

LIVESTOCK RANCHING

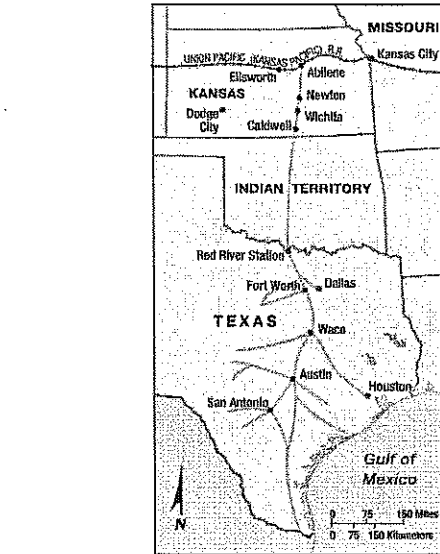
Learning Outcome 10.3.9

Describe how livestock ranching works.

Ranching is the commercial grazing of livestock over an extensive area (Figure 10-42). This form of agriculture is adapted to semiarid or arid land and is practiced in developed countries where the vegetation is too sparse and the soil too poor to support crops.

CATTLE RANCHING IN THE UNITED STATES. The importance of ranching in the United States extends beyond the people who choose this form of commercial farming. Its prominence in popular culture, especially in Hollywood films and television, has not only helped to draw attention to this form of commercial farming but has also served to illustrate, albeit in sometimes romanticized ways, the crucial role that ranching played in the history and settlement of areas of the United States. Cattle ranching in Texas, as glamorized in popular culture, did actually dominate commercial agriculture, but only for a short period—from 1867 to 1885.

Cattle ranching expanded in the United States during the 1860s because of the demand for beef in East Coast cities. If they could get their cattle to Chicago, ranchers were paid \$30 to \$40 per head, compared to only \$3 or \$4 per head in Texas. Once in Chicago, the cattle could be slaughtered and processed by meat-packing companies and shipped in packages to consumers in the East. To reach Chicago, cattle were driven on hoof by cowboys over trails from Texas to the nearest railhead. There the cattle were driven into cattle cars for the rest of their journey. The western terminus of the rail line reached Abilene, Kansas, in 1867. Wichita, Caldwell, Dodge City, and other towns in Kansas took their turns as the main destination for cattle



▲ FIGURE 10-43 CHISHOLM TRAIL The Chisholm Trail was used to move cattle from Texas to railroad stations in Kansas during the 1860s and 1870s.

driven north on trails from Texas. The most famous route from Texas northward to the rail line was the Chisholm Trail, which began near Brownsville at the Mexican border and extended northward through Texas (Figure 10-43).

Cattle ranching declined in importance during the 1880s, after it came into conflict with sedentary agriculture. Most early U.S. ranchers adhered to "the Code of the West," although the system had no official legal status. Under the code, ranchers had range rights—that is, their cattle could graze on any open land and had access to scarce water sources and grasslands. The early cattle ranchers in the West owned little land, only cattle. The U.S. government, which owned most of the land used for open grazing, began to sell it to farmers to grow crops, leaving

cattle ranchers with no legal claim to it. For a few years the ranchers tried to drive out the farmers by cutting fences and then illegally erecting their own fences on public land, and "range wars" flared. The farmers' most potent weapon proved to be barbed wire, first commercially produced in 1873. The farmers eventually won the battle, and ranchers were compelled to buy or lease land to accommodate their cattle. Large cattle ranches were established, primarily on land that was too dry to support crops. Ironically, 60 percent of cattle grazing today takes place on land leased from the U.S. government.

▼ FIGURE 10-42 RANCHING Cattle on a west Texas ranch are rounded up for shipping.



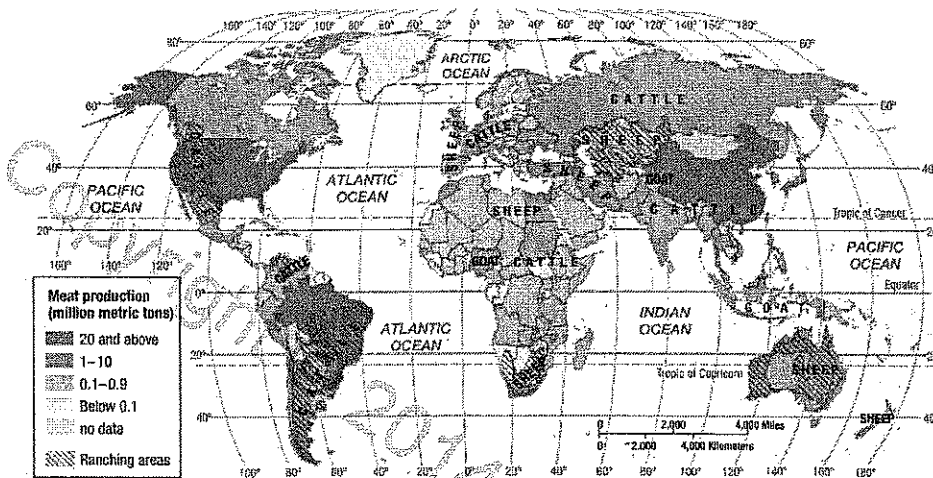


FIGURE 10-44 MEAT PRODUCTION China is now the world's largest meat producer.

With the spread of irrigation techniques and harder crops, land in the United States has been converted from ranching to crop growing. Ranching generates lower income per area of land, although it has lower operating costs. Cattle are still raised on ranches but are frequently sent for fattening to farms or to local feed lots along major railroad and highway routes rather than directly to meat processors.

Stop *

COMMERCIAL RANCHING IN OTHER REGIONS. Commercial ranching is conducted in several developed countries besides the United States and, increasingly, in developing countries. The interior of Australia was opened for grazing in the nineteenth century, although sheep are more common there than cattle. Ranching is rare in Europe, except in Spain and Portugal. In South America, a large portion of the pampas of Argentina, southern Brazil, and Uruguay is devoted to grazing cattle and sheep. The cattle industry grew rapidly in Argentina in part because the land devoted to ranching was relatively accessible to the ocean, making it possible for meat to be transported to overseas markets.

As with other forms of commercial agriculture, the growth in ranching has been in developing countries. China is the leading producer of meat, ahead of the United States, and Brazil is third (Figure 10-44). China passed the United States as the world's leading meat producer in 1990 and now produces twice as much. Developed countries were responsible for only one-third of world meat production in 2010, compared to two-thirds in 1980.

Ranching has followed similar stages around the world. First was the herding of animals over open ranges, in a semi-nomadic style. Then ranching was transformed into fixed

farming by dividing the open land into ranches. When many of the farms converted to growing crops, ranching was confined to the drier lands. To survive, the remaining ranches experimented with new methods of breeding and sources of water and feed. Ranching has become part of the meat-processing industry rather than an economic activity carried out on isolated farms. In this way, commercial ranching differs from pastoral nomadism, the form of animal herding practiced in less developed regions.

Pause and Reflect 10.3.9

What are the two most important ranched animals, according to Figure 10-45?

CHECK-IN: KEY ISSUE 3

Where is Agriculture Distributed?

- ✓ Agriculture can be divided into 11 major regions, including 5 in developing regions and 6 in developed regions.
- ✓ In developing regions, pastoral nomadism is prevalent in drylands, shifting cultivation in tropical forests, and intensive subsistence in regions with high population concentrations.
- ✓ In developed regions, mixed crop and livestock is the most common form of agriculture. Dairy, commercial gardening, grain, Mediterranean, and livestock ranching are also important.

INTEGRATED CROP AND LIVESTOCK

Mixed crop and livestock is a common form of farming in the United States, as discussed earlier in the chapter. But many farmers in the mixed crop and livestock region actually choose to only grow crops or raise more animals than the crops they grow can feed. They sell their crops off the farm or purchase feed for their animals from outside suppliers. Sustainable agriculture attempts to integrate the growing of crops and the raising of livestock as much as possible at the level of the individual farm. Animals consume crops grown on the farm and are not confined to small pens.

Integration of crops and livestock reflects a return to the historical practice of mixed crop and livestock farming, in which growing crops and raising animals were regarded as complementary activities on the farm. This was the common practice for centuries, until the mid-1900s, when technology, government policy, and economics encouraged farmers to become more specialized.

Sustainable agriculture is sensitive to the complexities of biological and economic interdependencies between crops and livestock:

- **Number of livestock.** The correct number, as well as the distribution, of livestock for an area is determined based on the landscape and forage sources. Prolonged concentration of livestock in a specific location can result in permanent loss of vegetative cover, so a farmer needs to move the animals to reduce overuse in some areas. Growing row crops on the more level land while confining pastures to steeper slopes will reduce soil erosion, so it may be necessary to tolerate some loss of vegetation in specific locations.
- **Animal confinement.** The moral and ethical debate over animal welfare is particularly intense regarding confined livestock production systems (Figure 10-67). Confining livestock leads to surface and ground water pollution, particularly where the density of animals is high. Expensive waste management facilities are a necessary cost of confined production systems. If animals are not confined, manure can contribute to soil fertility. However, quality of life in nearby communities may be adversely affected by the smell.
- **Management of extreme weather conditions.** Herd size may need to be reduced during periods of short- and long-term drought. On the other hand, livestock can buffer the negative impacts of low rainfall periods by consuming crops that in conventional farming would be left as failures. Especially in Mediterranean climates such as California's, properly managed grazing significantly reduces fire hazards by reducing fuel buildup in grasslands and brushlands.
- **Flexible feeding and marketing.** Flexibility in feeding livestock and sending livestock to market can help cushion farmers against trade and price fluctuations and, in conjunction with cropping operations, make more efficient use of farm labor. Feed costs are the largest single variable cost in any livestock operation. Most of the feed



▲ FIGURE 10-67 (TOP) CONVENTIONAL VERSUS (BOTTOM) ORGANIC FARMING. Chickens are not penned up in cages on an organic farm.

may come from other enterprises on a ranch, though some is usually purchased off the farm. Feed costs can be kept to a minimum by monitoring animal condition and performance and understanding seasonal variations in feed and forage quality on the farm.

Pause and Reflect 10.4.7

Are you willing to pay more for food that is organically produced? Why or why not?

CHECK-IN: KEY ISSUE 4

Why Do Farmers Face Economic Difficulties?

- ✓ Farmers in developing countries face challenges of meeting the needs of rapid population growth and growing food for export.
- ✓ Farmers in developed countries face challenges of overproduction and access to markets.
- ✓ Four strategies for increasing the world's food supplies include increasing exports, expanding agricultural land, expanding fishing, and increasing productivity of land.
- ✓ Sustainable agriculture involves sensitive land management, limited use of chemicals, and better integration of crops and livestock.