

1964 UNITED STATES CENSUS OF AGRICULTURE

FARMS
FARM CHARACTERISTICS
LIVESTOCK AND PRODUCTS
CROPS
FRUITS
VALUES



VOLUME 2 CHAPTER 3

Size of Farm

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1964 ^{OF} UNITED STATES CENSUS AGRICULTURE

Volume II—Chapter 3

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Chapter 3. Size of Farm

Introduction — Data are presented in this chapter for farms classified by acres of land in the farm. Farms have been classified by size for each census since 1860. For 1860 and 1870, acres of improved land rather than total acres in the farm was used as the basis of classification.

The classification of farms by size was developed to measure size of farm business or scale of farm operation. However, acres in the farm has never been a very good measure of scale of farm operation and with the large scale substitution of capital inputs for farmland and labor, acres in the farm has become, increasingly, an unsatisfactory measure of scale of farm operation or size of farm business. Acres of land are not uniform and standardizable physical units as are, for example, bushels of corn, number of sows, etc. The great heterogeneity in the productivity of land makes exceedingly difficult any grouping of parcels into size groups of acceptable semblance of uniformity or as very useful units of measurement. In fact, for the United States, where land is highly variable in its productivity, the lumping of all parcels in agricultural operations together, by counting the acres therein, violates almost every rule of aggregation. The differences in the productivity of an acre of land in various areas, and in various size groups of farms need to be considered when using data for various groupings of farms on the basis of physical area alone.

Sources of data—The land area of each farm has been determined at each census since 1860. Data in most tables in this chapter were obtained for a classification of all farms in the census. However, the data in Table 15 and in some other tables are estimates based upon reports for only a sample of farms. A headnote indicates data are estimates based upon a sample. Some of the size of farm data for the 1964, 1959, 1954, and 1950 censuses were obtained by tabulation of data for only a sample of farms. Generally, the sample used comprised all farms of 1,000 acres or more plus 20 percent of the remaining farms. For a more detailed description of the sample used for 1964, see the introduction to this volume.

Presentation of statistics—Data are presented for the United States, for three regions, and for the 50 States. Except for tables presenting data for the United States only, the tables contain data for two censuses, 1964 and 1959.

Statistics for censuses prior to 1964—Chapter V, volume II of the report for the 1959 Census of Agriculture contains many comparative data for prior censuses, that do not appear in the tables in this chapter.

Chapter V, volume II, 1959 Census of Agriculture contains tables giving—

1. Statistics for 1959 comparable to those given in table 15 for 1964.
2. Number of farms, by size, for each State for each census from 1880 to 1959.
3. Number of farms and all land in farms classified by use, for farms of 2,000 acres or more, by States, for 1959.
4. Acres of land in farms and acres of cropland harvested, by size of farm, by States for 1940, 1945, 1950, 1954, and 1959.
5. Farms and acres of cropland in cover crops, cropland used for grain and row crops, cropland farmed on the contour, land in stripcropping systems for soil-erosion control, land terraced on cropland and pastureland, land irrigated and irrigated cropland harvested by size of farm, by States, for 1959.

Other data published for 1964—The data given in table 15 for the United States have been published for each State in State table 20, volume I of the reports for the 1964 Census of Agriculture. Statistics for the number of farms, land in farms, and cropland harvested for each county appear in county table 3 of volume I of the reports for the 1964 Census of Agriculture.

Definitions and explanations—Definitions and explanations are limited to those which have a particular significance in respect to the presentation of statistics by size of farm. Definitions and explanations of general application are included in the introduction to this volume.

A farm—In analyzing size-of-farm statistics, the definition of a farm for census purposes should be noted. Places of less than 10 acres were counted as farms if the estimated sales of agricultural products for the year amounted to at least \$250. Places of 10 or more acres were counted as farms if the estimated sales of agricultural products for the year amounted

to at least \$50. Places having less than the \$50 and \$250 minimum estimated sales were also counted as farms if they could normally be expected to produce sufficient agricultural products to meet the requirements of the definition. This final qualification permitted inclusion as farms of some places farmed for the first time and places temporarily affected by crop failure or other unusual conditions.

Changes in the definition of a farm affect the comparability of size-of-farm data for the various censuses. Reference should be made to the introduction of this volume for a discussion of changes in the definition of a farm and the effect of these changes upon the statistics.

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

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

Except for open range and grazing land used under government permit, all grazing land was to be included as land in farms provided the place of which it formed a part was a farm. Grazing land operated by grazing associations was to be reported in the name of the person chiefly responsible for conducting the business of the association. Land used rent-free was to be reported as land rented from others.

All land in Indian reservations that was used for growing crops or grazing livestock was to be included. Land in Indian reservations that was not reported by individual Indians and that was not rented to non-Indians was to be reported in the name of the cooperative group that used the land. In some instances, an entire Indian reservation was included in the census as one farm.

Classification of farms by size—The first classification of farms by size based on total acres in the farm was made in 1880. The classification has been changed several times to make improvements and to make adjustments because of increases in farm size. The following table shows most of the various size of farm groups used from 1880 to 1964.

TABLE 1. Size of Farm Groups: 1880 to 1964

Acres in farm	1964	1959	1954	1935, 1940, 1945, 1950	1920, 1925, 1930	1880 to 1910
Under 3.....				X	X	X
3 to 9.....				X	X	X
Under 10.....	X	X	X			
10 to 19.....				X	X	X
10 to 29.....			X			
20 to 29.....				X		
10 to 49.....	X	X				
20 to 49.....					X	X
30 to 49.....			X	X		
50 to 69.....	X	X	X	X		
50 to 99.....					X	X
70 to 99.....	X	X	X	X		
100 to 139.....	X	X	X	X		
100 to 174.....					X	X
140 to 174.....				X		
140 to 179.....	X	X	X			
175 to 179.....				X		
175 to 259.....					X	X
180 to 219.....	X	X	X	X		
220 to 259.....	X	X	X	X		
260 to 379.....	X			X		
260 to 499.....		X	X		X	X
380 to 499.....	X			X		
500 to 699.....	X			X		
500 to 999.....		X	X		X	X
700 to 999.....	X			X		
1,000 or more.....			X	X		X
1,000 to 1,999.....	X	X				
1,000 to 4,999.....					X	
2,000 or more.....	X	X				
5,000 or more.....					X	

The size of farm groupings remained practically unchanged from 1880 to 1930, except for changes in the size group, 1,000 acres and over. For 1920 and 1925, the grouping of farms 1,000 acres and over was divided into two farm groups—1,000 to 4,999 acres and farms 5,000 acres and over. For 1930, the grouping 5,000 acres and over was further divided into two groups—5,000 to 9,999 acres and 10,000 acres and over.

Beginning with 1935, a revised size of farm grouping was established to conform more closely with the government land survey system. The revised size of farm groups totaled 17, but 6 of these (10 to 19 acres, 20 to 29

acres, 30 to 49 acres, 175 to 179 acres, 260 to 379 acres, and 380 to 499 acres) were established primarily to provide comparable data for censuses prior to 1935. For 1964, two size groups (10 to 29 acres and 30 to 49 acres), used for the 1954 census, were combined, and 4 additional size groups were established (260

to 379 acres, 380 to 499 acres, 500 to 699 acres, and 700 to 999 acres) to provide for further classification for the increasing number of farms having 260 acres or more. For both the 1959 and 1964 censuses special tabulations were made for farms of 2,000 acres or more, by size of farm groups.

TABLE 2. Farms Classified by Acres of Total Land in Farms, for the United States, 1880 to 1964; and Acres of Improved Land, for the United States: 1860 and 1870

Year	Number of farms by acres of total land in farms								
	Total	Under 3 acres	3 to 9 acres	10 to 29 acres	30 to 49 acres	50 to 99 acres	100 to 499 acres	500 to 999 acres	1,000 or more acres
1964.....	3,157,857	59,686	122,895	(637,434)		542,430	1,439,683	210,437	145,292
1959.....	3,710,503	79,083	165,245	(813,216)		657,990	1,658,530	200,012	136,427
1954 ¹	4,782,416	99,896	384,395	713,335	499,496	864,063	1,899,053	191,697	130,481
1950.....	5,388,437	78,110	410,420	855,000	624,596	1,048,075	2,068,466	182,297	121,473
1945 ²	5,859,169	98,966	495,295	945,608	708,796	1,157,320	2,166,208	173,777	112,899
1940.....	6,102,417	37,022	472,325	(1,782,061)		1,291,328	2,255,396	163,711	100,574
1935 ³	6,812,350	35,573	535,258	1,241,431	882,164	1,444,007	2,417,803	167,452	88,662
1930.....	6,295,103	44,244	317,755	(2,002,115)		1,375,198	2,315,403	159,723	80,665
1925 ⁴	6,371,640	15,151	363,384	(2,038,092)		1,421,078	2,328,155	143,852	63,328
1920.....	6,453,991	21,158	320,348	(2,013,516)		1,475,005	2,456,729	149,826	67,409
1910 ⁵	6,361,502	18,033	317,010	(1,918,499)		1,438,069	2,494,461	125,295	50,135
1900.....	5,739,657	41,882	226,564	(1,664,797)		1,366,167	2,290,561	102,526	47,160
1890.....	4,564,641	(150,194)		(1,168,327)		1,121,485	2,008,694	84,395	31,546
1880.....	4,008,907	4,352	134,889	(1,036,323)		1,032,810	1,695,983	75,972	28,578
Year	Number of farms by acres of improved land								
	Total	Under 3 acres	3 to 9 acres	10 to 19 acres	20 to 49 acres	50 to 99 acres	100 to 499 acres	500 to 999 acres	1,000 or more acres
1870.....	2,659,985	6,875	172,021	294,607	847,614	754,221	565,054	15,873	3,720
1860 ⁶	2,044,077	(NA)	54,676	162,178	616,558	608,878	487,041	20,319	5,364

NA Not available.
¹Data for Alaska and Hawaii not included.
²Includes farms of 100 acres or more for Hawaii.
³Data for Alaska not available.
⁴Includes 62 farms for Alaska, in the under 50 acres size group.
⁵For 1860, the classification is for "Farms containing 3 acres or more." The number of farms in the various classes adds to 1,955,014, which is 89,063 less than the total number of farms.

Prior to 1900, the count of farms was the only statistic available by size of farm. From 1900 to 1935 the size of farm data published included not only a count of farms, but also data for all land in farms and the most important of all of the classes of land according to use. For the 1945 to the 1964 censuses, pub-

lished data by size of farm include farms, land in farms, classified according to use; the number of livestock and poultry; farm equipment; the production or sale of livestock, poultry, livestock products, and poultry products; the acreage and production of crops; farm expenditures; etc.

TABLE 3. Farms, all Land in Farms, Average Size of Farm, Average Value of Land and Buildings per Farm and per Acre, for the United States: 1850 to 1964

[Data for value of land and buildings for 1950 through 1964 are estimates based upon reports for a sample of farms.]

Year	Number of farms		All land in farms		Value of land and buildings			Percent of land area in farms	Year	Number of farms		All land in farms		Value of land and buildings			Percent of land area in farms
	Total	Percent change from preceding census ¹	Acres	Percent change from preceding census ¹	Average size of farm (acres)	Average per farm (dollars)	Average per acre (dollars)			Total	Percent change from preceding census ¹	Acres	Percent change from preceding census ¹	Average size of farm (acres)	Average per farm (dollars)	Average per acre (dollars)	
1964.....	3,157,857	-14.9	1,110,187,000	-1.2	351.6	50,646	143.81	50.0	1920....	6,453,991	1.4	958,676,612	8.8	148.5	10,295	69.31	42.2
1959.....	3,710,503	-22.6	1,123,507,574	-3.3	302.8	34,768	114.82	49.3	1910....	6,366,044	10.9	881,431,469	4.8	138.5	5,480	39.58	38.8
1954 ¹	4,782,416	-11.1	1,198,191,511	(2)	242.2	20,405	84.25	60.8	1900....	5,739,657	25.7	841,201,546	34.6	146.6	2,905	19.82	44.1
1950.....	5,388,437	-8.1	1,162,642,888	1.5	215.8	14,005	64.97	51.1	1890....	4,564,641	13.9	623,218,619	16.3	136.5	2,909	21.31	32.7
1945 ²	5,859,169	-3.9	1,141,615,364	7.6	194.8	7,917	40.63	59.9	1880....	4,008,907	50.7	536,081,835	31.5	133.7	2,544	19.02	28.2
1940.....	6,102,417	-10.5	1,065,113,774	0.6	174.5	5,532	31.69	46.8	1870....	2,659,985	30.1	407,735,041	0.1	153.3	2,799	18.26	21.4
1935 ³	6,812,350	8.3	1,054,515,111	6.9	154.8	4,823	31.16	55.4	1860....	2,044,077	41.1	407,212,538	38.7	199.2	3,251	16.32	21.4
1930.....	6,295,103	-1.3	990,111,984	6.8	157.3	7,624	48.47	43.6	1850....	1,449,073	-	293,560,614	-	202.6	2,258	11.14	15.6
1925 ⁴	6,371,640	-1.2	924,319,352	-3.3	145.1	7,764	53.52	48.6									

² Less than 0.05 percent.
¹Data for Alaska and Hawaii not included.

Characteristics of farms by size—The proportion of the total acres of land in farms repre-

sented by cropland, pastureland, and woodland varies by size of farm,

TABLE 4. Percent of All Land in Farms Represented—by Total Cropland, Total Pastureland and Total Woodland, by Size of Farm, for the United States: 1964

Size of farm	Percent of all land in farms represented by		
	Total cropland	Total pastureland	Total woodland
All farms.....	39.1	56.7	13.1
Less than 10 acres.....	58.2	17.2	3.6
10 to 49 acres.....	55.1	37.0	18.6
50 to 99 acres.....	54.4	37.8	22.9
100 to 139 acres.....	55.8	36.9	22.9
140 to 179 acres.....	60.3	33.7	18.9
180 to 219 acres.....	59.1	34.2	20.7
220 to 259 acres.....	62.4	31.8	17.7
360 to 379 acres.....	62.2	32.0	16.8
380 to 499 acres.....	62.0	32.7	15.3
500 to 699 acres.....	59.5	35.6	14.9
700 to 999 acres.....	57.1	38.8	13.0
1,000 to 1,999 acres.....	50.4	46.2	11.4
2,000 acres or more.....	13.5	84.0	8.9

The value of land and buildings probably more accurately portrays the productivity of farms than do acres in the farm. The following

table shows the distribution of farms in each size of farm group, by value of land and buildings per farm.

TABLE 5. Farms in Each Size Group, Classified by Value of Land and Buildings per Farm, for the United States: 1964

Size of farm	Number of farms with a value of land and buildings of— (dollars)									
	Total	Less than 10,000	10,000 to 19,999	20,000 to 39,999	40,000 to 69,999	70,000 to 99,999	100,000 to 149,999	150,000 to 199,999	200,000 to 499,999	500,000 or more
Total.....	3,157,857	747,330	656,098	712,636	479,773	215,172	160,112	71,265	91,107	24,364
Under 10 acres.....	171,486	94,976	38,187	25,087	8,645	2,314	1,288	528	436	25
10 to 49 acres.....	642,541	324,883	167,091	100,164	32,609	8,570	4,983	1,826	2,013	402
50 to 99 acres.....	543,895	181,017	174,965	128,943	38,855	9,440	5,542	2,265	2,438	430
100 to 139 acres.....	324,076	61,404	100,064	103,823	42,171	7,725	4,799	1,442	2,238	430
140 to 179 acres.....	309,676	37,716	73,110	101,113	69,841	17,799	5,355	2,329	2,091	382
180 to 219 acres.....	192,311	17,229	34,700	62,222	48,131	17,820	7,754	1,957	2,069	429
220 to 259 acres.....	164,672	9,950	21,468	49,295	44,107	23,109	11,931	2,332	2,141	339
260 to 379 acres.....	298,067	12,747	29,525	78,929	78,456	45,037	33,863	11,675	6,724	1,111
380 to 379 acres.....	154,525	3,735	9,094	29,488	43,640	25,711	22,164	10,439	9,414	840
380 to 499 acres.....	124,562	2,241	4,589	18,776	35,002	18,870	19,759	10,581	12,961	1,783
500 to 699 acres.....	86,750	1,285	1,989	8,668	19,783	18,897	14,260	8,064	11,939	1,865
700 to 999 acres.....	145,296	147	1,316	6,128	18,533	19,940	28,414	17,827	36,663	16,328

Table 15 presents data showing the characteristics and importance of farms for each of the 12 size-of-farm groups for 1964.

Change in size of farm—The increase of farm size has been one of the significant developments in agriculture in the United States in the twentieth century. The number of farms has decreased rapidly in the last 30 years, but the acreage of land in farms has changed very little and the average size of farm has doubled since 1935.

TABLE 6. Average Size of Farm for the United States: 1850 to 1964

Year	Average size of farms (acres)	Year	Average size of farms (acres)	Year	Average size of farms (acres)	Year	Average size of farms (acres)
1964...	351.6	1940..	174.5	1920..	148.5 ¹	1880..	133.7
1959...	302.8	1935..	¹ 154.8	1910..	138.5	1870..	153.3
1954...	¹ 242.2	1930..	157.3	1900..	146.6	1860..	199.2
1950...	215.5	1925..	¹ 145.1	1890..	136.5	1850..	202.6
1945...	¹ 194.8						

¹Does not include data for Alaska and Hawaii.

The number of farms in each of the size of farm groups under 260 acres has decreased, while the number of farms in the size groups over 260 acres has increased. Many small farms have ceased operation and the land in many of these has been incorporated into

other farms. New technology and mechanization have accelerated the consolidation of farms. The inclusion of additional grazing land in the Western States has contributed to the increase in the number of farms 1,000 acres and over.

TABLE 7 Farms and Percent Change in Number of Farms, by Size of Farm, for the United States: 1964, 1959, 1954, and 1950

Size of farm	Number of farms				Increase or decrease (-)		Percent change	
	1964	1959	1954 ¹	1950	1959 to 1964	1954 ¹ to 1959	1959 to 1964	1954 ¹ to 1959
Total.....	3,157,857	3,710,503	4,782,416	5,388,437	-552,646	-1,078,522	-14.9	-22.6
Under 10 acres.....	182,581	244,328	484,291	488,530	-61,747	-243,558	-25.3	-50.3
10 to 49 acres.....	637,434	813,216	1,212,831	1,479,596	-175,782	-401,629	-21.6	33.3
10 to 29 acres.....	(NA)	(NA)	713,335	855,000	(NA)	(NA)	(NA)	(NA)
30 to 49 acres.....	(NA)	(NA)	499,496	624,596	(NA)	(NA)	(NA)	(NA)
50 to 69 acres.....	211,398	258,195	346,323	427,025	-46,797	-88,280	-18.1	-25.5
70 to 99 acres.....	331,032	399,795	517,740	621,050	-68,763	-118,098	-17.2	-22.8
100 to 139 acres.....	324,652	394,505	491,458	579,244	-69,852	-97,063	-17.7	-19.8
140 to 179 acres.....	308,288	378,003	461,651	523,659	-69,715	-83,805	-18.4	-18.2
180 to 219 acres.....	191,254	225,576	257,189	275,049	-34,322	-31,670	-15.2	-12.3
220 to 259 acres.....	164,188	188,899	206,509	212,344	-24,711	-17,655	-13.1	-8.5
260 to 499 acres.....	451,301	471,547	482,246	478,170	-20,246	-10,850	-4.3	-2.2
500 to 999 acres.....	210,437	200,012	191,697	182,297	10,425	8,268	5.2	4.1
1,000 acres and over.....	145,292	136,427	130,481	121,473	8,865	5,818	6.5	4.5
1,000 to 1,999 acres.....	85,000	79,101	(NA)	(NA)	5,899	(NA)	7.5	(NA)
2,000 acres and over.....	60,292	57,326	(NA)	(NA)	2,966	(NA)	5.2	(NA)

NA Not available.
¹Data for Alaska and Hawaii not included.

The number of farms under 10 acres in size has been declining since 1945. The discontinuance of farming by the operators of small farms and part-time farmers, the change in definition of a farm between the 1954 and the

1959 census, the almost complete disappearance of sharecropper farms in the South, etc. have contributed to the 70 percent decline in farms under 10 acres in size since 1945.

TABLE 8. Farms Under 10 Acres in Size, With Land in Farms, for the United States: 1880 to 1964

Year	Under 10 acres		Under 3 acres		3 to 9 acres	
	Number of farms	Land in farms (acres)	Number of farms	Land in farms (acres)	Number of farms	Land in farms (acres)
1964.....	182,581	778,000	59,686	(NA)	122,895	(NA)
1959.....	244,328	1,052,591	79,083	(NA)	165,245	(NA)
1954 ¹	484,291	2,259,817	99,896	(NA)	384,395	(NA)
1950.....	488,530	2,451,013	78,110	(NA)	410,420	(NA)
1945 ¹	594,561	2,805,435	98,966	141,252	495,595	2,664,183
1940.....	509,347	2,679,405	37,022	52,334	472,325	2,627,071
1935 ¹	570,831	3,057,166	35,573	51,269	535,258	3,005,897
1930.....	361,999	1,922,230	44,244	63,210	317,755	1,859,020
1925 ¹	378,535	2,096,610	15,151	22,976	363,384	2,073,634
1920 ¹	288,772	1,600,287	20,350	33,613	268,422	1,566,674
1910 ¹	335,043	(NA)	18,033	(NA)	317,010	(NA)
1900.....	268,446	1,481,899	41,882	79,508	226,564	1,402,391
1890.....	150,194	(NA)	(NA)	(NA)	(NA)	(NA)
1880.....	139,241	(NA)	4,352	(NA)	134,889	(NA)

NA Not available.
¹Data for Alaska and Hawaii not included.