

Interhemispherical Exchange of Plants and Animals 1492–1610

European explorers were introduced to many new kinds of edible plants by inhabitants of the North and South American continents. Some of these plants were taken to Europe and became a fundamental part of the European diet. Crops introduced to America were taken there by colonists to be grown for profit on plantations and to provide them with familiar food. Animals imported to the Americas created fundamental changes in the lifestyles of the native inhabitants.

PLANTS: EUROPE TO THE AMERICAS

| CROPS | DATE INTRODUCED | ORIGINS AND IMPACT |
|------------------|--|--|
| Coffee | Brazil c. 1650 Caribbean c. 1700 | Originally from Arabia and Ethiopia. Grown in Mediterranean region during Middle Ages. Became important on American slave plantations. |
| Oranges | Central America and South America c. 1500 Florida 1700s | Originally from China. Grown in Mediterranean region during Middle Ages. Became an economically important crop in Florida. |
| Rice | South and Central America c. 1500 | Originally from Asia. Grown in Mediterranean region during Middle Ages. Quickly became an important crop in Americas. |
| Sugarcane | Caribbean c. 1493 Central and South America c. 1500 | Originally from Indonesia. Grown in Mediterranean region by 700. Introduced by Columbus to Caribbean, where it became most important crop on slave plantations during period of European domination. |
| Wheat | Brazil c. 1550 North America c. 1600 | Staple European grain crop. Eventually dominated inland prairies of Americas. |

OTHER CROPS Bananas, Cabbage, Cauliflower, Chickpeas, Lettuce, Melons, Onions, Yams

PLANTS: THE AMERICAS TO EUROPE

| CROPS | DATE INTRODUCED | ORIGINS AND IMPACT |
|---------------------|-----------------|---|
| Corn (Maize) | c. 1550 | Staple grain crop of South and Central American civilizations. Quickly spread across Europe, producing far higher quantity of grain per acre (hectare) than similarly hardy European grain crops such as barley or millet; soon regarded as second only to wheat. |
| Potatoes | c. 1550 | Staple food of civilizations of the high South American plateau. Easily cultivated in Europe, thriving on poor soil. Provided more carbohydrate per acre than any European root vegetable. Became staple diet of peasants in northern Europe. Introduced to North America by Irish settlers in c. 1700. |
| Tobacco | c. 1550 | Originally from South and Central America. Grown commercially in Europe in Mediterranean region. Introduced to North America in c. 1600, where it became a principal crop grown on slave plantations. |
| Tomatoes | c. 1550 | Originally from South America. Introduced to Europe as a decorative plant. Regarded as highly poisonous in c. 1600. Later became a staple part of southern European diet. Introduced to North America in c. 1700. |

ANIMALS: EUROPE TO THE AMERICAS

HORSES

Columbus brought the first horses to the Americas in 1493, on his second voyage of exploration. They were first taken to the mainland in 1519 by Hernán Cortés on his expedition to conquer the Aztec Empire.

Impact

- **Military advantage for explorers** Horses allowed men to move quickly and cover longer distances. They created fear among Native Americans who had never seen horses before.
- **Transport** Life for nomadic, hunter-gatherer groups of North and South America was revolutionized by the introduction of the horse. Horses allowed much greater mobility and made it easier to hunt buffalo.

CATTLE

Columbus also took cattle to America on his second voyage in 1493. The Spanish introduced cattle into Mexico in the 1500s.

Impact

- **Beef industry** Spanish cattle had reached Texas by the early 1700s and raising cattle became an important business in Argentina and Texas by the 1800s.
- **Use of the horse in cattle rearing** Growth of the American cattle industry during the 17th and 18th centuries depended on the use of horses for managing large herds of cattle on grasslands of North and South America.

Diseases Transferred as a Result of Exploration 1492–1610

When the first European expeditions reached the Caribbean in the 1490s, contact was established between the populations of the Americas and the rest of the world. Americans, separated by oceans from the rest of humanity for thousands of years, had developed some immunity to the diseases endemic to their part of the world. Europeans unwittingly carried the germs of diseases common in Europe to the Americas; they also carried the germs of diseases common in the Americas back to Europe. Millions died as a result of this sudden exposure to unfamiliar pathogens.

MAJOR DISEASES

Imported to the Americas from Europe

- **Smallpox** Viral disease spread by air. Causes scarring, blindness, and (commonly) death.
- **Measles** Highly contagious viral disease spread by contact. Causes risk of secondary infection and death in weak and undernourished victims.
- **Influenza** Highly contagious viral disease spread by air. Causes risk of secondary infection, particularly pneumonia, which can kill already weak victims.
- **Tuberculosis** Bacterial disease spread by air. Causes severe damage to lungs and (commonly) death.



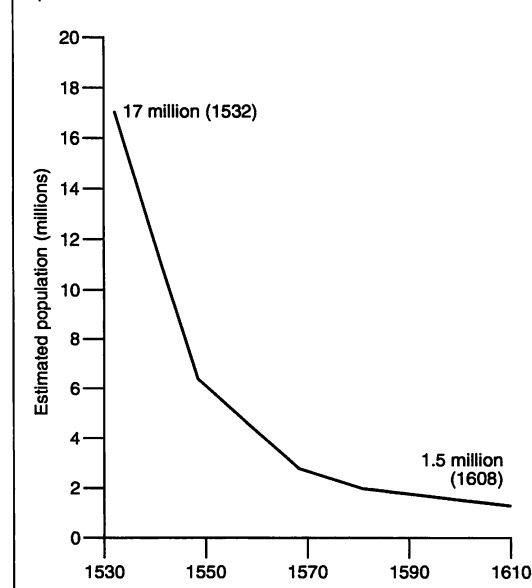
Imported to Europe from the Americas

- **Syphilis** Bacterial disease usually spread by sexual contact. Causes blindness, deafness, heart disease, mental illness, paralysis, and death (up to 30 years after initial infection).
- **Polio** Viral disease spread by unknown mechanism. Causes disability, paralysis, and death.
- **Hepatitis** Viral disease spread by contact or contaminated foodstuffs. Causes liver damage, incapacity, and (rarely) death.

IMPACT OF NEW DISEASES

- **Death of millions of Native Americans** On some Caribbean islands, native populations were wiped out completely (e.g., Arawak tribe reduced from a population of 500,000 in 1490s to 11,000 in 1517; within 50 years of first European landings all were dead). Epidemics raged across the mainland, affecting populations as far north as the Great Lakes.
- **Collapse of American civilizations** Death of so many people weakened the ability of established kingdoms to resist European invaders and contributed to the collapse of religions and cultures.
- **Labor shortage** Death of so many Native Americans meant that European plantation owners in the Americas could not find enough workers to employ, leading to mass importation of African slaves.
- **Death of millions of Europeans** A syphilis epidemic swept across Europe in the decades following Columbus' return from the Americas. It spread to India by 1498 and reached China by 1503. Syphilis replaced the plague as the most feared and deadly disease in Europe.
- **Advances in medicine** Arrival of syphilis in Italy prompted Girolamo Fracastoro, a physician at Verona, to postulate microscopic transmission of disease by direct or indirect contact. It also prompted development of pioneering plastic surgery by Gasparo Tagliacozzo of Bologna, who repaired noses disfigured by the disease.
- **Changes in sexual behaviour** As syphilis advanced through Europe, the disfigurements caused by the disease and the high mortality rate among its victims created such fear that new codes of sexual abstinence and purity became fashionable. Medieval tales of unconsummated courtly love became popular and versions appear in much of the literature of the time.

Example of Population Decline in the Americas
Population of Central Mexico 1532–1608



Slavery 1451–1810

TYPES OF BONDAGE PRIOR TO WEST AFRICAN SLAVE TRADE

Muslim Slaves

During the Christian Reconquest of Spain (13th–15th centuries) many captured Muslims were enslaved. In continuing conflicts between North African Muslims and Christians of Spain and Portugal it remained common for those captured by either side to be sold into slavery. In Spain and Portugal many thousands of slaves were employed in domestic and agricultural roles.

Indentured Laborers

European peasants seeking an escape from rural poverty could sign a contract (or indenture) with a plantation owner giving up their personal freedom for a fixed period of work in the Americas (usually 2–7 years). They received a small wage and had the opportunity to become independent farmers after the term of their indentures had ended. Many died in the harsh conditions or were cheated out of their wages.

Serfs

Most European peasants of the Middle Ages were serfs. They were bound to the land and could not leave the manor on which they were born. Some serfs were granted land by the lord of their manor in return for services; others worked the lord's land in return for a place to live.

Early African Slaves

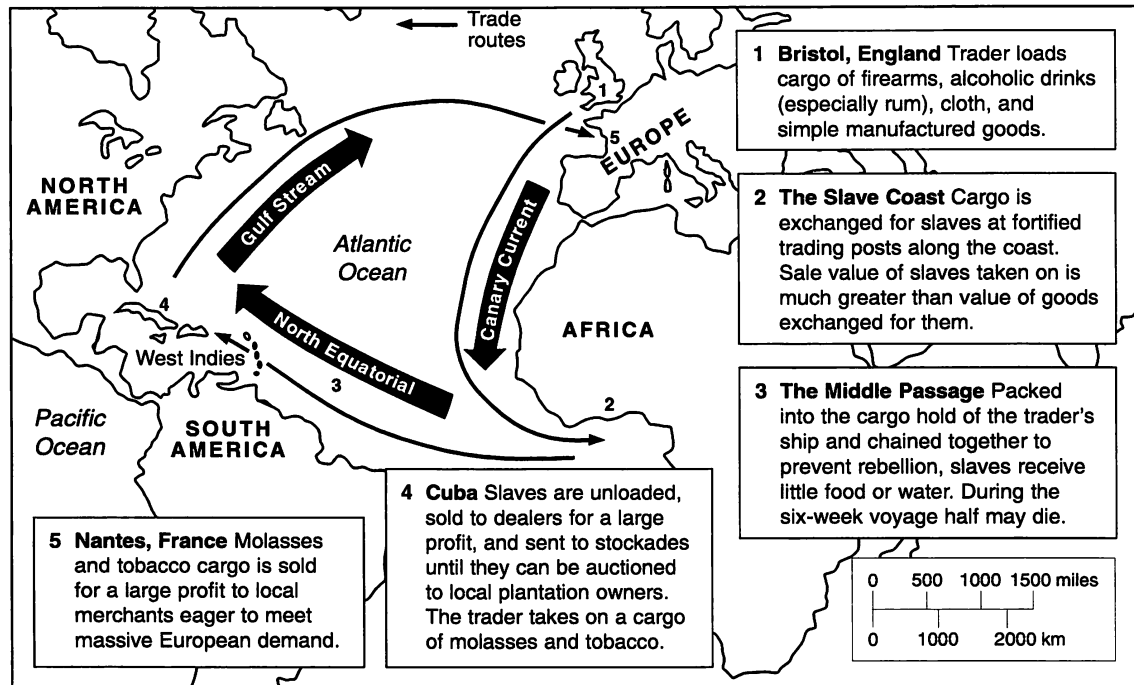
From the 13th century, Europeans employed African slaves bought from Arab traders on sugar plantations in the Mediterranean. During the 15th century, the Portuguese established sugar and coffee plantations on islands off the West African coast and used slaves obtained through trade with African kingdoms.

Native American Slaves

Early European colonists in the Americas enslaved large numbers of native peoples to work on plantations. Many thousands died from diseases.

THE WEST AFRICAN SLAVE TRADE

During the 17th century, England, France, and the Netherlands came to dominate the slave trade. They supplied slaves from West Africa to plantation owners in their own colonial possessions in America and to the large Spanish American possessions. Taking advantage of the circulation of Atlantic Ocean currents and winds, traders followed a triangular route; they carried a profitable cargo on each leg of the voyage.



ESTIMATED NUMBER OF SLAVES IMPORTED (in thousands)

