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# Appendix

## A Brief Chronology of American Agricultural History

COMPILED BY DOROTHY C. GOODWIN, UNDER THE DIRECTION OF  
PAUL H. JOHNSTONE<sup>1</sup>

### HERITAGE

OXEN and horses were used for power, the wooden plows were crude, all sowing was done by hand, hoes were used for cultivating, hay and grain cutting was done with sickles, and threshing with flails. (Compare with later technological developments.)

All forms of domestic livestock except turkeys were at some time imported from Europe.

Plants imported from Europe included small grains, many fruits and vegetables, fiber plants, timothy and clover.

Plants borrowed from the Indians included maize, sweetpotatoes, tomatoes, pumpkins, gourds, squashes, watermelons, beans, peas, grapes, berries, pecans, black walnuts, peanuts, maple sugar, tobacco, and cotton. White potatoes were indigenous to South America.

Northern farmers tended to be self-sufficing. The plantation economy of the South was largely commercial.

Tobacco was the chief cash crop and principal agricultural export of the colonial South.

Rural-urban antagonisms had their roots in the colonial period in the conflicts between the politically powerful commercial interests of the cities and the self-sufficient farmers of the hinterlands.

Eighteenth-century ideas of progress, human perfectibility, rationality, and scientific improvement flourished in the New World as in the Old. Benjamin Franklin, George Washington, Thomas Jefferson, and others exemplified this spirit and encouraged its application to American agriculture and rural life. (See Jefferson, 1793; and George Washington, 1796.)

Jared Eliot (1685-1763), of Connecticut, wrote *Essays upon Field Husbandry*.

### DEVELOPMENT

1785. The Philadelphia Society for the Promotion of Agriculture was founded. It was an example of the new spirit of scientific improvement.

1786. In Shays's Rebellion the farmers of western Massachusetts revolted against deflation and the financial policies of their Boston creditors.

1789. The first tariff act, for revenue only, was passed.

1790. The settled area extended westward an average of 255 miles.

Over 90 percent of all persons gainfully employed were engaged in agriculture. Many industrial functions which were later to be taken over by factories were at this time a regular part of the farm economy.

The sale of public lands was one of the money-raising devices resorted to by the newly formed States. This gave impetus to specula-

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tion in new lands, which rose in value, sometimes spectacularly, as population increased and as improved means of transportation and communication were developed. The financial success of many such ventures and the repeated experience of rising land values tended to emphasize, particularly in the newer sections of the country, the speculative aspects of land ownership.

In the last years of the eighteenth century the cradle and scythe, which had been brought in from Europe, came into wide use.

- 1793. The cotton gin was invented, paving the way for a tremendous increase in cotton production.  
Jefferson tested his moldboard of least resistance.  
The first Merino sheep were imported.

Northern farmers continued to be largely self-sufficient, while the plantation economy of the South remained largely commercial.

- 1794. In the Whiskey Rebellion, western farmers revolted against a tax on grain in the form of whiskey.

This was the period of aristocratic agricultural and scientific societies.

- 1796. George Washington suggested to Congress the establishment of a National Board of Agriculture.
- 1797. Newbold patented the first cast-iron plow.

In the late 1790's the sheep industry began to assume importance in New England. By 1810 the interest in Merino sheep had reached the proportions of a craze. This development resulted principally from the separation of America from the British textile industry during the Revolution and was stimulated by the Napoleonic Wars, which hampered trade with Europe. In 1816, after the end of the War of 1812 and the Napoleonic Wars, the price of wool collapsed and the sheep industry began to decline.

- 1800. The frontier had crossed the Appalachians.
- 1803. The Louisiana Purchase added 827,987 square miles to the territory of the United States.
- 1790-1820. The era of turnpike (toll-road) building improved communication and commerce between the settlements.

Aristocratic agricultural and scientific societies began to be replaced by more democratic societies and fair associations.

- 1804. The first modern agricultural fair was held in Washington, D. C.
- 1807. Fulton demonstrated the practicability of the steamboat.  
Elkanah Watson exhibited Merino sheep in Pittsfield, Mass. As a result of the public response to this exhibition, he initiated the movement for agricultural fair associations.

Sorghum was brought in from Africa on a slave ship at an unknown date, probably in the first or second decade of the nineteenth century. It was not widely cultivated until about the fifties.

- 1810. The first American agricultural periodical, the Agricultural Museum, began publication.

Cotton began to take the place of tobacco as the chief cash crop of the South.

During the period between 1810 and 1830 the transfer of manufactures from the farm and home to the shop and factory was greatly accelerated. Farming became a less self-sufficient and a more specialized and commercial enterprise as a result of this change. The farmers began to need cash in order to buy the things they had

formerly produced, and the growing urban and industrial populations required specialized agricultural production to support them.

1812-14. The War of 1812 and a war depression.

1814-16. Period of prosperity following the war.

1816. The first protective tariff act was passed.

Antagonism between the commercial and farming interests tended to increase. The farming interests of the South especially began to wage a losing fight against the protective tariff, which increased the cost of many of the manufactured goods they had to buy. (See *The Tariff of Abominations*, 1828; *The tariff*, 1857; and *The Morrill Tariff Act*, 1861.)

1819. Florida and other lands were acquired by treaty with Spain.

Jethro Wood patented an iron plow with interchangeable parts.

*The Plough Boy* and *The American Farmer* began publication.

The Secretary of the Treasury instructed consuls to collect seeds, plants, and agricultural inventions for introduction into this country. There was no appropriation.

The New York State Board of Agriculture was set up by the State legislature. It was the first organization of this sort.

1819-21. A period of depression came after the temporary prosperity that followed the War of 1812.

1820. About 83 percent of all persons gainfully employed were engaged in agriculture.

1821. Edmund Ruffin published his first *Essay on Calcareous Manures* (lime). Expanded editions of this essay based on further experimentation appeared from time to time until 1852.

1822. The first issue of the *New England Farmer* appeared.

Popular and agricultural education was becoming the most important rural issue.

1822-25. This period, during Monroe's second presidential term, was called the *Era of Good Feeling* because of the comparative prosperity and internal political peace which characterized it.

The value of new lands continued to rise as the population grew and as communication developed.

About 50 to 60 man-hours of labor were required to produce 1 acre (20 bushels) of wheat with a walking plow, a bundle of brush for harrow, hand broadcast of seed, harvesting by sickle, and threshing by flail. (Compare with labor requirements about 1890 and about 1930.)

Poland-China and Duroc-Jersey swine were being developed.

Berkshire swine were being imported.

Cotton was established as the chief cash crop of the Old South.

Competition with western farm areas began to force New England farmers out of meat and wheat production into dairying, truck, and later, tobacco.

1825. The Erie Canal was opened. This was the climax of the canal-building era.

1825-29. Depression.

1826. Josiah Holbrook organized Branch No. 1 of the American Lyceum at Millbury, Mass.

This was the period of manual-labor schools based on the educational system worked out by Fellenberg in Hofwyl, Switzerland. Students in these schools helped to make the institutions self-supporting by working on school farms and in workshops.

Rural-urban issues began to play an increasingly important part in national politics. (See Rural-urban antagonisms, under Heritage, p. 1184.)

1828. The "Tariff of Abominations" was enacted. This was an extremely high protective tariff sponsored by the Jacksonians, as a political move, and by the woolen interests. It was opposed by the South. (See South Carolina directed the Nullification Ordinance, 1832.)  
The first issues of the *New York Farmer* and the *Southern Agriculturist* appeared.
1830. The Mississippi River formed the approximate boundary of the frontier.  
1830-37. Land-speculation boom.
1831. Peter Cooper's railroad steam engine, the "Tom Thumb," ran 13 miles.

The beginning of the railroad era.

1831. The first issue of the *Genessee Farmer* appeared.  
By this time 900 towns had Lyceums—associations for providing adult and community education in agriculture and other subjects and for training teachers.

Popular and agricultural education continued to be the most prominent rural issue, and the movement for agricultural education began to gather strength. The self-education vogue was associated with this movement.

Many schools and colleges began to offer courses in agriculture and sciences helpful to agriculture.

Agricultural spokesmen began to demand formal recognition by the Government of the special needs of agriculture. Government support was asked for agricultural societies and fairs, agricultural education, and State boards of agriculture. (See The Patent Office, 1839.)

1832. The renewal of the charter of the Second National Bank, whose existence had always been a point of contention between the creditors of the cities and the debtors of the South and West, was made a campaign issue. South Carolina directed the Nullification Ordinance at the "Tariff of Abominations" of 1828. The tariff issue thus evolved into a States' rights issue. (See The Morrill Tariff Act, 1861; and Civil War, 1861-65.)
1833. John Lane began to manufacture steel plows.
1834. The McCormick reaper was patented.  
The first issue of the *Cultivator* appeared.
- 1835-37. The bank-credit land boom became intensified.
1836. The Patent Office, which later took on agricultural functions, was created in the State Department.
1837. A State university providing general and agricultural education was legally established in Michigan.  
Panic. The end of the land-speculation boom.  
A practical threshing machine was invented.  
John Deere began manufacturing steel plows. (See John Lane, 1833.)

The development of the reaper, the steel plow, the threshing machine, and other farm implements during this period involved changes in economic and social organization as well as in technology. The manufacture of farm implements was driven out of local blacksmith shops and into specialized factories because of the capital required for the efficient production of the new machinery. Moreover, as farmers gradually found it economically advantageous to make the heavy capital investment necessary for the new machines, their need for cash and their dependence upon the market increased. This trend

has continued for more than a hundred years as mechanical technology has been constantly improved and specialized.

1837. Morse developed the first practical telegraph machine.

1839. Cotton boom.

The Patent Office received an appropriation of \$1,000 for work with agricultural statistics.

1840. 77.5 percent of all those gainfully employed were engaged in agriculture. Liebig's Chemistry appeared. It had a great influence on scientific thought and on agricultural experimentation in Europe and this country. (See Edmund Ruffin, 1821.)

3,320 miles of canal had been constructed.

1840-45. Depression.

Free land was becoming an important issue.

1841. The Preemption Act, providing for the sale of public lands at \$1.25 an acre, was passed.

Agitation for popular and agricultural education and rural interest in self-improvement continued.

There was a growing tendency for farmers to organize along occupational lines.

1841. The Union Agriculturist and Western Prairie Farmer started publication. By this time agricultural journalism was permanently established. A practical grain drill was patented.

1842. The first grain elevator was constructed, in Buffalo.

1844. A mowing machine was patented.

The potato famine in Ireland in the 1840's and the German Revolution of 1848 brought a tremendous influx of immigrants.

1845. Texas was added to the Union.

1846. The Oregon question was settled, and Oregon was added to the Union. Protective duties were lowered, and the system of computing duties was changed from specific to ad valorem by the Walker Tariff Act.

The value of new lands continued to rise as the population grew and as communication developed.

1846. The first herd book, for Shorthorns, was compiled.

The Howe sewing machine was patented.

In the forties and fifties Herefords, Ayrshires, Galloways, Jerseys, and Devons were being imported and bred.

Commercial corn and wheat belts began to develop. Wheat occupied the newer and cheaper areas and was constantly being forced westward by rising land values and the encroachment of corn. But New York, Pennsylvania, and Ohio were still the chief wheat-producing States.

As the frontier moved out onto the prairies and the Plains, subsistence farming became more difficult and agriculture became necessarily more commercial.

Cotton was the only great agricultural export until after 1860. (See The exportation to Europe of foodstuffs, about 1865.)

1846-48. The Mexican War and war prosperity.

1848. The Mexican Cession was added to the Union.

1849. The California Gold Rush began.

The Patent Office was transferred from the State Department to the newly created Interior Department. Distributing free seeds and collecting agricultural statistics were the principal agricultural functions of the Patent Office.

Jonathan Turner of Illinois began to campaign for "industrial universities." This campaign was part of the long struggle for popular and agricultural education which culminated in the passage of the Land Grant College Act in 1862. The industrial universities were to be practical colleges for common men to prepare them for agricultural or industrial jobs.

1850. The frontier had jumped the Great Plains and the Rockies from the Mississippi River to the Pacific coast, following the discovery of gold in California.

1850-56. California gold inflation prosperity.

About 30 to 35 man-hours of labor were required to produce 1 acre of corn (40 bushels) with a walking plow, a harrow, and hand planting. (Compare with labor requirements about 1890 and about 1930.)

Alfalfa was grown on the west coast.

1853. The Gadsden Purchase was made.

In the fifties kerosene lamps began to be popular.

"Uncle Sam has land enough for all of us." Free land became a more and more urgent issue, especially among urban working people who wanted to become freehold farmers. (See The Preemption Act, 1841; The Homestead Act, 1862; United States Census statement, 1890; and Land shortage, about 1933.)

The interests of agriculture were promoted through the Patent Office during this period.

The fifties, sixties, and seventies were the period of the farmers' clubs.

1855-60. The average annual value of agricultural exports was \$229,371,600, or 82.4 percent of all exports.

1856. The two-horse straddle-row cultivator was patented.

In the fifties the South was in the political saddle. The contentions between the industrial North and the plantation South became steadily more intense.

1857. The tariff was revised downward to the lowest level since 1815, reflecting the political dominance of the South.

Panic.

An agricultural college was opened in Michigan.

Steam tractors were tried unsuccessfully.

Grimm alfalfa was introduced.

1859. Darwin published *Origin of the Species*, which had a great influence on biological science.

Maryland Agricultural College was opened to students.

"Pike's Peak or bust." The miners' frontier began moving eastward toward the westward-moving farmers' and ranchers' frontier.

1860. East Texas was first reported as an important cotton area.

30,000 miles of railroad track had been laid.

1861. The Morrill Tariff Act was passed. It raised the tariff barrier to a new high level, setting the precedent for later high protective tariffs, and it was bitterly opposed by agricultural interests, especially in the South.

1861-65. Civil War.

1861-62. Secession depression.

1862. The Department of Agriculture was set up but remained without Cabinet status until 1889.

The drive for agricultural education culminated in the passage of the Morrill Land Grant College Act.

The Homestead Act was passed; farmers and workingmen had won the free-land issue.

1862-65. War prosperity.

During the Civil War period the Corn Belt began to become stabilized in its present area, Wisconsin and Illinois were the chief

wheat States, and the Wheat Belt began to move across the Mississippi. The prosperous Cotton Belt had already begun to move westward out of the exhausted lands of the old Southeast.

The exportation to Europe of foodstuffs produced in the North increased greatly, while the South, for the time being, could not export her cotton.

1865-66. Primary post-war depression.

1865-75. Gang plows and sulky plows came into use.

As a result of the Civil War there was a great expansion of industry in the North. In the South the sharecropping system tended to grow up in place of the old plantation slave system.

This was the beginning of a period of active revolt by farmers against their economic disadvantages. After the Civil War farm organizations and agricultural issues were destined to be primarily concerned with economic matters to a much greater degree than had been the case before the war.

1867. The first Grange was organized.

1869. Illinois passed the first of the so-called Granger laws, regulating railroads.

Women's suffrage and prohibition began to be important issues.

1869. Wyoming adopted women's suffrage.

The Union Pacific Railroad was completed. (See The Crédit Mobilier scandal, 1872.)

1870. 47.4 percent of all persons gainfully employed were engaged in agriculture. The 1870 census was the first which showed the farmers as a minority among the gainfully employed.

Commercial values of farm land continued to rise as cities and agricultural markets expanded.

1870-90. The days of the cattlemen on the Great Plains.

1870. Foot-and-mouth disease was first reported in the United States.

1871. The National Grange gave its sanction to a cooperative enterprise.

1872. The Crédit Mobilier scandal was made public, bringing to light the bribing of Congressmen by the construction company of the Union Pacific Railroad.

1873. Panic.

Settlement on the Great Plains was accelerated by the cattle boom and the panic of 1873.

1873. The grasshopper plagues in the West became serious. (See The United States Entomological Commission, 1877.)

A successful wire binder was on the market. (See Deering, 1880.)

Silver was demonetized in what came to be known among western farmers as "the Crime of '73." Free silver became a prominent rural issue.

Hard money, high freight rates, and monopoly were the most prominent agricultural issues of the day. They reflected the shift in power from the agrarian to the financial and industrial interests that was a result of the Civil War.

1874. The Glidden barbed-wire patent was granted. Barbed wire contributed greatly to the agricultural settlement of the Great Plains.

1874. The first Chautauqua was formed. The Chautauqua movement started as a device for training Sunday-school teachers and developed into an adult-education program.

Many State colleges of agriculture began to do experimental work, partly in

order to improve farming methods and production and partly to build up a science of agriculture that could be taught in the agricultural colleges.

Silos and refrigerator cars began to come into use in the seventies.

The Grange was at its height during the middle seventies. It had started out as a fraternal order, but the economic circumstances in which farmers found themselves in that period forced the Grange to take a stand on such economic issues as railroad regulation and hard money.

The Farmers' Alliance movement began during the middle seventies in response to the farmers' economic distress. The original purposes of the Alliance, unlike those of the Grange, were wholly economic and political.

1875-80. The average annual value of agricultural exports was \$525,902,400, or 78.8 percent of all exports.

1877. The United States Entomological Commission was established for work on grasshopper control.

1880. The estimated average equity of farm operators in the land they farmed was 62 percent. This figure was destined to decline from this time on at an average rate of 4 percent each decade until 1935. (See items concerning land values about 1920 and land shortage about 1933.)

Deering put 3,000 twine binders on the market.

The Mississippi River traffic reached its peak.

The cooperative movement began to assume some importance. Farmers' organizations such as the Grange (1867), the Farmers' Alliance (the middle seventies), the Agricultural Wheel and the Farmers' Mutual Benefit Association (1882), the Farmers' Union and the American Society of Equity (1902) took up the movement one after the other in an effort to give farmers bargaining power in their dealings with industry.

Plow agriculture was beginning to extend into the Great Plains. This movement, encouraged by population pressure and facilitated by the development of barbed-wire fencing, advanced in spite of the resistance of many cattlemen.

1880-83. Following the resumption of specie payment in 1879, which put an end to the greenback days of the Civil War, there was a brief period of prosperity.

1882. The German bacteriologist, Koch, isolated the tubercle bacillus, thereby taking the first step in the direction of control of tuberculosis in dairy herds.

The Agricultural Wheel, a farmers' organization similar to the Alliance and later absorbed into it, was organized.

The Farmers' Mutual Benefit Association, an organization for bettering the farmer's economic status and committed to the cooperative principle, was organized.

Bordeaux mixture, a fungicide, was discovered in France and soon introduced into the United States.

A few States began to institute inspection of dairy products.

1884. Depression.

1886-90. Railroad prosperity. This was the period of railroad consolidation.

1886-87. Overgrazing, drought, and blizzard brought disaster to the Great Plains cattle industry. Thereafter the extension of plow agriculture into the semiarid and arid sections of the Great Plains was accelerated.

1887. The Interstate Commerce Act was passed in response to the agitation of farmers and others for the control of railroads.

The Hatch Experiment Station Act was passed. At this time 15 States had 17 formally organized experiment stations.

Spring-tooth harrows were available for seedbed preparation. They began to replace the cultivators previously used for this purpose.

Cream separators began to come into wide use.

1889. The carrier of tick fever was determined by the Bureau of Animal Industry.

The agricultural pressure groups gathered strength. Hard money, high freight rates, trusts, and monopoly continued to be dominant issues.

1889. The Alliance evolved the subtreasury plan, whereby the Government was to grade and store farm products in Government warehouses. The farmers were to receive a year's loan for produce so deposited and were to be able to redeem it for sale in the open market when it seemed advantageous to do so.

The Department of Agriculture was raised to Cabinet status.

This was the height of the period of the Chautauquas. The Chautauqua movement was a part of the same self-education movement which founded Lyceums in 1826 and farmers' clubs in the fifties.

1890. "There can hardly be said to be a frontier line," said the United States Census. This is the date commonly selected to mark the end of the historic era of cheap and free lands open to agricultural settlement. The estimated average equity of farm operators in the land they farmed was 59 percent.

Agriculture was becoming increasingly mechanized and commercialized.

Horse-drawn combines were in use in the Pacific coast grain areas.

Eight to ten man-hours of labor were required to produce 1 acre (20 bushels) of wheat with a gang plow, a seeder, a harrow, a binder, a thresher, wagons, and horses. (Compare with labor requirements about 1825 and about 1930.)

Fourteen to sixteen man-hours of labor were required to produce 1 acre (40 bushels) of corn with a two-bottom gang plow, a disk and peg-tooth harrow, and a two-row planter. (Compare with labor requirements about 1850 and about 1930.)

By 1890 most of the basic potentialities of agricultural machinery dependent on animal power had been discovered.

1890. The Babcock butterfat test was devised.

The McKinley Tariff Act was passed as a result of the campaign of 1888. Under it the tariff barrier was raised and a tariff on agricultural products was inserted as a sop to farmers.

The Sherman Antitrust Act was passed in an effort to stem the growing tide of monopolistic control in industry which worked to the disadvantage of the consumer.

There was a short, sharp crisis precipitated by the financial difficulties of an English banking firm, the Baring Brothers.

1892. The Farmers' Alliance became the "People's Party," or "Populist Party," to champion the rights of farmers.

It was reported that the last case of pleuropneumonia in cattle had been disposed of.

Kansas was becoming the center of the Wheat Belt and Texas the chief cotton State.

A beginning was made in the development of secondary agricultural education locally and by States.

1893. Panic.

There were 49 permanent experiment stations under the Hatch Act.

1894. The Wilson-Gorman Tariff Act was passed. President Cleveland, who had been elected on a pledge of a low tariff, considered this only slightly lowered tariff an example of "party perfidy and dishonor."

1895. The Selden patent for automobiles was granted.

1895-1900. The average annual value of agricultural exports was \$752,120,200, or 66.4 percent of all exports.

1896. The rural free delivery system was started.

1897. In the Dingley Tariff Act the Republican Party raised the tariff wall above the McKinley tariff level.

1897-1901. Normal economic period.

1898. Trap nesting was begun for the selection of hens.

1899. An improved method of anthrax inoculation was devised.

The boll weevil crossed the Rio Grande and began to spread North and East.

1900. 35.7 percent of all persons gainfully employed were engaged in agriculture.

The estimated average equity of farm operators in the land they farmed was 54 percent.

Mendel's work on heredity was rediscovered.

Farmers began to have telephones. Many cooperative country lines were established.

Urban influences on rural life were becoming greatly intensified. The vast improvements and extension of transportation and communication, the growing use of urban industrial products by farm people, the increasing dependence of the farmer on the urban market, the increasing distribution of metropolitan newspapers and magazines among farmers, the growth of both formal and informal educational institutions, all tended to reduce the differences between rural and urban life.

1901-3. A period of industrial prosperity followed the development of the holding-company technique of consolidation.

1902. The Farmers' Union was formed.

The American Society of Equity, a farmers' organization devoted largely to improving marketing practices, was formed.

The Reclamation Act was passed.

De Vries announced the mutation theory, of great importance in the field of genetics.

1903. A serum for hog cholera was developed.

1904. A "rich man's panic" followed the conviction, under the Antitrust Act, of the Northern Securities Co., a holding company.

Soybeans began to be an important crop.

Agricultural settlement on the Great Plains continued, and a dry-land farming boom appeared as a result of experimentally developed dry-land farming practices.

1905-10. The average annual value of agricultural exports was \$962,708,600, or 54.9 percent of all exports.

1905. The California Fruit Growers' Exchange was formed.

1905-6. A period of prosperity.

1906. The Food and Drugs Act was passed.

1907. Panic.

1908. The Wright brothers demonstrated the airplane.

1900-1929. Road building was stimulated following the invention of the automobile.

Agricultural credit, with the growth of commercialism in agriculture and the increasing need for cash among commercial farmers, became a more and more important rural issue.

1908. President Roosevelt organized the Country Life Commission.

1909. The Payne-Aldrich Tariff Act, which placed duties at the highest level up to this time, was passed.

1909-12. Normal economic period.

1910. 33.2 percent of all persons gainfully employed were engaged in agriculture. The estimated average equity of farm operators in the land they farmed was 50 percent.

Morgan announced the gene theory.

Experimental work to breed disease- and drought-resistant varieties of plants, to improve plant yields in some cases, and to increase the productivity of farm-animal strains was becoming more and more extensive.

By 1910, 35 States and Territories required testing for tuberculosis of all entering cattle.

This was the period of the Country Life Movement.

1911. The first Farm Bureau was formed in Broome County, N. Y. (See Smith-Lever Act, 1914.)

1912. Marquis wheat was introduced.

1913. Panic.

The sixteenth amendment to the Constitution, permitting the levying of a Federal income tax, was ratified.

The seventeenth amendment to the Constitution, providing for direct election of Senators, was ratified.

The Underwood-Simmons Tariff Act, passed during a Democratic administration, represented some reduction in tariff rates but remained protectionist in principle.

The Federal Reserve Act was passed.

1914. The Cotton Futures Act was passed.

The Smith-Lever Extension Act was passed, providing for a Nationwide extension of the county-agent system along the lines first worked out by the Farm Bureau of Broome County.

1915. The Non-Partisan League was formed.

Big, open-gear gasoline tractors came into use in areas of extensive farming and were soon used with the combine, which had been brought in from the Pacific coast.

1915-20. Movie houses were becoming common in rural areas.

The average annual value of agricultural exports was \$2,637,853,000, or 41 percent of all exports.

War prosperity. Agricultural production was vastly increased to supply a tremendous foreign market.

1916. The Federal Farm Loan Act was passed.

1917. The Smith-Hughes Vocational Education Act was passed.

Entry of the United States into the war.

The Food Control Act, a war measure affecting agriculture, was passed.

Kansas Red wheat was developed.

1917-27. Grain production reached into the most arid sections of the Great Plains. (See Severe drought conditions, 1934.)

1918. Ceres wheat was developed.

1920. The American Farm Bureau Federation was organized.

26.3 percent of all persons gainfully employed were engaged in agriculture.

The estimated average equity of farm operators in the land they farmed was 46 percent.

The foreign market for farm products began to decline, wartime agricultural prices collapsed, and the long-time agricultural depression began.

There was a general though uneven decline in the value of farm land. The era of unearned increment was over, and the long-time trend of rising farm land values was at last broken.

1920-22. Primary post-war depression.

Enclosed gears were developed for the tractor.

1920. The nineteenth amendment to the Constitution, granting suffrage to women, was ratified.

1921. The Packers and Stockyards Act was passed.

A farm bloc was organized in Congress.

1922. A national agricultural conference was called in Washington, D. C.

The cooperative movement spread.

1922. The Capper-Volstead Act was passed, exempting production cooperatives from the restrictions of the antitrust law.  
The Grain Futures Act was passed.

The surplus became the chief agricultural issue. It was first attacked primarily as a marketing and later as a marketing-and-production problem.

1922. The Illinois Agricultural Association attempted voluntary corn-acreage reduction.  
The fear of the dumping of foreign products in this country following the war stimulated the passage of the highly protective Fordney-McCumber Tariff Act.

1923-27. "Coolidge prosperity."

1923. The Agricultural Credits Act was passed, setting up a Federal Intermediate Credit Bank in each Federal Reserve District for the purpose of making loans to farmers for periods intermediate between the usual long-term and short-term loans.

1925. The work of the Department of Agriculture was by now divided between research, service, and regulation under more than 30 regulatory laws. (See entries under 1819, 1839, 1862, and 1889.)

The Purnell Act, providing funds for economic and sociological research to be carried on by experiment stations, was passed.

The Master Farmer movement began under the auspices of the Prairie Farmer.

- 1925-30. The average annual value of agricultural exports was \$1,791,529,800, or 37.1 percent of all exports.

1926. The first hybrid seed-corn company was organized.

A successful light tractor was developed.

1926. The export-debenture plan was first proposed. (See The surplus, about 1922, and The agricultural export market, about 1930.)

1927. The first McNary-Haugen bill was vetoed.

1928. The second McNary-Haugen bill was vetoed.

There were nearly 12,000 cooperatives in the country.

1929. The Federal Farm Board was established.

Panic.

1930. 21.5 percent of all persons gainfully employed were engaged in agriculture. The estimated average equity of farm operators in the land they farmed was 41 percent.

58 percent of all farms had cars, 34 percent had telephones, 13 percent had electricity (including home generating plants).

262,713 miles of railroad were in operation.

The agricultural export market after the 1920's suffered increasingly serious competition from the newer agricultural regions of the world.

1930. The Hawley-Smoot Tariff Act, which was highly protective, was passed.

Three to four man-hours of labor were required to produce 1 acre (20 bushels) of wheat with a 3-bottom gang plow, a tractor, a 10-foot tandem disk, a harrow, a 12-foot combine, and trucks. (Compare with labor requirements about 1825 and about 1890.)

Six to eight man-hours of labor were required to produce 1 acre (40 bushels) of corn with a 2-bottom gang plow, a 7-foot tandem disk, a 4-section harrow, a 2-row planter, a 2-row cultivator, and a 2-row picker. (Compare with labor requirements about 1850 and about 1890.)

Multiple-row cultivators, corn planters, and pickers came into wide use.

The all-purpose rubber-tired tractor with complementary machinery came into wide use.

- 1930-40. The use of hybrid corn became general in the Corn Belt.

1933. The Farm Credit Act was passed.

The first Agricultural Adjustment Act was passed. (See The surplus, about 1922.)

Soil conservation was recognized as a growing problem.

Land shortage, surplus rural population, and farm-security problems began to attract attention. (See The Preemption Act, 1841; The Homestead Act, 1862; the end of the frontier, 1890.)

1934. The Reciprocal Tariff Act was passed.

Severe drought conditions and dust blowing developed on the Great Plains. (See Grain production, 1917-27.)

1935. The estimated average equity of farm operators in the land they farmed was 39 percent. (Compare with 1880.)

1936. The Supreme Court, in the Hoosac Mills decision, outlawed the processing taxes in the Agricultural Adjustment Act.

Congress immediately passed the Soil Conservation and Domestic Allotment Act as a substitute measure for the Agricultural Adjustment Act.

Soil conservation problems received increased attention.

The plight of the Dust Bowl refugees and migratory workers received Nation-wide attention. (See Land shortage, about 1933).

Attempts were made to reestablish some portions of the Great Plains as a cattle region.

The long-time agricultural depression continued.

1937. Business recession.

1938. The "ever-normal granary" was written into the Agricultural Adjustment Act.

1939. The food-stamp plan for distributing surplus food products was tried out in some cities.

Trade barriers between States began to attract attention.

1939. War began again in Europe.