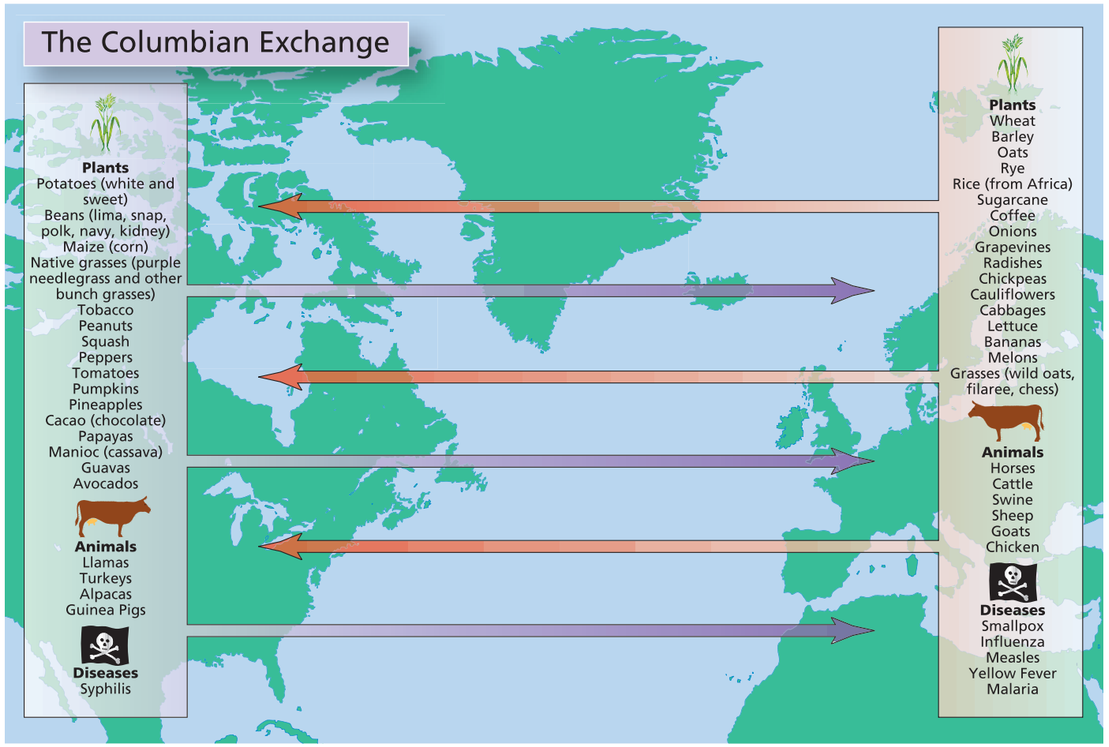
Columbian Exchange

The Columbian exchange refers to the exchange of plants between the Old and New Worlds and the introduction of animals from Europe to the Western Hemisphere following the arrival of Europeans in the fifteenth century. By introducing a host of crop plants and domesticated animals to their new environment, the Spanish, French, and British settlers attempted to "Europeanize" the North American continent. Beginning with the second voyage of Columbus in 1493, the Spanish introduced wheat, melons, onions, sugarcane, grapevines, radishes, chickpeas, cauliflowers, cabbages, and lettuce, as well as horses, cattle, swine, sheep, goats, and chickens. This voyage began the exchange of plants and animals between the New and Old Worlds that would have significant effects on the environments and ecologies of both worlds.

Diseases. The Columbian exchange also spread Old World diseases, such as smallpox, influenza, and measles, among the indigenous populations—none of which had immunity to those diseases. Along the Atlantic coast of Canada, for example, fishermen and fur traders exposed indigenous peoples to European diseases during the early sixteenth century. During the seventeenth century, diseases decimated Native American populations in present-day New England, while during the eighteenth century Russian explorers spread diseases among the Aleut, Eskimo (Inuit), and Tlingit in the Pacific Northwest. Although the Old World diseases introduced in the New World were often catastrophic to indigenous populations, the Columbian exchange brought nutritional benefits and improved food supplies with the addition of new crops and new animal species.



The exchange of flora between the New and Old Worlds was extensive by the seventeenth century. By the late eighteenth century, many agricultural plants had been traded, particularly between the Western Hemisphere and Europe and Africa. Although some native animals from the New World, such as turkeys and llamas, were introduced in Europe, the exchange of fauna for agricultural purposes was primarily from Europe to the New World.

Sources: James Lang, *Notes of a Potato Watcher* (College Station: Texas A & M University Press, 2001), 21; Elaine N. McIntosh, *American Food Habits in Historical Perspective* (Westport, Conn.: Greenwood Press, 1995), 65; and The Columbian Biological Exchange. Dr. Harold D. Tallant, Department of History, Georgetown College. 3 Dec. 1998 <*http://spider.georgetowncollege.edu/htallant/courses/his111/columb.htm*>.

Plants. By 1500, the Spanish (*see also* 16–17) had made considerable progress in their attempt to transform the New World into the Old World; by the mid-sixteenth century the process was irreversible. Spanish settlers at St. Augustine in present-day Florida raised oranges by 1579. By 1660, Spanish farmers or their subjects in Mexico cultivated nearly all of the most important food plants from the Old World, including wheat, barley, oats, and rye. Slaves or slave traders introduced the African crop of rice to the Carolina lowlands by the early 1670s. Rice enabled white planters on the sea islands and low coastal plain to cultivate swamplands, while wheat and barley permitted settlers in the present-day United States and Canada to cultivate lands too high, dry, or cool for growing maize (corn) and other native crops in significant quantity.

Animals. The introduction of animals from the Old World was more significant in the use of the environment than the influx of new plants. By 1500, the major breeds of cattle and horses had arrived from Spain, which enabled New World people to use the environment in a different way by converting grass grazed by animals into meat, milk, and cheese. Spanish hogs and cattle readily adapted to their new environment. In 1539 Hernando de Soto began exploring present-day Florida, taking thirteen hogs to help feed his men. By the time of his death in 1542, they had multiplied to a herd of seven hundred.

Spanish horses also bred rapidly and, along with disease, moved faster across the North American continent than the people who brought them. By 1700, the Plains tribes south of the Platte River in present-day Nebraska were familiar with horses; by 1750, the tribes north of the river were also routinely using horses. During the mid-1780s, horses grazed on the banks of the Saskatchewan River in present-day Saskatchewan. On the North American plains horses revolutionized transportation, hunting, and war, particularly for Native Americans like the Sioux, Cheyenne, and Comanche.

Concurrently, sheep arrived in the American Southwest, soon outnumbered cattle, and became important sources of food and skins. The Navajo were particularly successful at adapting sheep into their culture and environment, and they became great herders on the arid grazing lands of the Southwest. By the early eighteenth century Spanish longhorn cattle roamed the grasslands of present-day southern Texas, easily adapting to the hot, dry climate. Cattle also became a new food source for some Apache bands that stole them from the Spanish ranchers in that region. In some areas, cattle, horses, and sheep required large grazing areas and frequently strayed into Native Americans' fields and damaged crops.

Impact. Although Old World diseases decimated native populations in the New World, the introduction of Old World plants and animals, particularly horses and cattle, and the adoption of New World corn by European settlers contributed to population growth and more extensive use of the land for agricultural purposes. European plants and animals significantly increased food variety, supply, and nutrition, particularly in the addition of animal protein, to New World populations. The great variety of European food plants enabled settlers to adapt quickly to their new environment.

In the New World, these plant and animal introductions readily adapted to the environment. Horses, cattle, and particularly sheep enabled Native Americans and immigrants to use the lands of the arid Southwest and semiarid Great Plains. However, in the absence of natural predators, cattle, horses, and sheep occasionally overgrazed grasslands, eventually contributing to soil erosion, the elimination of native grasses, and the invasion of weeds such as dandelions. Newly introduced Spanish grasses had a high tolerance for drought and overgrazing, which made them perfectly suited for the dry Southwest. Eventually these grasses, for example, wild oats, filaree, and chess, competed with and forced out native grasses like purple needlegrass and other bunch grasses. Although Spanish grasses contributed to greater flora diversity on the North American continent, some native grasses became threatened with extinction.

The Columbian exchange had other environmental consequences. Many indigenous New World plants that had been domesticated by Native Americans were abandoned as crops. When found in fields of European crops, the settlers considered them weeds. European farmers plowed the land for their crops, rather than using hoes and digging sticks, which exposed more soil and made it susceptible to wind and water erosion. European sheep and Native American sheepherders also pushed the native bighorn sheep into higher elevations. Domestic sheep often grazed slopes too steep for plowing and destroyed plants that prevented soil erosion. Although the introduction of European plants and animals enabled the use of soils and seasons heretofore unavailable, the Columbian exchange often upset the balance of nature, a matter that future generations would accept and perpetuate.

—R. Douglas Hurt

Further Reading

Crosby, Alfred W., Jr. *The Columbian Exchange: Biological and Cultural Consequences of 1492.* Westport, Conn.: Greenwood Press, 1972.

Lang, James. *Notes of a Potato Watcher.* College Station: Texas A & M University Press, 2001.

McIntosh, Elaine N. *American Food Habits in Historical Perspective.* Westport, Conn.: Praeger, 1995.

Smith, Andrew F. *The Tomato in America: Early History, Culture, and Cookery.* Urbana: University of Illinois Press, 2001.