

FARMING

More than 10,000 years ago, people in the Middle East and Southwest Asia learned to cultivate wild grasses to produce edible seeds and grain. These first farmers also domesticated herd animals such as cattle, goats and sheep. This meant people no longer needed to be hunter-gatherers and could settle in permanent homes. Centuries later, European explorers brought home new plants such as potatoes and tomatoes, and crops became more diverse. Today, with modern air transport, farmers can send their fresh produce almost anywhere in the

Tools and machines

The earliest tools for breaking soil and preparing it for planting were probably large sticks or deer antlers. Then plows were invented. First made of wood and later of iron, the earliest plows were pulled or pushed by people.

There was little change in farming techniques for thousands of years. However, over the past 300 years, many new machines have been invented for planting, sowing and harvesting.

As people began to domesticate animals, they started to harness horses and oxen to plows. This let them prepare more land each day. Although today we say an **acre** is 43,560 square feet, in earlier times it represented the amount of land a single ox could plow in one day. Today, tractors are often used to pull plows and other farm equipment.

Many modern farmers use machines that disk, plant and fertilize all in one step. This no-till technique allows them to immediately plant over a field that has been freshly harvested. The combination of plowing and disking saves both time and money. It also helps conserve the soil.



The ancient Egyptians cut grain by hand, using sharp blade called a scythe.

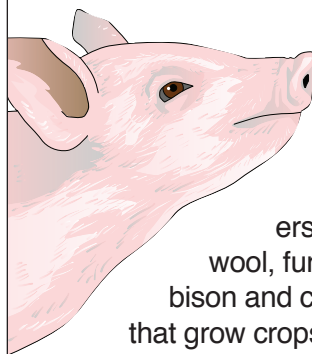
Variety

Many farms specialize in one kind of crop or livestock.

Farms that only grow crops are called **arable farms**.

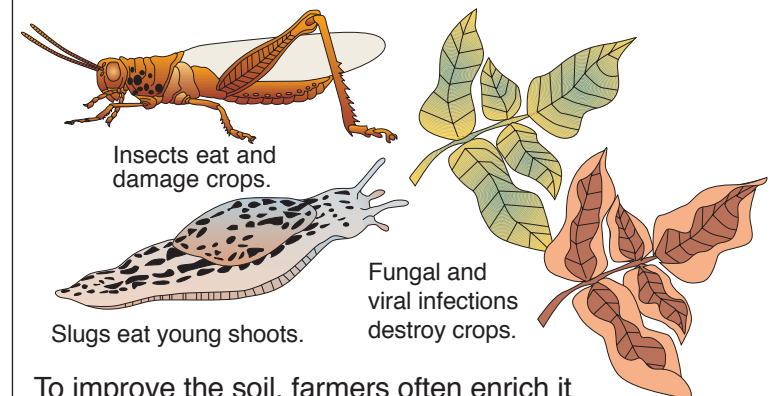
Pastoral or **livestock farms** use their fields for grazing animals. **Mixed farms** combine arable and pastoral farming. A **ranch** is a large farm that raises horses, cattle or sheep. "Ranch" is from a Spanish word that translates as "a place where people gather to eat." **Plantations** are very large farms that typically grow cotton, sugar cane or pineapples. **Dairy**

farms specialize in milk products. They use sterilized machines to milk the cows. A **poultry farm** may raise chickens, ducks, turkeys or geese. There are even poultry farms that breed emus or ostriches. Some farmers breed exotic animals for their wool, fur or skin, such as llamas, mink, bison and crocodiles. Farms with fruit trees that grow crops such as apples, peaches and cherries are called **orchards**.



Pests

Pests destroy more than a third of the world's food supply. To fight pests, many farmers use chemical-based **pesticides** on their crops. Some farmers and consumers believe such compounds are harmful to humans and the environment, and they prefer to combat these problems organically. Farmer-friendly insects that eat pests are one organic solution; growing genetically modified plants that resist disease is another.



Insects eat and damage crops.

Slugs eat young shoots.

Fungal and viral infections destroy crops.

To improve the soil, farmers often enrich it with fertilizers containing **nitrogen**. Fertilizers can be organic, such as manure, or made up of a combination of chemicals. In response to the growing demand for organic food, many farmers are choosing not to use chemical pesticides or fertilizers on their soil.