

This PDF is a selection from an out-of-print volume from the National Bureau of Economic Research

Volume Title: The Growth of Physical Capital in Agriculture, 1870-1950

Volume Author/Editor: Alvin S. Tostlebe

Volume Publisher: NBER

Volume ISBN: 0-87014-358-1

Volume URL: <http://www.nber.org/books/tost54-1>

Publication Date: 1954

Chapter Title: Basic Agricultural Developments Accompanying Growth of Capital

Chapter Author: Alvin S. Tostlebe

Chapter URL: <http://www.nber.org/chapters/c5910>

Chapter pages in book: (p. 29 - 34)

2

Basic Agricultural Developments Accompanying Growth of Capital

As already suggested, the growth of physical farm capital was part of a more comprehensive development that greatly altered the agricultural sector of the national economy. Hence, as a preliminary to our discussion of the growth of capital, we present in this chapter data on certain related subjects, namely (1) the number of persons engaged in agriculture, (2) the number of farms, and (3) land in farms. These data reflect basic changes which influenced, and were influenced by, the growth in value and volume of physical capital used by farmers. Indeed, land in farms is itself a part of such capital.

Number of Persons Engaged in Farming

In 1870 an estimated 6.8 million persons worked on farms as operators, hired hands, or unpaid family workers (Table 3). This was 53 per cent of the country's total labor force. Thereafter the number of persons engaged in agriculture increased steadily until it reached 11.6 million in 1910. However, the number engaged in nonagricultural pursuits increased at a faster rate, so that the proportion of farm workers to the total labor force declined to 31 per cent. Since 1910, both the number engaged in agriculture and the proportion of agricultural workers in the total labor force have fallen steadily (Table 3). In 1950 about 6.9 million persons were engaged in agricultural pursuits; this represented less than 12 per cent of the number in all occupations.

TABLE 3

PERSONS ENGAGED IN AGRICULTURE AND IN ALL OCCUPATIONS, UNITED STATES,
CENSUS YEARS, 1870-1950

Year	Persons Engaged in Agriculture (thousands)	Persons Engaged in All Occupations (thousands)	Persons Engaged in Agriculture as Percentage of Persons in All Occupations
1870	6,850	12,925	53.0
1880	8,585	17,392	49.4
1890	9,938	23,318	42.6
1900	10,912	29,073	37.5
1910	11,592	37,371	31.0
1920	11,449	42,434	27.0
1930	10,472	48,830	21.4
1940	9,163	52,148	17.6
1950	6,906	60,100	11.5

Source: For 1870 to 1940, *Historical Statistics of the United States*, Bureau of the Census, 1949, Table D1-10, p. 63.

The data for 1950, provided by the census in advance of publication, differ very slightly from those that were published later in the *Census of Population: 1950*, Vol. II, Table 28 (State Books). Since the differences are nominal, and hence without effect on the analysis or conclusions, it was deemed not worthwhile to carry through to all the tables where these data appear the insignificant alterations that revision would require.

The growth of the agricultural labor force between 1870 and 1910, when it reached a peak in the country as a whole, varied greatly among regions (Table 4). In the Northeast the high point was reached about 1890, and by 1910 there were fewer persons engaged in agriculture than in 1870. In the Lake States and the Corn Belt the high point was reached at the turn of the century, but the numbers engaged in farming remained higher in 1910 than they had been in 1870—in the Lake States by 81 per cent and in the Corn Belt by 13 per cent. In the Appalachian and Delta regions the high point was reached about 1910. In the Southeast and in Texas-Oklahoma expansion continued until about 1920, and in the Great Plains, Mountain, and Pacific regions until 1930. Thus the crest of the numbers engaged in farming moved with considerable regularity from the northeastern part of the United States about 1890 to the western regions forty years later.

TABLE 4

PERSONS ENGAGED IN AGRICULTURE, BY REGIONS, CENSUS YEARS, 1870-1950
(thousands)

Region	1870	1880	1890	1900	1910	1920	1930	1940	1950
United States	6,850	8,585	9,938	10,912	11,592	11,449	10,472	9,163	6,906
Northeast	1,112	1,164	1,209	1,135	1,013	881	795	647	494
Appalachian	1,490	1,618	1,811	1,971	2,021	1,933	1,726	1,547	1,162
Southeast	1,080	1,302	1,420	1,597	1,882	1,884	1,469	1,213	843
Lake States	464	636	783	883	840	877	841	833	669
Corn Belt	1,664	2,044	2,157	2,199	1,885	1,787	1,616	1,461	1,176
Delta States	629	853	1,026	1,202	1,379	1,342	1,238	1,076	689
Great Plains	112	364	615	657	685	671	692	596	511
Texas-Oklahoma	183	403	537	791	1,194	1,203	1,148	947	601
Mountain	49	67	143	203	329	425	429	370	317
Pacific	67	134	237	274	364	446	518	473	444

Source: For United States, same as Table 3. Regional estimates described in Appendix F. Includes persons ten years of age and over.

Expansion of Number of Farms and Land in Farms

The census of 1870 enumerated 2.7 million farms, comprising 408 million acres, of which 46 per cent were "improved." The peak in the number of farms was reached about 1920, when 6.4 million were enumerated (Table 5). Land in farms, on the other hand, continued to increase rather steadily to 1950 (Table 5). This increase in acreage, however, gives a somewhat erroneous impression of the amount of land *used* in farming at different points in time. Some of the land included in farms in recent census enumerations, particularly in the western states and in Florida, was classified in earlier years as range land, although it was being grazed by livestock and therefore used in farming operations. If such land is counted as agricultural land, there has probably been no great change in acreage used in farming in this century. In the Lake States, on the other hand, the notable increase of land in farms has resulted from the establishment of farms on land which formerly was not used in agriculture. In the Southeast and Delta States, where land in farms in recent years has surpassed a high point reached in 1910, a similar expansion into cut-over areas or hitherto abandoned areas accounts for the increase.

Improved land in farms reached a peak in the United States in 1930 at 536 million acres (Table 5). The increase since 1870 was

TABLE 5

NUMBER OF FARMS, TOTAL LAND, AND IMPROVED LAND IN FARMS, BY REGIONS, CENSUS YEARS, 1870-1950

Region	1870	1880	1890	1900	1910	1920	1925	1930	1935	1940	1945	1950
United States:												
Number of farms (thousands)	2,660.0	4,008.9	4,564.6	5,737.4	6,361.5	6,448.3	6,371.6	6,288.6	6,812.4	6,096.8	5,859.2	5,382.2
Land in farms (mill. acres)	407.7	536.1	623.2	838.6	878.8	955.9	924.3	986.8	1,054.5	1,060.9	1,141.6	1,158.6
Improved land (mill. acres)	188.9	284.8	357.6	414.5	478.5	503.1	517.0	536.1	529.3	527.1	530.6	532.1
Northeast:												
Number of farms (thousands)	601.6	696.1	658.5	677.5	657.2	581.7	578.3	482.5	555.9	483.3	497.8	399.9
Land in farms (mill. acres)	62.7	68.0	62.7	65.4	62.9	57.6	53.4	49.3	51.9	47.0	48.9	44.4
Improved land (mill. acres)	41.1	46.4	42.3	38.9	36.6	32.7	28.9	27.3	27.1	26.6	26.9	24.5
Appalachian:												
Number of farms (thousands)	478.6	720.6	783.0	1,000.6	1,099.6	1,124.9	1,138.2	1,078.1	1,210.3	1,104.1	1,081.6	1,014.6
Land in farms (mill. acres)	90.3	100.8	99.7	101.9	100.3	95.0	87.9	86.8	92.1	88.1	86.3	86.0
Improved land (mill. acres)	34.6	42.1	46.9	52.2	53.5	52.1	47.0	47.1	48.1	49.8	48.0	46.6
Southeast:												
Number of farms (thousands)	199.5	391.8	478.1	644.1	780.4	813.5	718.7	729.9	762.4	647.6	658.2	606.0
Land in farms (mill. acres)	53.1	61.6	61.9	65.4	66.4	63.5	55.2	55.1	63.3	62.4	66.9	75.0
Improved land (mill. acres)	15.6	19.7	23.7	26.6	29.9	31.4	28.7	29.4	30.6	31.7	31.6	30.5
Lake States:												
Number of farms (thousands)	248.2	380.7	435.6	527.7	540.2	564.2	573.7	536.4	599.7	571.7	542.0	503.3
Land in farms (mill. acres)	28.2	42.6	50.2	63.7	67.7	71.4	69.9	69.9	74.7	73.5	75.1	73.4
Improved land (mill. acres)	13.3	24.7	30.8	41.5	44.4	46.9	45.6	46.8	49.3	49.8	52.4	51.6
Corn Belt:												
Number of farms (thousands)	824.7	1,097.9	1,130.2	1,276.3	1,233.7	1,175.5	1,140.0	1,086.2	1,187.7	1,101.2	1,052.6	994.5
Land in farms (mill. acres)	103.0	129.2	135.5	147.5	146.5	144.8	138.8	139.7	144.5	141.7	143.3	141.0
Improved land (mill. acres)	62.4	94.7	104.3	116.4	118.3	116.0	107.7	108.3	108.4	103.7	105.4	104.9

Delta States:

Number of farms (thousands)	145.9	244.5	338.4	515.5	609.6	640.2	611.7	716.5	734.9	657.8	591.6	558.0
Land in farms (mill. acres)	27.7	36.2	42.0	45.9	46.4	45.7	40.5	42.7	47.8	47.2	47.1	50.8
Improved land (mill. acres)	8.1	11.6	16.1	19.2	22.4	24.2	22.3	24.6	25.9	27.5	25.5	25.1

Great Plains:

Number of farms (thousands)	52.2	219.4	358.0	392.6	459.5	442.0	449.1	456.6	476.1	423.8	391.2	370.4
Land in farms (mill. acres)	8.0	35.2	70.9	106.2	136.5	158.5	152.1	166.8	170.9	172.9	180.4	182.1
Improved land (mill. acres)	2.7	17.4	49.2	64.4	90.6	96.5	105.7	114.1	108.6	109.2	111.0	114.1

Texas-Oklahoma:

Number of farms (thousands)	61.1	174.2	236.9	460.2	608.0	628.0	662.9	699.4	714.4	597.7	549.8	473.8
Land in farms (mill. acres)	18.4	36.3	53.0	148.8	141.3	146.0	140.5	158.5	172.9	172.5	177.5	181.4
Improved land (mill. acres)	3.0	12.6	21.3	28.1	44.9	49.3	63.8	67.7	64.3	64.1	59.9	59.0

Mountain:

Number of farms (thousands)	13.8	25.0	49.4	101.3	183.4	244.1	233.4	241.3	271.4	233.5	212.5	194.9
Land in farms (mill. acres)	1.8	4.0	14.8	46.4	59.5	117.3	131.7	157.5	173.9	191.9	244.6	250.2
Improved land (mill. acres)	.6	2.2	5.5	8.4	15.9	30.1	43.8	46.7	42.8	40.3	44.4	48.9

Pacific:

Number of farms (thousands)	34.4	58.7	96.5	141.6	189.9	234.2	265.6	261.7	299.6	276.1	281.9	266.8
Land in farms (mill. acres)	14.5	22.2	32.5	47.4	51.3	56.1	54.3	60.5	62.5	63.7	71.5	74.3
Improved land (mill. acres)	7.5	13.4	17.5	18.8	22.0	23.9	23.5	24.1	24.2	24.4	25.5	26.9

Source: Number of farms and land in farms, 1870-1940, *Census of Agriculture: 1940*, Vol. III, *General Report*, p. 51. For 1945 and 1950, *Census of Agriculture: 1950*, Vol. II, *General Report*, p. 30. Improved land in farms, 1870-1920, *Census of Agriculture: 1920*, Vol. V, *General Report*, pp. 38-43; 1925-1950, unpublished estimates of BAE, derived by adding together acreage of cropland, plowable pasture, farmsteads and other improved areas in farms. Cropland was reported by census from 1925 to 1950, but plowable pasture only from 1925 to 1940. Estimates for plowable pasture for 1945 and 1950 are based on data derived from the *Census of Agriculture* for these years, the Agricultural Adjustment Survey reports of 1942-1946 and the 1951 report *Agricultural Adjustment Productive Capacity Survey*. Estimates of acreage in farmsteads and other improved land in farms are based on farm management and other surveys of limited areas and on the number of farms reported by each *Census of Agriculture*.

184 per cent. After 1930 the area of improved land declined; it was 527 million acres in 1940. But the expansion of agricultural production during the war years reversed the downward trend. In 1945 improved land in farms stood at 531 million acres, and by 1950 at 532 million acres.

In the Northeast region the acreage of improved land has declined almost continuously since 1880, but since 1930 the decline has been nominal. In the Appalachian and Corn Belt regions the maximum acreage of improved land was reached about 1910, in the Great Plains and Texas-Oklahoma regions about 1930, in the Southeast and Delta regions about 1940, in the Lake States about 1945, and in the Mountain and Pacific regions about 1950. Apparently the crest of the acreage of improved farm land moved across the United States with roughly the same time pattern as the crest of persons engaged in farming. The notable exceptions to this pattern are the Lake and Delta States and the Southeast, where the highest acreages of improved farm land were reached later than the peaks in number of persons engaged would indicate.