

The Evolution of Agriculture

The growth of agricultural science from a humble beginning on individual farms to the most approved modern methods that combine happily both science and practice in a harmonious whole, is treated in the following article by C. L. Smith, of the O.-W. R. & N., one of the foremost agriculturists in the Northwest.

BY C. L. SMITH.

THE farmers of 1813 were first of all home builders. They secured land, not so much with the idea of making money, as of making a home. Producing on the farm so far as practicable, all the things necessary for the comfort of the family. All of the food and most of the clothing was home grown and home made. Flax and wool were carded, spun, dyed and woven by the thrifty housewife. The hide of the young bullock that furnished the season's supply of beef was tanned, dressed and made into boots and shoes by the farmer and his sons.

The virgin soil was fertile and easily tilled. The uncultivated lands furnished free Summer pasturage for small herds of cattle. Hogs thrived and multiplied, and lived on roots and nuts in the primeval forest. The hoe, mattock, scythe, sickle, rake and fork were about all the farm implements. The small farmer or new settler threshed his grain with flail. The more well-to-do had a large barn and threshing floor where the oxen tramped the grain until it was shelled from the straw. The straw was raked and forked off, and then on a windy day the grain could be cleaned by tossing it in the air until the chaff was blown away.

Produce Exchange.

The traveling tailor, shoemaker or seamstress was usually paid in meat, meal or wool. Surplus farm products would be exchanged for extras of some sort; but very rarely for money.

In the South under the slave system, the large plantations produced cotton, sugar and tobacco for export. In the North, wheat and meat began to be produced in excess of local demands and gradually built up an export trade. With the crude implements in use, it required about 10 hours of manual labor to produce one bushel of wheat.

With the growth of cities along the seaboard, the navigable streams and inland lakes, trade and commerce grew. Grain, meat, fruit and vegetables began to be produced for market.

The steamboat and the railroad facilitated the marketing and greatly stimulated the production of marketable produce. The invention of grain harvesting machinery, threshing machines, steel plow, steel drills and other labor saving devices, lessened the labor cost of production and vastly increased the amount produced.

Then came the Civil War, the homestead bill, the settlement of the vast prairies of the Middle West, railroad building on a stupendous scale. Wheat and corn were the pioneer crops. They could be exchanged for cash at the nearest railroad station or steamboat landing.

Mania for Money.

These cash crops could be produced in a single season. The farmer needed money, and he concentrated his energy on the production of the one crop until it became a sort of mania with him. He lost interest in home making, in live stock, in soil fertility, in fact everything except the production of a crop that he could exchange for cash.

Just at this period began the first general movement that could be called "agricultural education." The farms along the Atlantic seaboard had gradually decreased in productive capacity until in many places they failed to produce enough to pay for the labor involved in planting and harvesting the crop.

A like condition existed in the valleys and on the table lands of the Middle states. In many of the older settled portions the farms had been abandoned; their owners moving west to the fertile prairies of the Mississippi Valley, where with improved machinery they were extracting the soil fertility much more rapidly than their fathers had been able to do with their cruder instruments and more diversified methods.

Morrill Bill.

The Morrill bill provided for a large grant of lands to the various states for the establishment of colleges where students were to be taught the "science of agriculture and mechanic arts." It was unfortunate that the popular ideas regard-

ing education had not progressed as rapidly as industrial development; and logically the first attempts at agricultural education were as crude as the implements of our grandfathers.

Students of economic conditions realized the folly and danger of a system of farming that made no provision for maintaining the fertility of the soil. Any of their suggestions were scoffed at as "theories." "Boo farming" became a byword. The whole country was "money mad."

Our forests, mines and the fertility of the fields were coined into dollars and found their way rapidly to the cities. The men on the land would heed a warning only when they were in trouble. The beef to feed the steadily increasing population was being grown on the Western ranges sometimes going direct from the range to the slaughter house, sometimes being distributed through the corn states and finished for market on cheap corn. Cold storage and refrigerator cars enabled the large packing houses to place this meat on the markets of the country at a price that put the small grower and butcher out of business.

Intensive Cultivation Needed.

The range stock business has come and gone. The future beef supply of the country must come from fenced-in fields and cultivated crops. This means a radical readjustment of the business. Increasing land values necessitated more intensive methods and larger returns per acre. The maintenance or increasing of the productive capacity is recognized today as one of the most important factors in successful farming.

This evolution of agriculture has influenced the moral, social and religious as well as the material condition of the people. The commercialization of the business of farming has largely obliterated its beneficent influence on the home life of the people. The concentration of the effort and ambition to mere money getting has left an evil impress on the social, moral and religious life of the people. It has been truly said that:

The fault of the age is a mad endeavor To leap to heights that were made to climb; By a burst of strength, by a thought most clever, We plan to forestall and outwit time.

Dairying Changes.

To summarize some of the important changes both in methods and practice, dairying illustrates how radical those changes have been. Old Brindle dropped a calf at about the time the grass began to grow on the hillsides.

She gave milk to feed the calf and a slight surplus for domestic use. It was not uncommon when the calf had reached the age of three or four weeks to put it on a separate pasture and a diet of skimmed milk. While the grass continued rich and green, Old Brindle gave a varying flow of milk carrying a normal percentage of butter fat. The housewife, without theorizing or reasoning why, learned at an early date that the heifer calf that was made a family pet, receiving numerous extras in the way of vegetables, green corn and later on, the nubbins at husking time, developed a greater capacity for turning food into milk, than either her mother or grandmother, frequently making twice as much milk as was necessary to feed her calf. Such an exceptional milker became the family cow and lived to a good old age and all of her female offspring were made family pets. Butter and cheese were manufactured by the housewife to supply the family table, and if there was any surplus during the days of rich pasture in midsummer, it was packed in jars or tubs for Winter use.

The next step in the evolution of dairying came when the herd had increased in numbers so that this surplus became an important factor in the farm products, which found its way to market as cured cheese and packed butter.

Co-operative Dairying.

The labor of the dairy fell largely to the women folks, who did the milking, skimmed the milk and churned the butter or made the cheese.

Some 60 or 70 years ago came the first movement looking toward co-operation in dairying, when the farmers in a given district would employ a special cheesemaker, and would pool their milk. Butter, however, for another half century retained its individual character and its quality was as variable as the character and con-

dition of its makers, the country store being the assembling point where the butter was gathered for shipment to some central market. Then came the co-operative creamery, where 100 or more farmers pooled their milk to be manufactured into one kind of butter. The skimming was done by large centrifugal machines and the farmer carried home the skimmed milk to feed the calves and pigs. This method quickly standardized the creamery product and proved satisfactory to the producer and the consumer. It also stimulated interest in the improvement of dairy stock, to the introduction of purebred animals that for many generations had been selected, bred and fed for dairy purposes. But even 30 years ago the cow that produced 500 or 600 pounds of butterfat per year was considered phenomenal. Today we have many cows that are capable of producing twice that amount. Farmers have learned the lesson that the cow that drops her calf in Fall or early Winter, will, other things being equal, give 25 to 35 per cent more milk during the milking period than when the calf is dropped in the Spring. This has necessitated the growing of a greater variety of feed, more intelligent feeding, better care, more continuous income and a better understanding of the value of individual selection, testing and sorting of dairy herds.

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