
CHAPTER II.- SIZE OF FARMS

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CHAPTER II.—SIZE OF FARMS

Introduction.—This chapter presents statistics on number of farms (the term "farms" includes "ranches"), all land in farms, average size of farms, specified uses of farm land, value of land and buildings, and value of farm implements and machinery, classified according to the total acreage in the individual farms. The 1940 census tabulations, by size of farm, were restricted to these items. Available comparative data for earlier years for the United States are presented in tables 5 to 12, inclusive. Size-of-farm tabulations, available for a few additional items in earlier censuses, are not covered in any of the 1940 Census Reports. The geographic division and State tables (13, 14, and 15) present statistics on number of farms, classified by size, for all census enumerations from 1880 to 1940, inclusive; statistics on the average acreage, per farm, for all farms for the census enumerations from 1850 to 1940, inclusive; and other data by size of farms, as follows: Land in farms and specified uses of land for 1940, 1935, and 1930; and value of land and buildings, value of buildings, and value of implements and machinery for 1940 and 1930.

Size-of-farm classification.—The size-of-farm classification has been made for the number of farms in each census year since 1880, while the tabulation of total land in farms by size of farm has been made in each census year beginning with 1900. In 1860 and 1870 a size-of-farm classification for the number of farms was made based upon the area of improved land. The United States figures for these tabulations are shown in table 1. Such a classification is not comparable with that used in subsequent censuses since the acreage of all land in farms used in the present classification includes much land which is not improved.

TABLE 1.—FARMS CLASSIFIED BY ACRES OF IMPROVED LAND, FOR THE UNITED STATES: 1870 AND 1860

SIZE GROUP (BASED ON IMPROVED LAND)	NUMBER OF FARMS	
	1870	1860
Total	2,659,985	1,204,077
Under 3 acres	6,875	—
3 to 9	172,021	54,676
10 to 19	294,607	182,178
20 to 49	847,614	616,558
50 to 99	754,221	606,878
100 to 499	565,054	497,041
500 to 999	15,873	20,819
1,000 and over	3,720	5,364

¹ For 1860 the total of the farms classified by acreage of improved land is 89,063 less than the total number of farms.

The number of size-of-farm groups used in the various census enumerations has varied from 7 in 1890 and 8 in 1880 to 19 in 1935 and 20 in 1940. The additional size group for 1940, compared with 1935, covers farming operations with no land owned or leased. This classification is discussed in detail later. Except for the addition of this group, the 1940 classification is the same as that used in 1935 at which time 7 new subgroups were added. These new subgroups used in 1940 and 1935 form the basis for a new classification and at the same time permit comparisons with the size-of-farm tabulations for the 1930 and preceding censuses. The new classification, which is presented in table 4 of this chapter (and in County table III of volume I), was devised to conform as closely as

possible with the Government land survey and thereby avoid bimodal distributions of reports within class intervals. For example, instead of the old group of "100 to 174 acres," the new classification carries two groups, "100 to 139 acres" and "140 to 179 acres," with midpoints of 120 acres and 160 acres, respectively. When the 1940 and 1935 figures are presented in comparison with the 1930 data, as in table 5, it is then necessary to use an additional odd-size group of "175 to 179 acres" in order to secure tabulations which are comparable with the old grouping. The new classification is particularly important in those survey areas where the farms are, to a large extent, made up of fractions—40 acres, 80 acres, 120 acres, 160 acres, etc.—or multiples of the Government survey section of 640 acres. A more detailed discussion of this new grouping, together with an analysis of data for sample survey and nonsurvey counties will be found in the General Report, volume III, chapter II, of the United States Census of Agriculture, 1935.

Other measures of the size-of-farm operations.—The classification by size of farm is only one of several measures of size-of-farm operations made by the 1940 Census of Agriculture. Additional measures of size-of-farm operations which are presented in other chapters of this volume are: Number of farms classified by numbers of various species of livestock (chapter VII); number of farms classified by number of acres of specified crops (chapter VIII); number of farms classified by acreage of land in fruit orchards, vineyards, and planted nut trees, and statistics on apples for farms classified by number of apple trees of bearing age (chapter IX); and the number of farms and value of specified farm products classified by total value of farm products sold, traded, or used by farm households (chapter X).

Number of farms by size.—The classification of number of farms by size is shown for the United States for the years 1880 to 1940, inclusive, in table 5, and for geographic divisions and States for the same years in table 15. In considering the tabulation of number of farms by size, account should be taken of the definition of a farm. The 1940 Census definition has been discussed in chapter I.

Farms under 3 acres in size.—The definition of a farm is particularly important from the standpoint of the enumeration of farms of less than 3 acres. In the 1940 Census, tracts of land of less than 3 acres were to be enumerated only when the value of agricultural products in 1939 amounted to \$250 or more. However, tracts of 3 acres or more were to be enumerated even though the value of the agricultural products was less than \$250, provided such tracts had agricultural operations in 1939 or agricultural operations were contemplated in 1940. The number of enumerated farms under 3 acres in size is relatively unimportant, amounting to only 35,977 farms, or 0.6 percent of all farms in 1940, which compares with a maximum of 43,007 farms, or 0.7 percent of all farms in 1930. The number of farms with less than 3 acres of land enumerated in the various censuses since 1880 has been influenced by the minimum value of products used in defining a farm and, to some extent, by changes in unit prices for agricultural products. Table 2 shows the number and proportion of farms under 3 acres in size for each census from 1880 to 1940, inclusive, with comparisons of the minimum values of products used in each census, and with a comparison of index numbers of prices received by farmers as published by the United States Department of Agriculture. The effect of varying definitions of a farm upon the enumeration of small farms is also discussed in chapter I.

TABLE 2.—NUMBER OF FARMS UNDER 3 ACRES IN SIZE, PERCENT OF ALL FARMS, MINIMUM VALUE OF PRODUCTS, AND INDEX NUMBERS OF PRICES RECEIVED BY FARMERS, FOR THE UNITED STATES: 1880 TO 1940

YEAR	FARMS UNDER 3 ACRES IN SIZE		Minimum value of products (dollars)	Index numbers of prices received by farmers ¹ (August 1909—July 1914 = 100)
	Number	Percent of all farms		
1940	35,977	0.6	250	93
1935	35,573	0.5	250	90
1930	43,007	0.7	250	146
1925	15,151	0.2	250	143
1920	20,350	0.3	250	213
1910	18,033	0.3	250	102
1900	41,385	0.7	(2)	(3)
1890	(3)	(3)	4 500	(3)
1880	4,352	0.1	4 500	(3)

¹ From "Agricultural Statistics, 1941," Table 688, United States Department of Agriculture. For 1910 the index number is for that calendar year. For all other years each index number is for the calendar year preceding the census date.

² "Or requiring for its agricultural operations the continuous services of at least one person." No minimum limit on value of products used in the 1900 Census.

³ Not available.

⁴ Value of products sold.

No land owned or leased.—Operations limited to livestock grazing on open range and reported as having "No land owned or leased" were given "0" acres and "0" value in the 1940 Census tabulations. For the 1935, 1930, and 1925 censuses, similar reports were credited with a nominal acreage of "1." In the 1935 and 1930 censuses such reports were also given a nominal value for land and buildings of "\$5.00." The 1940 census classification of farms by size provided, for the first time, a separate group for such farms. The numbers of such farms are presented, by States, in table 3. It will be observed that these farms occur most frequently in areas where open or public range is available. In tables 4 to 15, inclusive, these farms are included in the "Under 3 acres" size-group.

TABLE 3.—NUMBER OF FARMS WITH NO LAND OWNED OR LEASED, BY STATES, 1940

STATE	Number of farms	STATE	Number of farms
United States	489	Nevada	26
Arizona	257	New Mexico	11
Arkansas	4	North Carolina	6
California	10	North Dakota	5
Colorado	8	Oklahoma	7
Florida	10	Oregon	9
Idaho	47	South Dakota	5
Louisiana	9	Texas	18
Montana	8	Utah	16
		Washington	2
		Wyoming	31

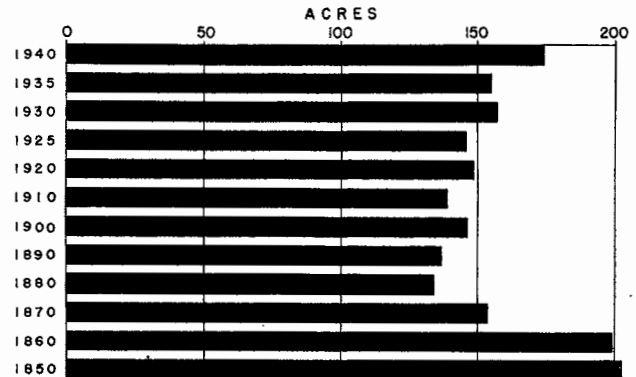
In the 1940 census a special effort was made to obtain individual farm and ranch schedules for all Indians who had agricultural operations on allotted land, or, although having no allotted land, were grazing livestock on unallotted reservations, National forests, or public domain; provided the value of the livestock products in 1939 amounted to \$250 or more. Somewhat similar procedures were followed for the enumerations of 1935 and 1930, but in 1925 and 1920 many Indian reservation groups were enumerated as single farms.

Land in farms by size of farm.—The tabulation of all land in farms by size of farm is presented, for the United States, for the census years 1900 to 1940, inclusive, in table 6; and by geographic divisions and States, for the census years 1940, 1935, and 1930, in table 14. The term "All land in farms" includes all land under control of the farm operator which is considered as part of his farm. Hence, it includes considerable areas of land not under cultivation and even some land which is not used for pasture or grazing. However, large areas of timberland or other nonagricultural land held by a farm operator as a separate business and not used for pasture, grazing, or for any other farm purpose were to be excluded. If crops, including wild hay, were harvested from land neither owned nor leased, such land was to be reported as part of the farm. On the other hand, if cattle, sheep, or other livestock were grazed or pastured on land neither owned nor leased by the operator, such land was not to be included as a part of the farm. Statistics on the number of farms with no land owned or leased

have been presented in table 3. It should be kept in mind that the figures on acreage for all land in farms are as of the census date, April 1, 1940, while the statistics on acreage of land according to use, discussion of which will follow, apply to the year 1939.

Average size of farm.—Statistics on the average size of farm for farms classified by size are presented for the United States for the census years 1900 to 1940, inclusive, in table 6, while the averages for all farms for geographic divisions and States are shown for the census years 1850 to 1940, inclusive, in table 13. These figures on average size of farm are simple arithmetic averages secured by dividing all land in farms in any area or any size group by the number of farms recorded for that area or that size group.

AVERAGE SIZE OF FARMS FOR THE UNITED STATES: 1850 - 1940



Farms reporting.—The term "Farms reporting" as used in the tables in this chapter indicates the number of farms for which the specified items shown in the particular table were reported. For example, if on April 1, 1940 there were 9,586 farms in the "140 to 174 acres" size group for a State and only 9,109 of these had cropland harvested in 1939, and the enumeration of that item was complete, the number of farms reporting cropland harvested for that size group would be 9,109.

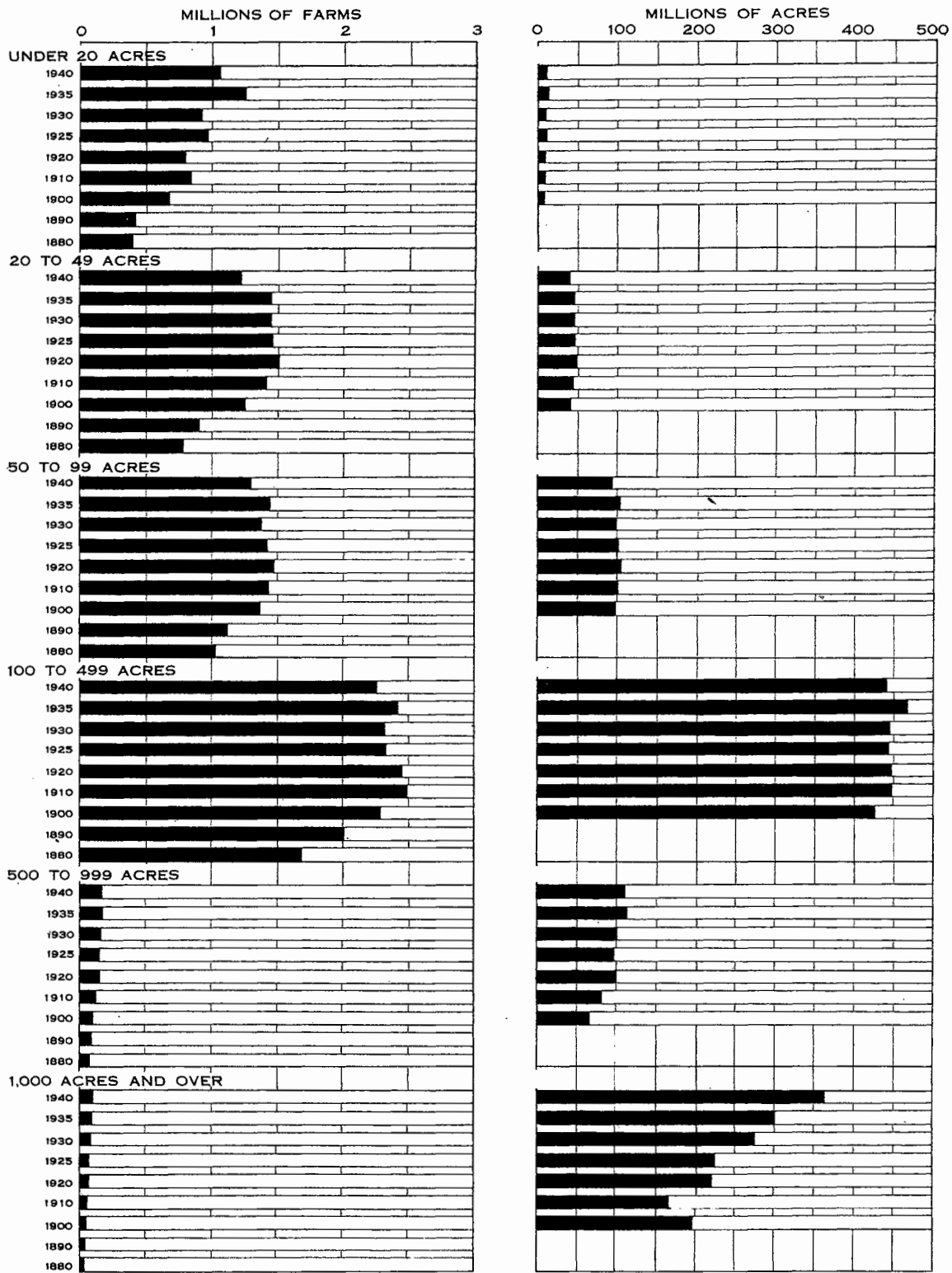
Uses of land by size of farm.—The 1940 census secured information regarding 6 classes of land, based upon the use made of the land in 1939, viz: Cropland harvested, crop failure, cropland lying idle or in summer fallow, plowable pasture, woodland, and all other land in farms. A discussion of the definitions used for the land-use items will be found in chapter I.

For the Censuses of 1935, 1930, and 1925 information was also secured regarding the acreage of woodland pasture, acreage of pasture other than woodland pasture, and plowable pasture; and acreage of woodland not used for pasture. In the 1925 census, separate totals were secured for acreage of land in summer fallow and acreage of idle cropland. For the Censuses of 1920, 1910, and 1900 the classification of land according to use was reported upon the basis of the acreage of improved land and unimproved land. In 1920 and 1910, figures were also secured regarding the acreage of woodland.

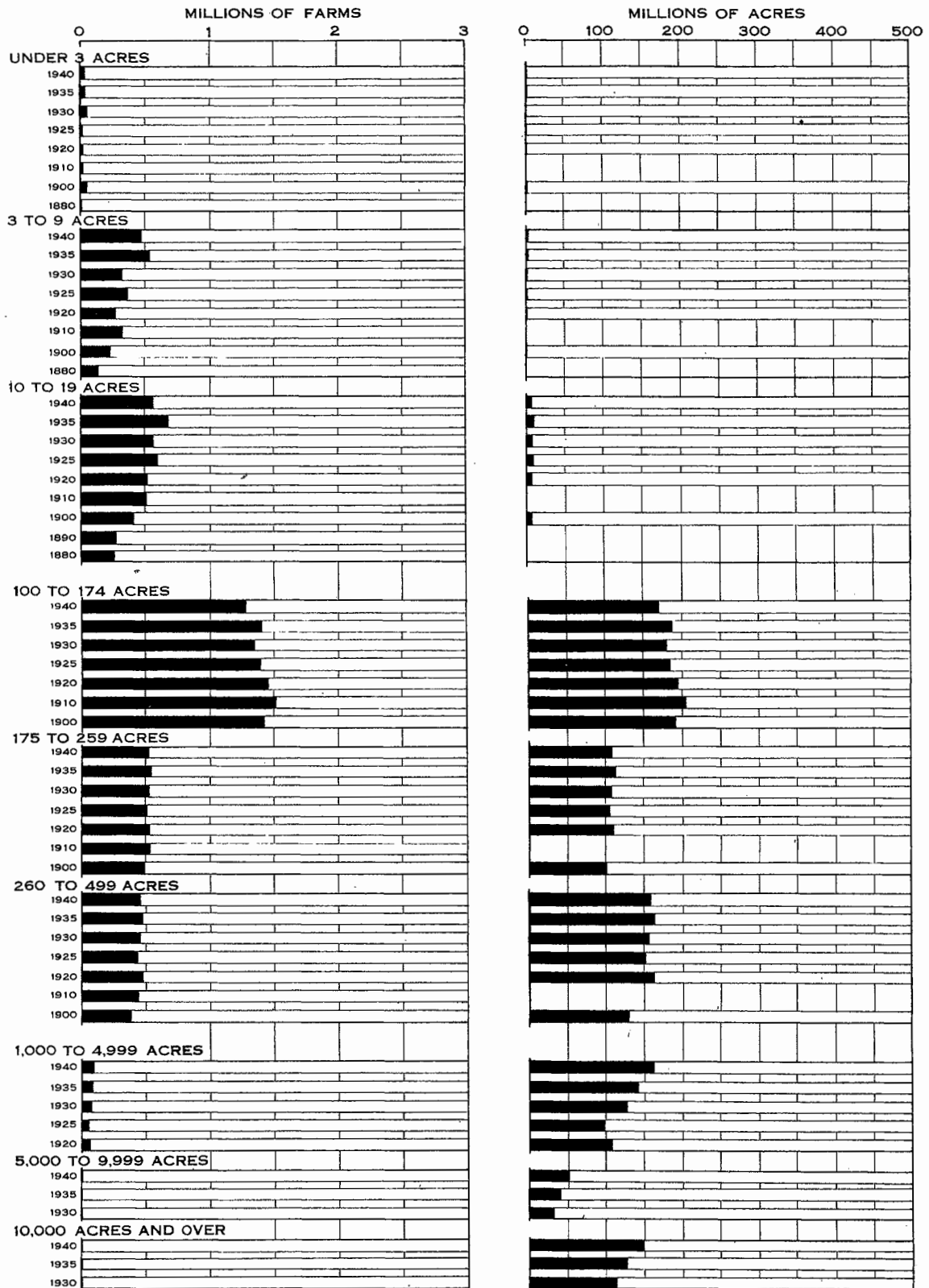
Statistics on the acreage of land according to use, classified by size of farm, are shown for the United States in table 7 as follows: Cropland harvested, 1939, 1934, 1929, and 1924; crop failure, 1939 and 1934; cropland idle or fallow, 1939 and 1934; plowable pasture, 1939, 1934, and 1929; improved land, 1920, 1910, and 1900. Similar figures for geographic divisions and States are shown in table 14 for the following items: Cropland harvested, 1939, 1934, and 1929; crop failure and cropland idle or fallow (shown separately), 1939 and 1934; plowable pasture, 1939, 1934, and 1929; and woodland, 1939.

In using these statistics it must be kept in mind that the basis of classification is the acreage of all land in the farm and not the acreage of land used for any specified purpose. That is to say, a farm composed of 160 acres—of which 80 acres were in crops, 40 acres in pasture, 36 acres in woodland, and 4 acres occupied by buildings, yards, lanes, etc.—would be classified in the "140 to 179 acres" size group.

NUMBER OF FARMS, 1880 TO 1940, AND LAND IN FARMS, 1900 TO 1940, BY SIZE OF FARM, FOR THE UNITED STATES



NUMBER OF FARMS AND LAND IN FARMS FOR SELECTED SIZE-OF-FARM GROUPS,
FOR THE UNITED STATES: 1880 - 1940



Land used for crops.—The statistics on this acreage item; presented by size of farm for the United States in table 4, represent a summation for individual size groups of the acreage of cropland harvested and crop failure.

Land available for crops.—Land available for crops is defined as the sum of the acreage, by individual size groups, for the following land-use items: Cropland harvested, crop failure, idle or fallow cropland, and plowable pasture. These figures are presented by size groups for the United States in table 4.

Value of land and buildings by size of farm.—For the 1940 census the enumerators were instructed to obtain from each farm operator the total value of the farm, which figure was to include the value of both land and buildings. This figure was to be representative of a fair market value. In deriving the average values of land and buildings per farm, shown in tables 4 and 11, the total value so reported has been divided by the total number of farms. Allowance should be made, however, for the fact that in the 1940 Census all farm operations with no land owned or leased were tabulated as reporting "0" acres and "0" value. This point has been discussed previously. For the 1940 census the enumerator was, also, instructed to secure from the farm operator a separate figure on the value of buildings alone. Obviously, such a figure would be less satisfactory than a figure for the total real-estate value. It should not be assumed that the difference between the total value of land and buildings and the value of buildings alone represents accurately the market value of the land alone.

In using the figures on value of land and buildings for farms classified by size, shown in tables 8, 9, and 14, the same caution should be observed as was previously mentioned for the tabulation of uses of land according to size of farm. For example, the tabulation for the "140 to 179 acres" size-group includes all farms having a total farm acreage within these limits regardless of the value of the land and buildings reported.

Value of implements and machinery by size of farm.—The farm operator was likewise asked to place a value on the implements and machinery used in operating the farm. Where farm machinery was used jointly by two or more farmers, the value was to be reported for the farm where the machinery was located on April 1, 1940. This figure was to cover the value for all farm implements including tools; wagons; harnesses; dairy equipment; cotton gins; threshing machines; combines; apparatus for making cider, grapejuice, and sirup, and for drying fruits; etc. However, the value of commercial mills and factories and permanently installed irrigation and drainage equipment was specifically excluded by the instructions on the schedule.

The same restriction regarding the figures on value of implements and machinery by size of farm, shown in tables 10 and 14, applies here as in the case of the tabulations of uses of land and value of land and buildings by size of farm. That is to say, the statistics for each size group are based on farms classified according to acreage of all land in the farm regardless of the value of the implements and machinery reported on the farm.

Changes in size of farms.—Although the number of farms for the United States enumerated in the 1940 Census of Agriculture was the smallest since 1900, the acreage of land in farms was the largest of record. The average size of farms for the West-North Central and Mountain Divisions was the largest of record, and for the United States as a whole, it was the largest since 1860. For the East South Central and South Atlantic Divisions the 1940 average size of farms was the largest

since 1910, while for the States in the West South Central Division the average size was the largest since 1900. On the other hand, the average size of farms recorded for New England, the Middle Atlantic, East North Central, and Pacific Divisions was lower than in 1930, although higher than in 1935.

An inspection of the tabulations of number of farms by size for geographic divisions, 1940 compared with 1930, indicates two predominating trends. On the one hand is the increase in number of small-size farming units, such as farms of 10 to 19 acres in 6 of the 9 geographic divisions. While this trend is more or less general, it is particularly pronounced in the New England, Middle Atlantic, and East North Central Divisions, where farm population for 1940 showed increases compared with 1930. This trend may be due, in part, to an increase in part-time farming operations, particularly in industrial areas. On the other hand there is also a trend toward an increase, 1940 compared with 1930, in the number of large-size farms as, for example, farms of 1,000 acres and over. This is especially pronounced in the Corn Belt—East North Central and West North Central Divisions—in the South—South Atlantic, East South Central, and West South Central Divisions—and in the Mountain Division. In these regions, for the States west of the Mississippi River, farm population showed a decline in 1940 compared with 1930. In such areas the drought, the depression, and the increase in mechanized farming have all worked toward a consolidation of farms into larger operating units. In the Mountain States not all of the reported increase in average size of farm actually represents an increase in size of the farming operations. In the past, generally, public lands used for grazing livestock fell under the category of land neither owned nor leased and hence were not included as part of any ranch. Many such lands are now used under a lease and, hence, were included as part of a ranch in the 1940 census.

In the East South Central Division the average size of farms, as reported in the 1860 Census of Agriculture, was 275.8 acres. At that time the predominant farming unit was, of course, the plantation. By 1870 the average size of farm had declined to 178.3 acres. This downward trend in size of farm continued under the share-crop system of farming and reached a low of 68.6 acres per farm in 1930. The increase in average size from that figure to 75.3 acres in 1940 represents in part, at least, a shift from small units farmed on a share-crop basis to larger units farmed with hired labor, and with an increased use of power machinery.

In using the figures on size of farm it should be kept in mind that they reflect the enumeration procedures followed as well as changes caused by economic conditions. This is particularly important in the case of the figures for small geographic areas, such as the county, which are presented in volume I. For example, where a farm or ranch had cross-line acreage, i.e., acreage extending across county and/or State boundaries, the farm or ranch was reported for the geographic area in which the headquarters were located. It is also possible for a large farm to be correctly reported in different ways in succeeding censuses. For example, a farm of 10,000 acres might be so operated as to be reported in one census as a single farming unit. At the time another census is taken this same land might be operated by 5 different managers and hence would be correctly reported as 5 separate farms, even though there had been no change in ownership. See also the discussion of the enumeration of Indian reservations under the paragraph "No land owned or leased." Finally, it should be remembered that the figures on land in farms do not always represent the total land used for agricultural purposes. Land used for grazing livestock, but which was neither owned nor leased by the farm operator, was not reported as a part of a farm.