THE AGRICULTURAL-REVOLUTION

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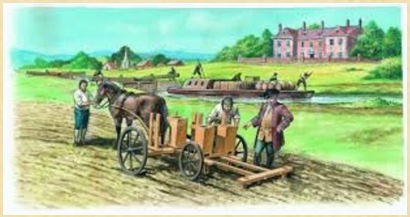
INTRODUCTION

The Agricultural Revolution was the unprecedented increase in agricultural production in Britain due to increases in labor and land productivity between the mid-17th and late 19th centuries. However, historians continue to dispute whether the developments leading to the unprecedented agricultural growth can be seen as “a revolution,” since the growth was, in fact, a result of a series of significant changes that took place over a long period of time.

CAUSES AND EFFECTS

Improved farming methods and the enclosure movement



Farmers move to city

Increased food production

Better living conditions

Population growth

The Dutch and Rotherham swing (wheel-less) plough

The Dutch acquired the iron-tipped, curved mouldboard, adjustable depth plough from the Chinese in the early 17th century. It had the advantage of being able to be pulled by one or two oxen compared to the six or eight needed by the heavy wheeled northern European plough. The Dutch plough was brought to Britain by Dutch contractors who were hired to drain East Anglian fens and Somerset moors. The plough was extremely successful on wet, boggy soil, but was soon used on ordinary land.

Transportation infrastructures

High wagon transportation costs made it uneconomical to ship commodities very far outside the market radius by road, generally limiting shipment to less than 20 or 30 miles to market or to a navigable waterway. Water transport was, and in some cases still is, much more efficient than land transport. In the early 19th century it cost as much to transport a ton of freight 32 miles by wagon over an unimproved road as it did to ship it 3000 miles across the Atlantic.

A horse could pull at most one ton of freight on a Macadam road, which was multi-layer stone covered and crowned, with side drainage. But a single horse could pull a barge weighing over 30 tons.

Norfolk four-course crop rotation: Fodder crops, particularly turnips and clover, replaced leaving the land fallow.

[1] One of the most important innovations of the British Agricultural Revolution was the development of the Norfolk four-course rotation, which greatly increased crop and livestock yields by improving soil fertility and reducing fallow.

Crop rotation is the practice of growing a series of dissimilar types of crops in the same area in sequential seasons to help restore plant nutrients and mitigate the build-up of pathogens and pests that often occurs when one plant species is continuously cropped. Rotation can also improve soil structure and fertility by alternating deep-rooted and shallow-rooted plants.

New crops

The Columbian exchange brought many new foodstuffs from the Americas to Eurasia, most of which took decades or centuries to catch on. Arguably the most important of these was the potato. Potatoes yielded about three times the calories per acre of wheat or barley, due in large part to only taking 3-4 months to mature versus 10 months for wheat

While not as vital as the potato, maize also contributed to the boost of Western European agricultural productivity. Maize also had far higher per-acre productivity than wheat (about two and a half times),[21] grew at widely differing altitudes and in a variety of soils (though warmer climates were preferred), and unlike wheat it could be harvested in successive years from the same plot of land. It was often grown alongside potatoes, as maize plants required wide spacing.

CONCLUSION

The Agricultural Revolution was part of a long process of improvement, but sound advice on farming began to appear in England in the mid-17th century, from writers such as Samuel Hartlib, Walter Blith and others, and the overall agricultural productivity of Britain started to grow significantly only in the period of the Agricultural Revolution. It is estimated that total agricultural output grew 2.7-fold between 1700 and 1870 and output per worker at a similar rate. Despite its name, the Agricultural Revolution in Britain did not result in overall productivity per hectare of agricultural area as high as in China, where intensive cultivation (including multiple annual cropping in many areas) had been practiced for many centuries.The Agricultural Revolution in Britain proved to be a major turning point in history, allowing the population to far exceed earlier peaks and sustain the country's rise to industrial pre-eminence. Towards the end of the 19th century, the substantial gains in British agricultural productivity were rapidly offset by competition from cheaper imports, made possible by the exploitation of new lands and advances in transportation, refrigeration, and other technologies.