and their income from such sources was equal to 45 percent of the income of all farm-operator families from such sources.

Income from sources other than the farm operated was important for farm-operator families of all sizes of farms. Almost 70 percent of the families of the operators of commercial farms received income from sources other than the farm operated and the amount of income from such sources for these farms averaged \$1,753 per farm-operator family. Approximately seven-tenths of the families of operators of farms with a value of farm products sold of \$10,000 or more had income from sources other than the farm operated and the the income from other sources for these farms averaged more than \$1,900 per farm-operator family.

Table C.—INCOME OF FARM OPERATORS FROM SOURCES OTHER THAN FARM OPERATED: 1960 AND 1955

Source of income	Estimated amount of income				Average per farm-operator family (dollars)		Percent of farm-operator families reporting		Average per farm-operator family reporting (dollars)	
	Dollars (1,000)		Percent distribution		1960	1955	1960	1955	1960	1955
	1960	1955	1960	1955						
Total.....	7,415,924	8,006,472	100.0	100.0	2,280	1,682	77.9	69.9	2,926	2,405
Cash wages, salaries.....	4,175,654	¹ 5,023,656	56.3	62.7	1,284	1,055	44.7	NA	2,872	NA
Nonfarm business or professional practice.....	1,131,464	1,061,893	15.3	13.3	348	223	9.7	10.9	3,567	2,046
Custom work.....	243,497	205,521	3.3	2.6	75	43	16.0	5.7	467	762
Rental of farm property to others.....	397,948	² 478,281	5.4	6.0	122	100	11.8	NA	1,031	NA
Rental of nonfarm property to others.....	134,551	173,014	1.8	2.2	41	36	4.1	5.2	1,012	701
Interest, dividends, and regular payments from trust funds.....	314,176	450,052	4.2	5.6	97	96	14.1	18.7	684	505
Roomers and boarders.....	11,794	53,183	0.2	0.7	4	11	.8	2.7	472	421
Federal Social Security, pensions, retirement pay, veterans payments, annuities, unemployment income, workmen's compensation, and old age assistance.....	656,959	515,391	8.9	6.4	202	108	NA	NA	NA	NA
Other (oil leases, soil bank payments, contributions from persons outside family, etc.).....	349,881	45,480	4.7	0.6	108	10	NA	1.8	NA	527

NA Not available.

¹ Includes income received by wife of farm operator from nonfarm sources and income received by other family members from farm and nonfarm sources.

² Includes income received by wife of farm operator from farm sources.

Value of farmland and buildings.—A special tabulation was made of farms by value of land and building groups and the estimates are as follows:

Table D.—PERCENT DISTRIBUTION OF THE NUMBER OF FARMS, THE VALUE OF LAND AND BUILDINGS, AND AVERAGE VALUE OF LAND AND BUILDINGS PER FARM FOR FARMS CLASSIFIED BY VALUE OF LAND AND BUILDINGS PER FARM: 1960

Farms with a value of land and buildings of—	Percent distribution for number of farms	Value of land and buildings	
		Average per farm (dollars)	Percent distribution
All farms.....	100.0	39,753	100.0
Less than \$15,000.....	40.7	6,921	7.1
\$15,000 to \$24,999.....	17.5	18,546	8.2
\$25,000 to \$39,999.....	13.9	30,534	10.7
\$40,000 to \$59,999.....	10.9	47,123	13.0
\$60,000 to \$99,999.....	9.3	75,157	17.5
\$100,000 to \$199,999.....	5.6	130,146	18.3
\$200,000 or more.....	2.1	475,001	25.2

More than one-fourth of the value of farmland and buildings are on 2 percent of the farms. More than three-fifths of the value of land and buildings of all farms is accounted for by the value of land and buildings on the 17 percent of the farms having a value of land and buildings of \$60,000 or more.

New buildings constructed, 1958-1960.—Approximately 721,000 new buildings with a value of \$100 or more were constructed during the 3-year period, 1958-1960. The number of buildings constructed each year by kind of building was as follows:

Kind of building	Number of buildings constructed			
	Total (1,000)	1958 (1,000)	1959 (1,000)	1960 (1,000)
Total.....	721	171	255	296
Dwellings.....	94	18	30	46
General purpose barns.....	62	17	21	24
Barns primarily for milk cows.....	44	13	12	19
Barns and buildings for feeding and sheltering cattle, except barns primarily for milk cows.....	65	15	17	33
Poultry houses.....	52	13	19	20
Hog houses.....	50	14	18	18
Buildings used primarily for grain storage.....	155	33	69	53
Machine sheds.....	87	23	33	31
Other buildings.....	69	11	23	35
Upright silos.....	45	14	14	17

The data indicate some increase in the number of buildings constructed from 1958 to 1959 and from 1959 to 1960. Part or all of the increase may be the result of inaccuracies in recall by the farm operator of the year in which the building was completed.

The kinds of materials used for the construction of walls, framing, and roofs varied by type of building. For dwellings, wood or lumber was used for the exterior walls of 52 percent and lumber or wood poles were used for framing for 95 percent of the dwellings constructed during the 3-year period. For buildings other than dwellings and silos, wood or lumber was used for the exterior walls for 54 percent and lumber or wood poles were used for framing for 80 percent of all buildings constructed.

Table E.—NUMBER OF FARMS REPORTING AND NUMBER OF BUILDINGS CONSTRUCTED, BY ECONOMIC CLASS OF FARM: 1958-1960

Kind of building	Total		Farms with a value of farm products sold of—							
			\$40,000 or more		\$10,000 to \$39,999		\$2,500 to \$9,999		Under \$2,500 ¹	
	Farms reporting (1,000)	Number of buildings constructed (1,000)	Farms reporting (1,000)	Number of buildings constructed (1,000)	Farms reporting (1,000)	Number of buildings constructed (1,000)	Farms reporting (1,000)	Number of buildings constructed (1,000)	Farms reporting (1,000)	Number of buildings constructed (1,000)
Total.....	NA	721	NA	72	NA	292	NA	219	NA	138
Dwellings.....	91	94	7	8	26	26	24	25	34	35
General purpose barns.....	60	62	3	3	16	17	16	16	25	26
Barns primarily for milk cows.....	44	44	3	4	21	21	13	13	6	6
Barns and buildings for feeding and sheltering cattle, except barns primarily for milk cows.....	62	65	4	5	23	24	22	23	13	13
Poultry houses.....	43	52	7	11	16	19	13	14	8	8
Hog houses.....	38	50	3	8	13	15	16	21	6	7
Buildings used primarily for grain storage.....	124	155	9	15	64	83	40	46	11	11
Machine sheds.....	85	87	7	7	38	39	28	28	12	12
Other buildings.....	64	69	5	7	22	23	20	21	17	18
Upright silos.....	42	45	4	6	25	25	12	13	1	1

NA Not available.
¹ Includes abnormal farms.

Table F.—NUMBER OF BUILDINGS CONSTRUCTED OF WOOD, BY KIND OF BUILDING: 1958-1960

Kind of building	Number of buildings constructed with wood or lumber used for—			
	Exterior walls (1,000)	Framing		Roof covering (wood shingles) (1,000)
		Lumber (1,000)	Wood poles (1,000)	
Total.....	369	390	166	29
Dwellings.....	49	87	3	7
General purpose barns.....	41	40	19	1
Barns primarily for milk cows.....	18	28	6	2
Barns and buildings for feeding and sheltering cattle, except barns primarily for milk cows.....	37	29	34	1
Poultry houses.....	41	37	13	3
Hog houses.....	39	28	22	2
Buildings used primarily for grain storage.....	55	57	12	8
Machine sheds.....	44	40	42	2
Other buildings.....	40	44	15	3
Upright silos.....	5	xxx	xxx	xxx

Table G.—NUMBER OF BUILDINGS CONSTRUCTED OF METAL, BY KIND OF BUILDING: 1958-1960

Kind of building	Number of buildings constructed of metal used for—		
	Exterior walls (1,000)	Framing (1,000)	Roof covering (1,000)
Total.....	213	199	1 434
Dwellings.....	3	1	10
General purpose barns.....	20	2	51
Barns primarily for milk cows.....	8	2	28
Barns and buildings for feeding and sheltering cattle, except barns primarily for milk cows.....	26	1	53
Poultry houses.....	6	1	30
Hog houses.....	9	(²)	34
Buildings used primarily for grain storage.....	89	83	127
Machine sheds.....	40	5	69
Other buildings.....	7	3	31
Upright silos.....	4	xxx	xxx

¹ Total excludes upright silos.
² Less than 500.

The proportion of the buildings constructed with exterior walls of various materials varied by kind of building.

Kind of building	Percent of buildings with exterior walls constructed of—				
	Lumber	Metal	Masonry (brick, stone, etc.)	Asbestos, cement, or paneled shingle	Other materials
Total.....	51.3	29.6	15.0	14.3	5.2
Dwellings.....	52.3	3.4	30.3	16.5	2.2
General purpose barns.....	65.8	31.8	3.2	0.6	1.5
Barns primarily for milk cows.....	41.9	18.6	46.5	6.1	7.0
Barns and buildings for feeding and sheltering cattle, except barns primarily for milk cows.....	57.5	40.0	3.7	0.8	0.3
Poultry houses.....	78.9	11.3	9.0	2.8	16.7
Hog houses.....	77.2	18.9	5.7	5.5	0.1
Buildings used primarily for grain storage.....	35.8	57.6	1.7	1.3	4.8
Machine sheds.....	51.3	46.2	4.5	1.2	1.6
Other buildings.....	59.0	10.9	18.7	4.3	9.7
Upright silos.....	10.5	9.7	63.2	-----	16.7

¹ Total percent based on total buildings minus upright silos.

Wood and metal were the primary materials used for framing.

Kind of building	Percent of buildings with framing constructed of—			
	Lumber	Wood poles	Steel or other metal	Other materials
Total.....	57.5	24.4	14.6	3.5
Dwellings.....	92.5	2.8	1.1	3.6
General purpose barns.....	64.1	30.5	3.6	1.8
Barns primarily for milk cows.....	63.6	14.7	5.2	16.5
Barns and buildings for feeding and sheltering cattle, except barns primarily for milk cows.....	44.7	52.4	1.7	1.3
Poultry houses.....	70.9	25.8	1.1	2.2
Hog houses.....	54.9	44.2	0.9	-----
Buildings used primarily for grain storage.....	36.8	7.5	53.9	1.8
Machine sheds.....	46.4	47.6	5.9	0.1
Other buildings.....	64.2	21.8	3.9	10.1

Metal and composition materials (asphalt, etc.) were the principal materials used for the construction of roofs.

Kind of building	Percent of buildings with roofs constructed of—			
	Composition (asphalt, etc.)	Wood shingle	Metal	Other materials
Total.....	29.0	4.1	64.1	2.8
Dwellings.....	80.0	7.0	10.7	2.3
General purpose barns.....	15.2	2.2	82.4	0.2
Barns primarily for milk cows.....	29.1	4.4	64.4	2.1
Barns and buildings for feeding and sheltering cattle, except barns primarily for milk cows.....	16.5	1.7	81.7	-----
Poultry houses.....	31.3	5.0	57.8	5.9
Hog houses.....	23.5	3.9	68.2	4.5
Buildings used primarily for grain storage.....	11.4	4.9	82.2	1.5
Machine sheds.....	16.9	2.5	80.0	0.5
Other buildings.....	40.0	4.0	45.0	11.1

The proportion of the buildings constructed with materials cut to size or partly assembled, varied by type of building.

Kind of building	Percent of buildings constructed with materials cut to size or partly assembled
Total.....	28.9
Dwellings.....	20.9
General purpose barns.....	20.7
Barns primarily for milk cows.....	19.0
Barns and buildings for feeding and sheltering cattle, except barns primarily for milk cows.....	13.3
Poultry houses.....	21.0
Hog houses.....	17.7
Buildings used primarily for grain storage.....	68.0
Machine sheds.....	23.8
Other buildings.....	11.6

Farm debt.—The total debt for the 3.25 million farms in 1960 was \$19.9 billion, or an average of \$6,117 per farm. There were 2 million farms with debt and those farms with debt comprised more than 61 percent of all farms. More than three-fourths of the farms with a value of farm products sold of \$10,000 or more had debt at the end of 1960. Farms with a value of farm products sold of \$10,000 or more comprised 25.3 percent of all farms, but they had 65.7 percent of the debt of all farms. (Farms with a value of farm products sold of \$10,000 or more, accounted for 61.6 percent of the land in farms, 62.4 percent of the cropland harvested, and 75.1 percent of the total value of all farm products sold in 1960.)

Debts of farm landlords comprise 15.6 percent of the total farm debt. The relative importance of the debt of farm landlords varied by economic class of farm.

Economic class of farm	Percent of total farm debt owed by farm landlord	Average amount of debt per farm		
		Farm operator and farm landlord	Farm operator	Farm landlord
All farms.....	15.6	\$6,117	\$5,164	\$953
Commercial farms.....	16.0	7,977	6,698	1,279
Class I.....	13.1	42,723	37,140	5,558
Class II.....	20.7	16,714	13,257	3,451
Class III.....	17.4	9,699	8,012	1,688
Class IV.....	14.7	5,456	4,653	803
Class V.....	12.0	2,613	2,300	313
Class VI.....	13.9	1,146	987	159
Other farms, total.....	11.1	1,858	1,652	205
Part-time.....	11.6	2,528	2,236	293
Part-retirement.....	5.2	369	350	19
Abnormal.....	(1)	5,126	5,125	(2)

¹ Less than 0.05 percent.

² Less than one dollar.

The importance of the various lending agencies or a source of funds differed not only for debt secured by mortgages, etc., but also for farm operators and for farm landlords. Lending institutions, such as banks and insurance companies, provided funds for about two-thirds, merchants and dealers about 8 percent, and other individuals about one-fourth of all farm debt of

operators and landlords. Federal land banks and insurance companies provided a relatively larger proportion of the funds for landlords than for farm operators. More than 85 percent of the debt of landlords as compared with about 6.6 percent of the debt of farm operators was secured by farm mortgages, deeds of trust, and land purchase contracts.

Type of lending agency or source of funds	Total debt		Debts secured by mortgages, deeds of trust, and land purchase contracts		Debts owed by farm operator				Debts owed by farm landlord			
	Millions of dollars	Percent distribution	Millions of dollars	Percent distribution	Total (millions of dollars)	Total percent distribution	Percent of total debt	Debt secured by farm mortgages, deeds of trust, and land purchase contracts (millions of dollars)	Total (millions of dollars)	Total percent distribution	Percent of total debt	Debt secured by farm mortgages, deeds of trust, and land purchase contracts (millions of dollars)
Total.....	19,897	100.0	13,868	100.0	16,798	100.0	84.4	11,238	3,099	100.0	15.6	2,630
Federal land bank.....	2,565	12.9	2,565	18.5	1,962	11.7	76.5	1,962	603	19.5	23.5	603
Farmers Home Administration.....	871	4.4	712	5.1	847	5.0	97.2	691	24	0.8	2.8	21
An insurance company.....	2,760	13.9	2,584	18.6	1,999	11.9	72.4	1,829	760	24.5	27.6	755
Commercial and savings banks.....	4,915	24.7	2,348	16.9	4,397	26.2	89.5	2,059	518	16.7	10.5	289
A production credit association.....	1,145	5.8	532	3.8	1,096	6.5	95.7	517	49	1.6	4.3	14
Other lending institution.....	950	4.8	636	4.6	862	5.1	90.7	564	88	2.8	9.3	72
Merchants and dealers, etc., total.....	1,592	8.0	250	1.8	1,501	8.9	94.2	234	92	3.0	5.8	16
By purpose of purchase:												
Tractors and farm machinery.....	565	2.8	111	0.8	542	3.2	96.0	109	23	0.7	4.0	2
Automobiles and trucks.....	206	1.0	44	0.3	200	1.2	97.3	43	5	0.2	2.7	1
Gas, oil, and other fuel for farm business.....	141	0.7	3	(1)	137	0.8	97.1	2	4	0.1	2.9	0.3
Feed, seed, and fertilizer.....	300	1.5	27	0.2	270	1.6	90.3	26	29	0.9	9.7	0.9
Livestock and poultry.....	252	1.3	39	0.3	238	1.4	94.3	30	14	0.5	5.7	9
Supplies, custom work, and other expenses for farm business.....	129	0.6	25	0.2	113	0.7	87.8	23	16	0.5	12.2	2
Individual from whom part or all of farm was purchased—												
Under mortgage or deed of trust.....	1,904	9.6	1,904	13.7	1,509	9.0	79.2	1,509	396	12.8	20.8	396
Under a land purchase contract.....	1,828	9.2	1,828	13.2	1,449	8.6	79.2	1,449	380	12.3	20.8	380
Other individuals.....	1,232	6.2	509	3.7	1,060	6.3	86.0	426	173	5.6	14.0	83
Miscellaneous.....	135	0.7			117	0.7	87.0		18	0.6	13.0	

¹ Less than 0.05 percent.

The relationship of the number of farms with debt and the amount of debt for the important operator tenure groups were as follows:

Tenure group	Percent of farm operators with debt	Average debt per farm operator with debt
Full owners.....	52.3	\$8,085
Part owners.....	71.2	11,882
All tenants.....	59.0	3,997

The age of the farm operator has an important relationship to the proportion having debt as well as the amount of debt.

Age of farm operator	Percent of farm operators with debt	Average debt per farm operator with debt
All farm operators.....	58	\$8,850
Under 35 years.....	77	9,568
35 to 55 years.....	68	9,351
55 years and over.....	42	6,636

Data on farm debt by type of farm are available for only commercial farms. The proportion of the farms with debt, the average amount of debt, and the proportion of the debt owed by the operator and the farm landlord varied significantly by type of farm.

Type of farm	Percent of all farms with debt	Average amount of debt per farm with debt			Percent of total debt—	
		Total	Owed by operators	Owed by farm landlords	Owed by operators	Owed by farm landlords
All commercial farms.....	67.5	\$11,810	\$9,918	\$1,894	84.0	16.0
Cash-grain farms.....	71.0	12,551	9,723	2,846	77.4	22.6
Tobacco farms.....	62.1	3,940	2,742	1,200	69.6	30.4
Cotton farms.....	62.5	8,204	6,336	1,874	77.2	22.8
Dairy farms.....	73.0	10,559	9,151	1,417	86.6	13.4
Livestock farms other than dairy and poultry farms.....	65.4	16,193	14,165	2,028	87.5	12.5
Field-crop farms other than tobacco, cotton, and cash-grain; vegetable farms; fruit-and-nut farms; poultry farms; and general farms.....	72.5	11,371	9,775	1,578	86.1	13.9
Miscellaneous farms.....	NA	NA	NA	NA	98.1	1.9

NA Not available.

Year of manufacture of wheel tractors.—Data on year of manufacture was obtained only for wheel tractors. More than one-half of all wheel tractors were 10 or more years old and approximately one-fifth were 15 or more years old.

DISTRIBUTION OF WHEEL TRACTORS ON FARMS BY YEAR OF MANUFACTURE

Year of manufacture	Number of wheel tractors	
	Total (1,000)	Percent distribution
All years.....	4 649	100.0
1960.....	132	2.8
1959.....	196	4.2
1958.....	217	4.7
1957.....	200	4.3
1956.....	210	4.5
1951-1955.....	1 367	29.4
1946-1950.....	1 388	29.9
1945 and earlier.....	938	20.2

Wheel tractors by kind of fuel used.—Almost 9 out of 10 wheel tractors used gasoline, kerosene, or distillate as fuel. Almost 7 percent of the tractors used diesel fuel and 4 percent LP gas. However, more than one-fifth of all wheel tractors manufactured in 1958-1960 used diesel fuel.

PERCENT OF WHEEL TRACTORS USING VARIOUS KINDS OF FUEL, BY YEAR OF MANUFACTURE

Year of manufacture	Percent of all wheel tractors using—		
	Gasoline, kerosene, distillate	Diesel fuel	LP gas
All years.....	88.9	6.8	4.2
1960.....	61.0	32.5	6.5
1959.....	66.8	24.8	8.5
1958.....	71.9	19.8	8.3
1957.....	76.8	14.6	8.6
1956.....	79.5	14.7	5.8
1951-1955.....	89.1	5.8	5.1
1946-1950.....	94.5	2.5	3.0
1945 and earlier.....	97.7	1.1	1.3

Ownership of tractors.—Farm operators depend on tractors as the source of work power. Only 31 percent of farms had horses or mules in 1959, and on most of the 1,139,000 farms with horses and mules, tractors were the primary source of work power. Data on the use and ownership of tractors were obtained largely to provide data required for the 1960 World Census of Agriculture sponsored by the Food and Agriculture Organization.

Contracts with dealers, processors, and others for the production and marketing of 14 selected farm products.—Data were secured regarding the existence of contracts for the production and marketing of selected farm products. Approximately 147,000, or 4.5 percent, of all farm operators reported that they had contracts relating to the production or marketing of one or more

of the 14 selected farm products in 1960. The proportion of the farmers reporting the use of contracts varied greatly by economic class of farm. One-sixth of the farm operators of farms in economic Class I reported contracts as compared to less than 2 percent of the farm operators of the farms in economic Class VI.

Many buyers of farm products, feed companies, processors of farm products, and farm operators have developed farmer contracts to coordinate production, processing, and marketing in order to insure adequate and timely supplies of farm products of specified qualities; to provide controlled outlets for feed and other farm production supplies; and to control and use new technology in the production and marketing of farm products.

In some cases, the coordination of production and marketing is obtained by the same person or organization controlling both the production and marketing or the production and processing of the farm product. In the case of the 23,000 farms operated by managers, information was obtained regarding whether or not the employer of the farm manager was engaged in—

1. Selling of farm supplies.
2. Buying, processing, or marketing farm products.

Of the 23,000 farm managers in 1960, 11.8 percent reported that their employer was engaged in the selling of farm supplies such as feed, fertilizer, seed, and machinery and 15.4 percent reported that their employer was engaged in buying, processing, and marketing of farm products. The value of all farm products sold from farms operated by managers who reported that the employer was engaged in the selling of farm supplies totaled \$140 million and represented less than 1 percent of the value of farm products sold from all farms in 1960. The value of farm products sold from farms operated by farm managers reporting that the employer was engaged in the buying, processing, or marketing of farm products totaled \$428 million and represented 1.4 percent of the value of all farm products sold from all farms.

Accurate measures of the value of the 14 selected farm products sold from farms with contracts are not available, because it is not known whether all or only part of the farm products sold from farms with contracts were covered by the contract. Data are available regarding the proportion of the several farm products sold from farms with contracts. However, it should be noted that all sales from these farms may have not been covered by the contract.

Farm product	Percent of total amount sold from all farms in 1960, sold from farms with contracts
Eggs for hatching and for market.....	18.3
Broilers.....	76.7
Turkeys.....	32.4
Feeder pigs and other hogs for market.....	0.4
Feeder cattle and other cattle.....	2.2
Feeder lambs and other lambs and sheep.....	1.4
Vegetables for canning, other processing, and for market.....	35.6
Fruits for canning or other processing and for sale as fresh fruits.....	34.2
Irish potatoes for seed and for dehydrating, etc.....	11.4

¹ Percent of the value of turkeys, ducks, geese, and miscellaneous poultry products sold from all farms.

² Percent of the value of all vegetables sold from all farms in 1960.

³ Percent of the value of all tree fruits, berries, and nuts sold from all farms in 1960.

The provisions of the contract in regard to control over quality of the farm products produced and in regard to the services provided by the contractor varied with the farm product. (See tables 11 and 12.)

Item	Total, 14 selected farm products	4 crop farm products	10 live-stock and livestock products
Total number of contracts (1,000).....	161	89	72
Percent of contracts with cooperatives.....	39.2	41.7	36.2
Percent of contracts stating—			
Price farm operator is to receive.....	53.1	52.2	54.1
How price is to be determined.....	67.2	63.2	72.2
Specific buyer to whom product is to be delivered.....	80.3	88.9	69.6
Grade or weight of product to be delivered.....	53.5	58.5	47.2
The breed of animals to be delivered.....	xxx	xxx	31.0
Crop variety to be grown.....	xxx	58.8	xxx
Percent of contracts for which dealer, processor, or cooperative furnished all or part of—			
Machinery or equipment for harvesting or marketing.....	17.9	30.6	2.2
Livestock or poultry for feeding.....	xxx	xxx	56.8
Feed.....	xxx	xxx	55.8
Crew for harvesting.....	xxx	34.6	xxx
Money or credit for machinery or equipment.....	8.7	7.5	10.3
Money or credit for livestock or poultry.....	xxx	xxx	26.1
Money or credit for feed.....	xxx	xxx	33.6
Fieldmen to give advice or to make inspection.....	73.1	71.4	75.2

Use of selected farm equipment.—Data on the number and acreage on which used in 1960 were obtained for a number of selected harvesting machines. The acreage on which used was divided into two categories—acres in the operator's farm and the acres on other farms. Part of the acres on which used and other

farms represent acres on which the machine was used by a joint owner or by a landlord, and part represents acreage on which the machine performed custom work.

The acreage on which used varied not only by type but also by size of machine.

Type of equipment	Average acreage on which used per machine	Percent of acres on which used on—	
		Operator's farm	Farms other than the operator's
Grain combines, total.....	123	76.5	23.5
Pull-type by width of cut:			
6 feet and under.....	53	83.2	16.8
Over 6 feet and under 12 feet.....	97	72.2	27.8
12 feet and over.....	240	86.5	13.5
Self-propelled, by width of cut:			
10 feet and under.....	177	60.9	39.1
Over 10 feet.....	310	73.7	26.3
Corn pickers and picker-shellers, total.....	81	77.7	22.3
Pull-type by size:			
1 row.....	36	84.8	15.2
2 row.....	89	82.0	18.0
Mounted and/or self-propelled by size:			
1-row.....	64	81.7	18.3
2-row.....	131	73.8	26.2
Pick-up balers, total.....	101	69.5	30.5
Twine.....	95	70.8	29.2
Wire.....	146	63.6	36.4
Field forage harvesters.....	47	75.9	24.1
Tractor mowers.....	72	88.8	11.2
Side-delivery rakes.....	73	83.4	16.6
Cotton strippers.....	131	88.9	11.1
Cotton pickers.....	144	83.3	16.7