

Development of American Agriculture.

BY

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## The Development of American Agriculture.

The welfare of a nation depends upon the equal development of its industries. The different occupations are becoming more and more dependent on each other as division of labor progresses. They all finally depend on agriculture to a great extent, although agriculture could not reach its highest development without the others. Agriculture is the occupation in which a larger number of the American people are engaged than follow any other calling and is, directly or indirectly, the source of nearly 80% of the exports of the country.

There was some agriculture in America before it was discovered by the Europeans. Three classes of aborigines inhabited it. The most enlightened of these had been in what is now Mexico, Central America, and the N. W. part of South America. They built their houses of stone or unburnt brick, and were devoted largely to horticulture. The most savage class roved on the regions north and south of this. They dwelt in wigwams and got their living by hunting and fishing. The intermediate class was the one with which the whites first came in contact. They built huts of poles and covered them with reeds. They gained a living by hunting and practicing agriculture in a rude form, from which the early settlers learned some valuable lessons. The Indians had no domestic animals, no grains except corn, no cultivated grasses or clovers. They raised tobacco and squashes, and as some think potatoes.

American agriculture is commonly divided into four periods. The

first period extends from the time of the first settlements by the whites to the close of the Revolutionary war. During this time agriculture made little progress. The colonists met with difficulties on every hand. The climate was very different from that to which they were accustomed, being much hotter in summer and colder in winter. They were in the midst of a wilderness surrounded by products they knew nothing of. The Indians and wild beasts were ready to prey upon their crops and stock. Portions of the soil were fertile, but covered with heavy forests. Many of the colonists were poor. They had but few tools and little knowledge of agriculture. At first they had no cattle, but some cows were brought to Virginia in 1607 and other importations followed. Slaughter was prohibited so the few they had increased rapidly. In 1620 there were 500 cattle in the colony; in 1639 they had increased to 30,000. They were first taken to Plymouth in 1623, and seven years later 100 more were brought over. About the same time 103 horses and cattle were imported from Holland to the Dutch colony in New York. The ancestors of our Texas cattle were brought into the south by the Spaniards. The stock was poor, it being some time before it was improved in the countries from which it came. The cattle and sheep were small and very ill shaped. Less than two centuries ago the average weight of the cattle sold at the Smithfield market was 370 lbs. and that of sheep 28 lbs. Now the average weight of the cattle sold there is over 800 lbs. and of sheep over 80 lbs. Cattle were poorly cared for so while they increased in number they grew poorer in quality. In New England

common pasture lands were reserved as was the custom in England, but as the cattle were left to hunt their living during the winter many starved to death and sometimes an entire herd perished in a single winter. Sheep were introduced very early and increased rapidly. Nearly every farmer raised and spun enough wool to clothe his family. The sheep were of inferior quality, as they were not improved until the present century. Swine were imported about the same time as sheep, but as they were forced to hunt their living in the woods they rapidly degenerated. Our common horses are descendants of the Spanish, Dutch, and English. A few thorough breeds were imported in the south but little attention was given them until the present century. Horses were found to be too nervous to work well in the timber so oxen were largely substituted.

The cultivation of crops was small at first as the colonists had very few and poor implements. In the Mass. colony it was twelve years before they possessed a plow. After they were used the man who owned one let it out to his neighbors. Plows remained very rude during the whole period, requiring a strong team and three men to run one. For some time the only implements these early settlers had were a rude plow, spade, sickle, grubhoe and a clumsy wooden fork. The only material they could obtain from which to make their tools was wood and iron made from bog ore. In the Virginia colony plows were introduced seven years after the first settlement was made, but there were no men competent to run them.

After grain was raised on a larger scale it was often allowed to

get over ripe before cutting, or spoil in the barn after it was harvested. The crops raised were both foreign and native. Nearly all that are raised now to any extent were tried probably several times during this period sorghum being the most prominent exception. Wheat was the main crop of Virginia until 1648 when tobacco took its place, and for some time this remained the principal export. Maize was the great crop of the colonists as it had been of the Indians, since it could be prepared for food in many ways. Rye and corn meal were mixed for bread. Cotton was first cultivated in 1733. Rice was the principal crop of Carolina and Georgia. The value of cultivated grasses was not realized until 1750 and little attention was given them until after the Revolution.

It is not to be wondered at that agriculture made so little advancement during this period. England kept the colonies in a state of depression commercially and politically. Very few industries were allowed. The little they exported was principally tobacco. This had to be sent to England. There was little means of or desire for communication, so what little they learned had to be gained by experience. Their stock, crops and implements were poor and their knowledge of agriculture equally so. There were no agricultural papers or books. Less than a dozen news papers were published in the whole country prior to 1750 and very few of these were read in the rural districts. Everything tended to make the people prejudiced and narrow minded. Slaves were used and this tended to make manual labor seem degrading.

One great good that came out of this period was the establishment of the American system of land ownership. Nearly every farmer owned the land he worked and did all the work on it himself.

The second period extends from the close of the Revolutionary war to about 1833. With this the progress of agriculture begins. The colonists were in an exceedingly bad condition at first, as the war had put agriculture in a state of great depression. The stock had been reduced, the roads were poor, there were no markets, and they had no established form of government. But the war was not without its good effects. It brought the colonies into much closer sympathy and there was a desire to lay the foundation for a great nation. A system of agriculture was started which has remained nearly the same to the present time.

Manufactories became quite extensive. In 1809 there was not a single factory that made agricultural implements. In 1810 a rake factory was started in Mass., and in 1820 there were several that made scythes, shovels, axes and hoes. Cast steel hoes and shovels were improved and patented, and were also much cheaper. In 1831 cast steel hoes were worth only \$4.50 per dozen, while ten years before iron hoes sold for twice that price. The greatest improvement in implements during this period was in the plow, which reached a good degree of perfection. To Thos. Jefferson belongs the credit of first applying mathematics to determine the shape of the mold board. At the beginning of the present century plows were made on the farm or by the village black-

smith. After they were so much improved manufacturing establishments were started, and these have been growing larger and fewer in number ever since. The cotton-gin was invented in ~~in~~ 1794 by Eli Whitney. This with the improvement of the crop made the cultivation of cotton so profitable that the United States took the lead in its production.

Horses began to be improved in this period. Messenger was imported in 1788 after he had gained some notice on the English turf, and many good horses are descendants of him. Racing was forbidden in most of the states. The first public trotting race was held in New York in 1818, and after this trotting was encouraged as it was thought to be a useful gait, but running was considered gambling. The horses of America at this time were poor and many of them unsound. Mules were largely used in the south as they were found to be more suitable for plantation work.

The cattle had increased in number but were very poor in quality. Durhams or Short Horns were brought to New York in 1792 and the next year some were taken to Maryland and Virginia. A few good cattle reached Kentucky and Ohio, but little attention was given them until near the close of this period.

In 1801 Merinos were more largely introduced from France and Spain and became very popular. The improvement in this country has produced the American Merino, a distinct and superior type. In 1812 there was a great temporary advance in the price of sheep, there being very little wool in the country, and the war caused a great demand for sheep breeding. In 1810 wool sold for \$1. per pound; in 1812 for \$2.50 per pound

and a ram lamb for \$1000. After the war prices diminished greatly. In 1815 pure bred sheep sold for \$1. per head and thousands were killed for their skins and tallow. This depression remained to quite an extent until the tariff of 1828 which led to new importations of English sheep.

The great need of bettering the system of agriculture was impressed upon some of the most intelligent men and the result was the establishment of societies for this purpose. The South Carolina Agricultural Society was established in 1784; the Philadelphia in 1785; the New York City in 1791; and the Mass. in 1792. These were city rather than country organizations and were very slow in reaching the common people. Their reports and papers fell comparatively dead upon the ears of the people, as too many of them do at the present time. After a few years something more was felt to be needed, and in 1809 the Columbian Agricultural Society for promoting rural and domestic economy was established. Probably the first agricultural exhibition in this country was held by this society the following spring. Out of this grew the Berkshire Co. Mass. Agricultural Society which held regular exhibitions every year and these are believed to be among the first county exhibitions held in this country.

Agricultural literature began in this period. Some books were written and the American Farmer, the first American agricultural news paper, was published at Baltimore in 1819. The event of most importance was the purchase of Louisiana in 1803. The country contained 890,615 sq. mi. at the beginning and over 200,000 sq. mi. at the close of the



period. Immigrants were now coming to this country in large numbers. Cities were growing to some size, thus producing home market. Commerce was getting quite a start. Canals were being built. Steamers began to run on the western lakes and rivers, and the railroad had just been introduced, although there were in 1833 only 380 miles in operation.

The third period extends to the opening of the Civil war and is one of general prosperity. The improvement of machinery made a marked change in agricultural methods, the greatest being in the harvesting of grain due to the invention of the reaper. Among the first was one made by Hussey in 1833 and McCormick followed the next year, although he had been experimenting on a machine for some time. Reapers were improved during the whole period, but it was not until 1850 that they came into general use. This, with the improvement of other machinery, greatly increased the production of small grain. Threshing machines were made to do much better work and a few were being run by steam. Binders were being tried toward the last but were not used to any extent. Nearly all farm implements, except the plow, made great advancement. Manufacturing establishments grew much larger and fewer in number. Cities were growing to considerable size, thus making home markets.

Cotton extended into the western part of the south, but there was no marked improvement in the cultivation or method of handling the crop. It reached its maximum for the period in 1856 when 4,669,000 bales were raised, 750,000 of which were exported. The production of sugar was an important industry, 61,469,000 hogsheads were produced in

a single year.

Great advancement was made in all classes of live stock. Large numbers of improved cattle were imported, especially Short Horns, Ayrshire, and Jerseys. There was a better knowledge of cattle and a better system of feeding and management. Cows had often been shamefully treated, but now they were much better cared for. Swine and sheep were much improved. Horses were being improved all the time and the cities were causing a demand for draft horses. Mules were still used on the southern plantations.

The American dairy system was started, in which the farmers of a community joined together to establish a creamery, cheese or butter factory. This is entirely American and is the only enterprise in which the combined efforts of farmers have been long successful.

The drainage system was first introduced soon after 1830, but it did not come into prominence until land raised in value so that it was no longer profitable to let the wet land lie idle. Farmers were beginning to learn the value of manures and some commercial fertilizers were being used.

During the whole period there was great land speculation, but this was partly stopped by the passage of the Homestead Law in 1860. The land grants to help the building of railroads were begun in 1850. By the end of the period 32,500,000 acres had been voted to thirteen states for the construction of 41 railroads and by 1860 there were 30,650 miles in operation. This was given the roads to induce them to

build westward where it was not settled, so as to get people to take up the newer lands and it had a great effect in increasing the settlement of the western states. In the latter part of this period county fairs became common and they had a great influence on improving the crops and stock. Until 1840 the agricultural literature was mostly the account of the transactions of societies. In 1839 Congress voted \$1000. for the investigation and collection of agricultural statistics. This was the beginning of government reports which were issued through the patent office until the department of agriculture was organized in 1862. Agricultural news papers were becoming more common towards the close of this period and several books were published.

The fourth and last period extends from the opening of the Civil war to the present time. It is one of great advancement and prosperity in nearly every line of agriculture as well as in other occupations. The war reduced the number of laborers and this gave a greater demand for machines so that the same work could be done with less labor. This demand was largely supplied and many inventions of various kinds rapidly came into practical use. The effects of the war were not so greatly felt in the north, as these machines made it possible for a less number of men to do a greater amount of work, so the productions were not much reduced and the waste of the war created good markets for most agricultural products. In the south they suffered much more. The blockade shut off their foreign market, a larger per cent of their able bodied men had to go into the service, and they suffered greatly from the ravages

of war. Their labor and financial system were destroyed. As they were shut off from their supply of wheat from the north they had to raise corn. This has had a lasting effect as there have been few all cotton plantations since.

The passage of the homestead law in 1860 greatly increased immigration. Since that time more than five millions of people have gained homes by it. During the first part of this period three hundred thousand immigrants came to this country per annum and in the latter part more than half a million, many of whom are engaged in agriculture. The railway system was greatly extended. Roads were built in the west where there were no settlements to get the people to go into the newer portions of the country. This was done by men of wealth who wanted to speculate. A large amount of government land was also given to the railroads to encourage their extension. This gave a great stimulus to settling up the western states.

A notable fact in American agriculture is the great number of medium sized farms which are usually worked by their owners. In 1880 there were over 4,000,000 farms. Twenty-five per cent of these contained between fifty and one hundred acres, forty-two per cent between one hundred and five hundred acres, and 28,500 farms of over 1000 acres each. The average size was 134 acres. The number farmed by owners was 2,984,000, on shares 702,000, and leased for money 322,000.

The improvement and manufacture of agricultural machinery has had a wonderful development. In 1860 there were \$17,500,000. worth of ma-

chinery manufactured. In 1880 it had increased to \$68,500,000. The same year there were 61,000 reapers and harvesters, 72,000 mowers, and 54,000 combined machines manufactured. The binder has come into general use in the last fifteen years, and has greatly effected the manner of harvesting and the amount of small grain raised. The threshing machine was first used about sixty years ago. It was very rude then consisting simply of the spiked cylinder and concave. They have been so greatly improved in efficiency and the rapidity with which they will do the work that the threshing is nearly all done in a few weeks after harvest thus avoiding the labor of stacking the grain. Steam engines have been so generally introduced that the greater part of the threshing is done with them. The manner of harvesting hay has been greatly changed by the use of machinery both reducing the labor and expense of handling. The rake, tedder, and horse fork make it possible to put up hay without having it exposed to the weather so long, thus improving its quality. Corn cultivators came into general use in this period and have been greatly improved and the method of cultivation considerably changed.

All classes of stock were improved. Large numbers of fine cattle were imported and great attention was given to their breeding until within the last few years. The prices of pure bred cattle have of late fallen greatly and importations have almost entirely ceased. Large numbers of draft horses of the various breeds have also been imported and heavy horses still bring a fair price though but few are imported at present. Some coach horses have been brought over during the last few

years. The trotter has developed wonderful speed and is still improving. This is due partly to inventions, but chiefly to better breeding and management.

Agricultural education was started in Oberlin, Ohio, by **Dr. Townson** in 1854, and the next year an agricultural college was started at Cleveland, O., and in 1857 at Lansing, Mich. But these were not very successful. In 1862 congress granted to each state scrip for 30,000 acres of land for each senator and representative in congress for the establishment of colleges of agriculture and mechanic arts. These colleges have not been largely attended by agricultural students so they have not had a direct influence on agriculture. The first agricultural experiment station was started in Conn. in 1875. North Carolina and N. J. soon followed. Several others were started after this and in 1888 the Hatch bill was passed by congress which gave to each state \$15,000. annually for experimental purposes. There is now a station in every state in the union and a few have two or more. They are doing a good and much needed work in many lines, especially in scientific investigations. Science has advanced greatly during this period and it has done much for agriculture. As late as 1840 Liebig brought to the notice of farmers the importance of chemistry and started the use of commercial fertilizers. Chemistry has been very useful in determining the comparative value of these. It has also been of much service in stock feeding by showing the composition of different foods and their digestibility. It has been of great service in the dairy and made some radi-

cal changes in the kind and quality of the cows kept where milk is sold at creameries.

In 1888 the department of agriculture was given more dignity by its chief officer becoming a member of the President's cabinet. The annual reports of this department are very valuable as they contain the statistics collected from the entire country. The greatest source of education has been the agricultural literature. There have been many valuable books written but these have had a comparatively small circulation. Books and colleges have done much to help agriculture, but papers have done more, as they have such a wide circulation throughout the rural districts that the mass of the people are reached in this way. The papers have gradually increased until in 1880 there were over 200 and at the present time there are still more.

Another important event was the beginning of agricultural organizations which have grown rapidly. The first of these was The Patrons of Husbandry organized in 1867. These have been helpful in an educational way by holding meetings at which literary programs are given. There are several other organizations all of which have varied greatly in membership at different times.

American agriculture as a whole is as good as that of any country in the world. The nation has more than twice the area of the Roman Empire at the height of its power, so the agriculture is quite different in different parts. The farmers as a class are more thoughtful and intelligent than they are in any other country.

*H. J. Fraser.*