

The Agricultural Revolution

Agricultural Revolution

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. Agricultural output grew faster than the population over the century to 1770 and thereafter productivity remained among the highest in the world. This increase in the food supply contributed to the rapid growth of population in England and Wales, from 5.5 million in 1700 to over 9 million by 1801, although domestic production gave way to food imports in the 19th century as population more than tripled to over 32 million. The rise in productivity accelerated the decline of the agricultural share of the labor force, adding to the urban workforce on which industrialization depended. The Agricultural Revolution has therefore been cited as a cause of the Industrial Revolution. However, historians also 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 over a her long period of time. Consequently, the question of when exactly such a revolution took place and of what it consisted remains open.

Crop Rotation

One of the most important innovations of the 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. The Norfolk System, as it is now known, rotates crops so that different crops are planted with the result that different kinds and quantities of nutrients are taken from the soil as the plants grow. An important feature of the Norfolk four-field system was that it used labor at times when demand was not at peak levels. Planting cover crops such as turnips and clover was not permitted under the common field system because they interfered with access to the fields and other people's livestock could graze the turnips.

During the Middle Ages, the open field system initially used a two-field crop rotation system where one field was left fallow or turned into pasture for a time to try to recover some of its plant nutrients. Later, a three-year

three-field crop rotation routine was employed, with a different crop in each of two fields, e.g. oats, rye, wheat, and barley with the second field growing a legume like peas or beans, and the third field fallow. Usually from 10–30% of the arable land in a three-crop rotation system is fallow. Each field was rotated into a different crop nearly every year. Over the following two centuries, the regular planting of legumes such as peas and beans in the fields that were previously fallow slowly restored the fertility of some croplands. The planting of legumes helped to increase plant growth in the empty field due to the bacteria on legume roots' ability to fix nitrogen from the air into the soil in a form that plants could use. Other crops that were occasionally grown were flax and members of the mustard family. The practice of convertible husbandry, or the alternation of a field between pasture and grain, introduced pasture into the rotation. Because nitrogen builds up slowly over time in pasture, plowing pasture and planting grains resulted in high yields for a few years. A big disadvantage of convertible husbandry, however, was the hard work that had to be put into breaking up pastures and difficulty in establishing them.