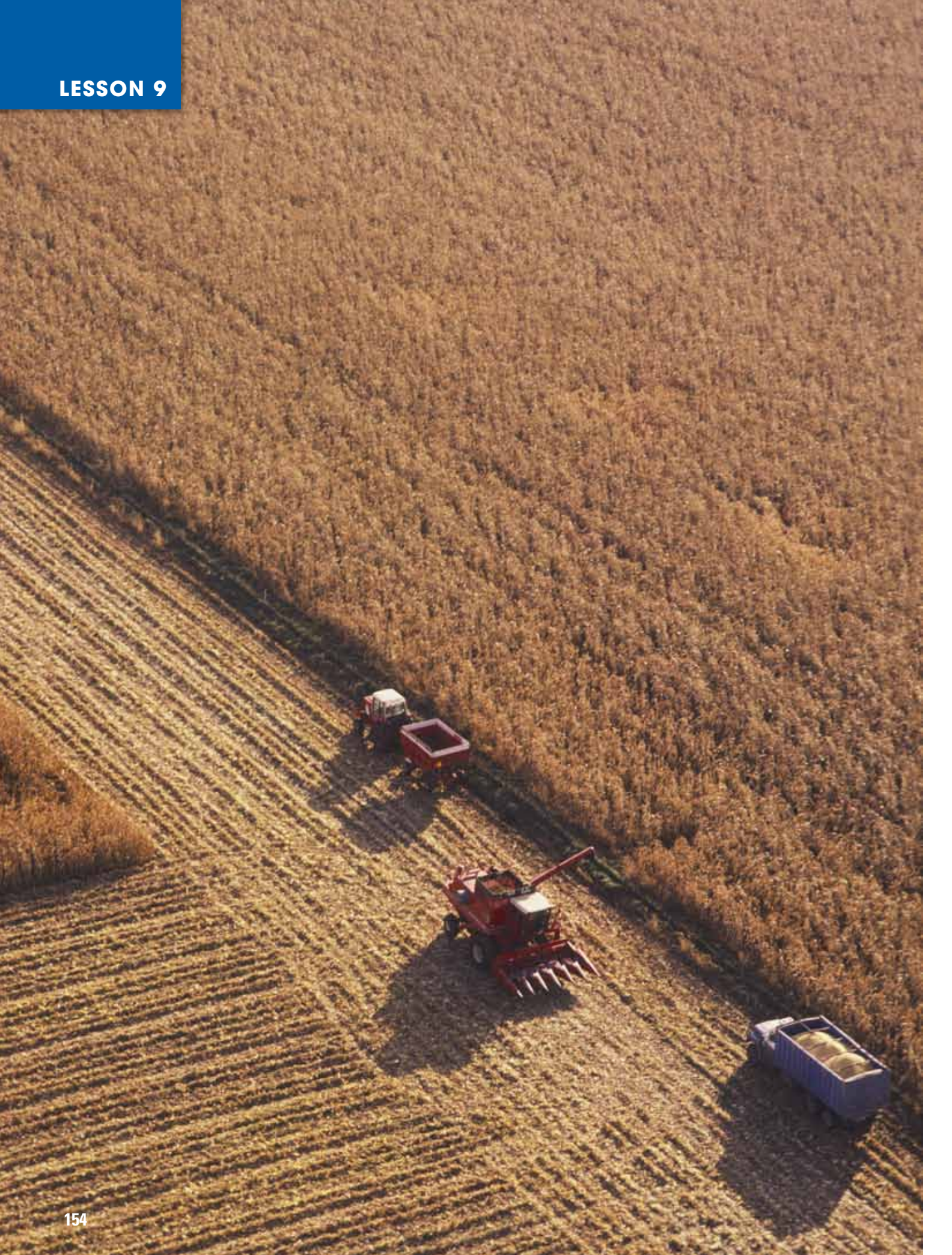


LESSON 9



Agricultural Changes in the Midwest

How has farming changed in the Midwest over time?

Introduction

“Tickle the land with a hoe,” boasted a Midwestern farmer, “and the crop will laugh to the harvest.”

In the 1800s, boasts like this one were common in the Midwest. Many Midwesterners liked to brag about their farms. They bragged about the farm boy who got stuck on top of a cornstalk because the corn grew faster than he could climb down it. They boasted about pumpkins so large that cows could live inside them. They even told stories about giant watermelons that were so big that they had to be pulled out of fields on sleds.

Many of these boasts were false. However, this much is true: the Midwest has some of the richest soil anywhere. And many crops grow well in the climate there.

Still, farming in the Midwest has never been as easy as tickling the land with a hoe. The first farmers who settled there struggled to overcome hardships. Farming has changed a lot since then. New technology and machines have replaced most hand tools and animal-driven plows. Large farming businesses have replaced many small farms. But Midwestern farmers still have to work hard to make a living from the land.

Social Studies Vocabulary

agribusiness

canning

combine

dairy

fertilizer

pesticide

reaper

self-sufficient

sod

◀ The Midwest prairie has some of the richest farmland in the United States.



Economics



Geography



History



At first, farmers avoided the grassy plains of the Midwest. But they soon learned that the prairie soil was deep and rich and good for farming.

1. Farming in the Midwest in 1800

In 1800, almost all Americans lived on farms. In fact, about 90 out of every 100 people in America lived on a farm. Most farms had only as much land as needed to feed one family, which was often about 10 acres.

Most of these farms were east of the Appalachian Mountains. However, farmland was scarce there. Settlers had begun to cross the mountains looking for new land to farm. By 1810, more than a million Americans lived west of the Appalachians.

People settled in Ohio, Michigan, and Indiana. These areas were mostly covered with forests. Before farmers could plant anything, they had to chop down the trees to clear the land.

As people moved further west into Illinois and Wisconsin, they found land where the forests grew thinner. Instead of forests, there were patches of prairie covered with grasses and wildflowers. At first, farmers avoided these prairies because prairie grass has deep, tangled roots. Farmers did not think that they could clear the land to get anything else to grow there. But they soon learned that prairie soil was deep and rich and good for growing crops.

It was hard work to clear forests and prairies for planting. Most farmers felt that they were doing well just to raise enough food to feed their families.

2. Farm Tools in 1800

The tools farmers used in 1800 were simple ones. Farmers used axes to cut down trees. Saws were then used to cut the trees into logs to build log cabins. Wood from trees was also used to make fences and furniture.

A plow with an iron blade was used to prepare soil for planting. As this blade was dragged across a field, it dug a long groove called a furrow.

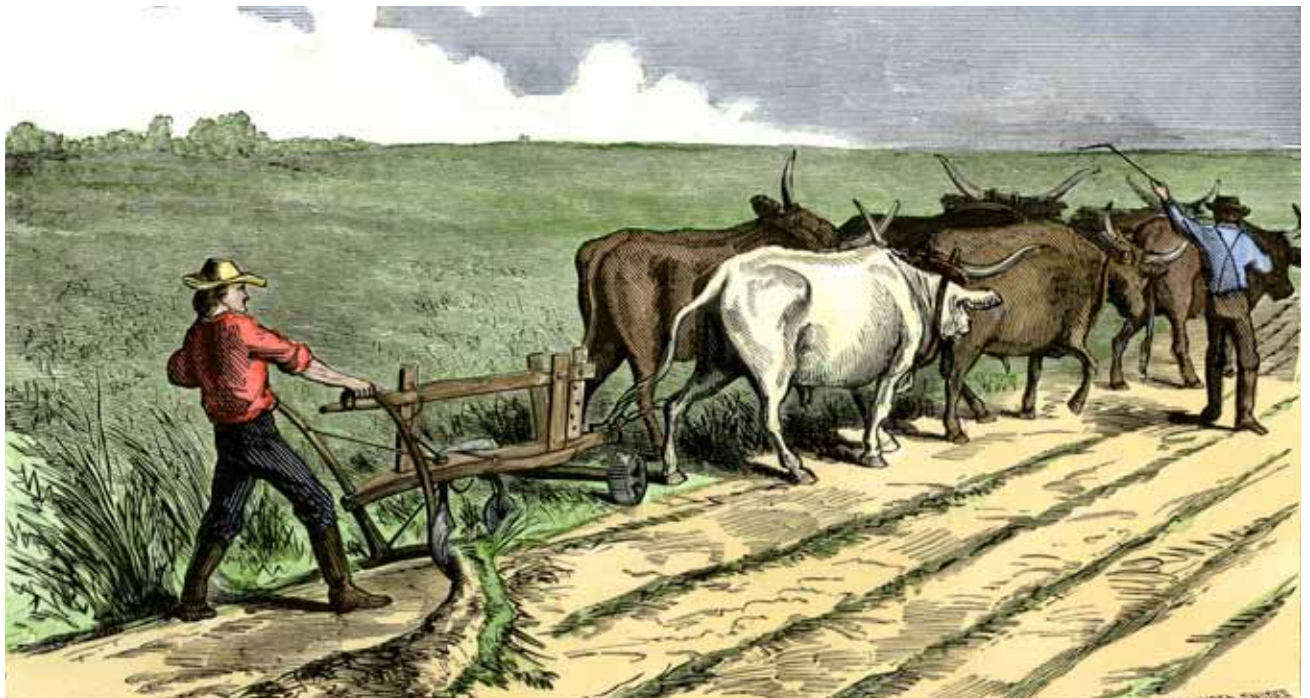
If farmers were lucky, they would have had a team of oxen to pull these plows. Even then, plowing was slow work. The thick prairie soil stuck to the iron blades. Farmers had to stop every few steps to scrape dirt from their plows.

Farmers planted their crops by hand. They walked up and down their fields, dropping seeds into the fresh furrows. They hoped the seeds would take root in this loose soil.

Farmers used a scythe, a curved knife on a long handle, to harvest their grain crops. Later on, they threshed the grain by beating it with a tool called a flail. Threshing separates the seeds of the grain from the rest of the plant.

With these tools, a farmer had to work about 300 hours to raise 100 bushels of wheat. For this amount of wheat, he had to plow, plant, and harvest five acres of land.

Farmers used simple tools during the 1800s. A plow with an iron blade tilled the thick prairie soil.



3. The Family Farm in 1800

The first farmhouse most families built was a log cabin. The typical cabin had one main room furnished with a table and a few stools. There was a stone fireplace for cooking and heating.

Cabins could be gloomy inside. Glass was expensive to buy, so people used greased paper to cover their small windows. At night, the only light in the cabin came from the fire and lamps. Farm families went to bed early. Family members slept under quilts made from scraps of cloth and on mattresses stuffed with oak or beech leaves.

Farm families raised almost all of their own food. They planted vegetable gardens and fruit orchards. They kept cows for milk, butter, and cheese. They raised chickens for eggs and hogs for meat. They raised sheep for wool that was used to make clothes. What they couldn't produce themselves, they bartered, or traded for, with neighbors.

Farm families faced many hardships, some of which prevented families from getting enough to eat. Wolves attacked farm animals such as chickens and hogs. Rabbits and deer raided their gardens. Squirrels and raccoons stole corn from the cornfields.

Disease could strike family members at any time. Injuries were also common. Women could hurt themselves cooking over open fires. Men could hurt themselves working in the fields. With no doctors nearby, families did their best to care for themselves.

A farmhouse in 1800 was a one room cabin. Farm families raised almost all their own food.





By 1900, farmers began to sell crops and livestock for cash. With money in hand, farmers could buy just about everything they might need at the country store.

4. Farming in the Midwest in 1900

In the year 1900, less than half of all Americans lived on farms. About 40 out of every 100 people in America lived on a farm. Most farms were much larger than the farms 100 years earlier. The average farm was about 150 acres.

The first farmers on the prairie had worked hard to be **self-sufficient**. Being self-sufficient means doing everything necessary to take care of yourself on your own. Like the farmers in the 1800s, these farmers raised their own food and made their own clothes. They did not make much money. But they did not have much need for money, either.

By 1900, farms covered the Midwest. Farmers on the Central Plains raised corn, pigs, and cows. Farmers on the Great Plains raised wheat, cattle, and sheep.

No longer did farmers plant crops on just enough land to feed their families. Instead, farmers raised large crops of grain and great herds of animals. These crops and livestock were sold for cash. Some farmers had **dairies**. A dairy is a farm that produces milk and milk products that can also be sold for cash.

With more money in their pockets, farmers could buy more land. They could purchase machines to help them work that land. And they could buy the useful new goods coming out of American factories—such as iron stoves, sewing machines, and telephones.

self-sufficient doing everything necessary to take care of yourself on your own

dairy a farm that produces milk and milk products



By 1900, many new farm tools helped farmers plant and harvest their crops. A reaper helps these farmers harvest piles of hay.

reaper a machine for cutting grain

combine a machine for cutting and threshing grain

5. Farm Tools in 1900

By 1900, Americans had invented many new farm tools. Many of these tools had to be pulled through fields by teams of horses.

The most important new tool for prairie farmers was the steel plow. A man named John Deere invented it in 1837. Deere's plows were made with steel blades rather than iron. Steel blades were sharper and smoother than iron blades. As a result, steel plows could cut through the thick prairie soil far more easily than the earlier iron plows.

Another new tool was a grain-cutting machine called a **reaper**. A man named Cyrus McCormick invented it in 1834. A farmer could cut much more grain with McCormick's reaper than with a scythe.

Other machines became common on farms in the Midwest in the 1900s. One machine was the horse-drawn seed drill. It planted seeds much faster than a farmer could by hand. Another machine was the horse-drawn **combine**. A combine could cut and thresh a field of grain at the same time.

These inventions helped Midwestern farmers grow more food with less effort. In the early 1800s, a farmer needed to work 300 hours to raise 100 bushels of wheat. By the 1900s, a farmer needed to work only 50 hours to raise the same number of bushels.

6. The Family Farm in 1900

For most families on the prairie, their first home was a tent, a log cabin, or a soddie. Soddies were houses made of blocks of **sod**, or dirt mixed with grass roots. When it rained, soddies dripped mud. “Life is too short,” wrote one farm woman, “to be spent under a sod roof.”

As soon as farm families had money saved, they built houses made of wood boards. By 1900, the typical farmhouse had lots of windows and a big porch. The largest room was often the kitchen. Few farmhouses had bathrooms. Instead, families used an outhouse that stood outside the main house.

Only the richest farmers could afford such wonders as electricity and running water. Most farm families used candles or oil lamps for lighting. They cooked on wood-burning iron stoves. They used hand pumps to draw water from wells.

Everybody worked. Men plowed, planted, and harvested crops. Women cooked, cleaned, and cared for the children. In summer, farm women spent hours **canning** food from their gardens.

Every child had farm chores, as well. Children helped out by chopping wood, drawing water, and weeding the garden. They also gathered eggs, milked cows, and fed the animals.

sod a mixture of dirt and roots of grass

canning preserving food by cooking and sealing it in cans or jars



Farmhouses built during the 1900s had wood boards, a front porch, and many windows. This Nebraskan family poses proudly in front of their new home.

7. Farming in the Midwest Today

Today, very few Americans live and work on farms. Only 2 out of every 100 people in America live on a farm. Some farms are almost ten times the size of farms 200 years earlier. The average farm today is just under 450 acres in size.

Farming in the 21st century is a big business. If you look at the total number of farms, most are still owned and run by families. But if you look at the total amount of farm acres, most are owned by big companies. We call these companies **agribusinesses**.

Farming in the Midwest has changed in many ways over the past 100 years. Today, most farm work is done by machines. Most farmers add **fertilizers** to the soil to make plants grow better. Some fertilizers are natural products. Other fertilizers are made from chemicals. Farmers also use chemicals to kill insects and other pests that attack their crops. These products are called **pesticides**.

These changes have helped farmers grow more food than ever before. But they have also created new problems. Chemicals used on crops can be harmful to other living things. For example, fertilizers and pesticides wash into rivers. There, they can kill fish and other wildlife.

agribusiness farming on a large scale by big companies

fertilizer a substance added to the soil to improve plant growth

pesticide a substance used on crops to kill insects and other pests

Crop sprayers can apply pesticides over large areas of a field at once. Today much of the work on farms is done by machines.





8. Farm Tools Today

By the year 2000, most of the work of plowing, planting, and picking crops was done by machines. Gasoline engines supply the power for these machines.

The most important new farm machine of the last 100 years has been the tractor. Farmers can use tractors in two ways. One way is to pull heavy loads. A modern tractor can pull more weight than 100 horses can. The other way is to power other farm equipment. Farmers use tractors to pull plows, seed drills, and machines that harvest their crops.

For dairy farmers, nothing has been more useful than the milking machine. Before the invention of the milking machines, dairy farmers had to milk each cow by hand. This was slow work. Milking machines allow a farmer to milk many cows at the same time. As a result, dairy farms are much larger today than they were in 1900.

New tools have also helped Midwestern farmers grow more food on less land. In 1800, a farmer needed five acres to grow 100 bushels of wheat. By 2013, the same amount of wheat could be grown on about two acres.

New machines have also reduced the time it takes to raise 100 bushels of wheat. In 1800, it took farm workers 300 hours of labor to raise that much wheat. Today, it takes less than 3 hours to raise 100 bushels of wheat. That's a big difference.

Today, machines help farmers produce more with less. Combines and milking machines reduce the amount of time it takes one farmer to harvest wheat or milk a cow.

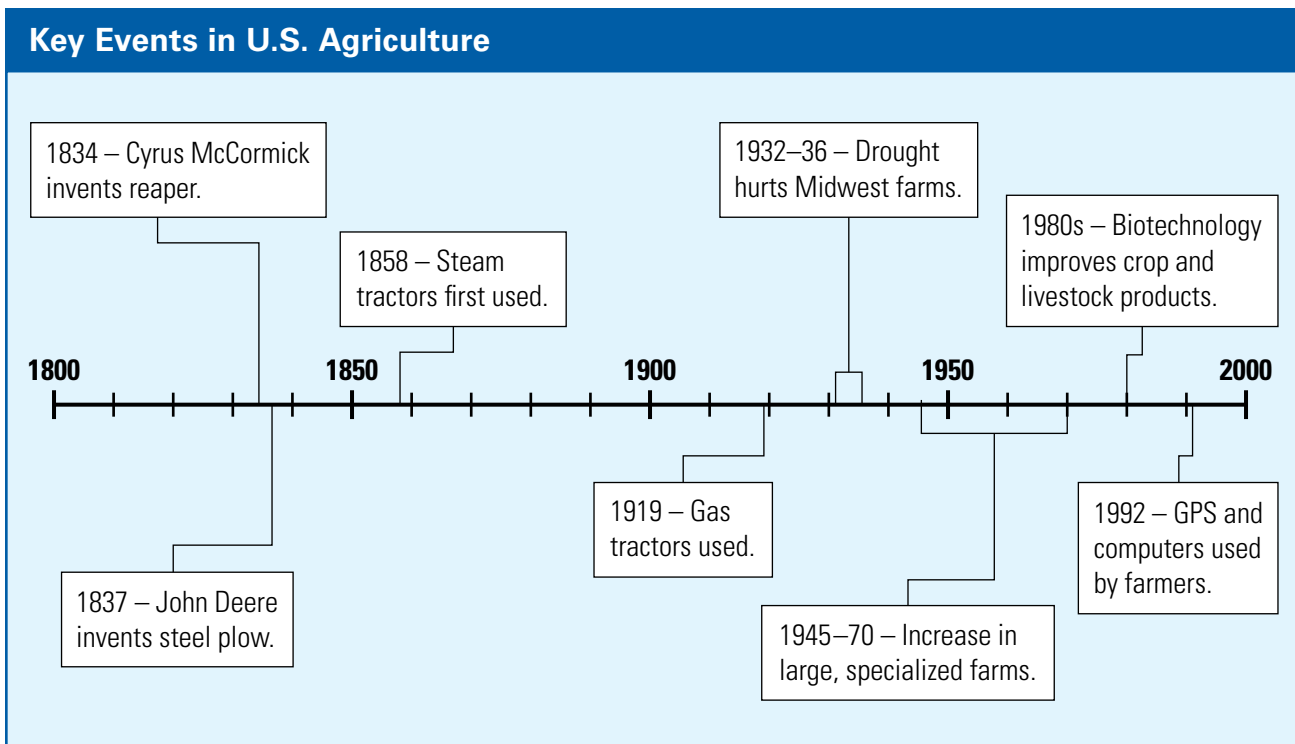
9. The Family Farm Today

Throughout U.S. history, as the nation expanded westward, the number of farms increased. By the 1920s, there were more than 6 million farms in the United States. Today, there are only 2.2 million farms left in the United States. Of these, more than 95 percent are owned by families and individuals. The rest are agribusinesses.

Why has the number of farms decreased? In the 1930s, hard times hit the family farm. Crop prices fell so low that farmers could not make any money. Then a long drought struck the Midwest. With no rain, fields turned to dust. Many families gave up farming. Since then, farmers have seen some good times and some bad times. But the number of family farms has decreased year by year.

Farm families live like most other American families. They buy their clothes in department stores. They send their children to school. They participate in service and sports organizations. Families have computers and use the Internet. But being rural has its challenges. Internet and television broadband service doesn't always extend far away from a town. So, rural farms may use a satellite to connect.

Events from the past have shaped the lives today's farmers. What changes will the future bring?





Every year, however, more families are leaving the farm way of life. Some get tired of the hard work. Others do not like the loneliness of farm life. But the most common reason why some people are choosing to leave farming today is simply the day-to-day struggle to make enough money to pay their bills.

Today, large agribusinesses compete with family farms. Farmers who cannot make profits have moved on.

Lesson Summary

As you have seen, farming in the Midwest has changed greatly in 200 years. In 1800, farmers used only hand tools and muscle power to work the land. Most farmers were able to raise just enough food to feed their families.

Today, large agribusinesses employ workers with gasoline-fueled tractors and machines to farm the land. Farmers may also use fertilizers that allow more food to be grown on fewer acres of land. As a result, one farm can raise enough food to feed many families.

In 1800, farm families grew or made almost everything they needed to live. They bought very little. Today, farmers grow large amounts of crops for sale. With the money they earn from selling these crops, farm families can buy goods they need in stores.

Some things have not changed much in 200 years. Farming was hard work in 1800. It is still hard and risky work today.

Agriculture in Your State

You just read about how farming has changed the lives of people in the Midwest. What kind of agriculture happens in your state? Are there small farms where families raise their own food? Are there large farms that ship their crops and animals around the world?

There are many books and Web sites with information about your state's agriculture. Do an Internet search for the name of your state with the words *farming* and *agriculture*. If you live in Virginia, you could find all kinds of information on the Web site <http://vafarmbureau.org>. Be careful when you choose sources of information since not all are trustworthy. You can usually trust sources that come from governments (ending in .gov) or large organizations (.org). Be careful with sources that were created for class projects or are by individuals.

Make a list of your state's farm products. Research and write down facts about each, such as where is it grown or raised. You might also ask questions like: How much is produced each year? Where is it sold? Do factories in the state put the food in packages?

For example in Virginia, chickens are one of the top agriculture products. The Shenandoah Valley has many poultry farms and packaging factories. About 250 million chickens are raised in the state each year. They are sent to China, Canada, and other countries.

Virginia has more than 46,000 farms. Some of its top products are apples, peanuts, turkeys, and chickens. Agriculture provides more than 357,000 jobs in the state.





Farms Make a Difference

Next, make a large map of your state that you can use to show how agriculture affects the land and the people. Start with a blank state map. Label your state's regions or large cities. Label bodies of water, highways, and railroads that may be used to transport farm products. Add pictures of the crops that are grown and the animals that are raised.

Now, use your map and researched facts to explain to your classmates why farms may be located in certain regions and how the farms affect the people who live in your state. This will include the food people eat, the jobs they have, and what their environment looks like.

Tell your classmates how farms also affect the people in your state's cities. For example, there has been an apple-processing factory in Winchester, Virginia, since 1908. Many people who work there have grandparents who worked there years ago. The factory makes applesauce from apples grown in local Virginia orchards.

Summarize your explanation. Ask your classmates to tell you what they learned about agriculture in your state.

This is a map of the agriculture products in Virginia. The map of your state may show similar crops and animals.



Corn: Key Crop of the Midwest

In the United States today, farmers grow more corn than any other crop. Midwest farmers produce more than 650 billion pounds of corn every year. Why is corn such an important crop in the Midwest?

For most people, the word *corn* brings to mind either fresh corn on the cob like people eat at summer barbecues or a crunchy snack eaten while watching television. But in Mitchell, South Dakota, people celebrate corn in every way possible. Their high school sports teams are called the Kernels (for corn kernels). The school mascot is a giant ear of corn named “Cornelius.” The name of the radio station is KORN. And on the main street of Mitchell, you can visit the world’s only corn palace. The outside of this large building has murals made with all parts of a corn plant: corn cobs, husks, tassels, and stalks. A new mural is created every year.

Why would anyone care enough about something as simple as corn to build this huge structure? Why does the United States grow so much corn? And how do people use the corn we grow? Keep reading to find out.

Mitchell’s first corn palace opened in 1892. It was built for citizens to celebrate the corn harvest.





Corn Long Ago

Corn has a long history in the Americas. About 7,000 years ago, the people of central Mexico developed a plant, called maize, from wild grass. Maize is a tall plant that produces large cobs of sweet corn.

Corn proved to be a very useful plant. The kernels were good to eat. The leaves were good to chew. Corn could even be popped. People used corn husks to make things like baskets, shoes, masks, and bed frames. They burned dried cobs for fuel.

As American Indians moved north, over thousands of years, they took corn with them. When European settlers arrived, American Indians were growing corn throughout North America.

When European settlers began to grow and harvest corn, they quickly realized what a valuable crop it was. They sent word of what they had learned—along with seeds—back home. Before long, people in other parts of the world were growing corn and other crops from the Americas.

These crops grew so well and fed so many people that they contributed to population increases around the world. For example, in southern Europe, from 1500 to 1900, the population grew from about 15 million people to about 70 million people. Today, people grow corn on every continent, except Antarctica.



The corn plant has many uses. Parts of it can be used for food, baskets, toys, and furniture.

Corn Today

Today, many Americans depend on corn just as the early settlers once did. The Midwestern states of Iowa, Illinois, Nebraska, and Minnesota raise more than half of the country's corn. These states are part of what we call "the Corn Belt."

The number of ways in which people use corn today might surprise you. Corn is used in thousands of products. Take a look at the chart below. It shows what happens to some of the corn grown in the United States.

Corn is used in many products today. Many of these are from corn grown in the Midwest.

How Corn Is Used Today



Animal Feed

More than half of all U.S. corn goes to feed animals such as cows, pigs, and chickens, and even our dogs and cats.



Food

Corn is found in many foods, from breakfast cereals to tortilla chips. Corn adds "crunch" to foods.



Fuel

Ethanol is a fuel that can be made from corn. It can power cars. Its use helps reduce air pollution.



Cornstarch

Made from corn, cornstarch is a powder that is used in food and many paper and plastic products. Your picnic utensils might be made from corn.



Corn Sweeteners

Corn sweeteners are found in many foods, from lunch meats to salad dressing. Corn sweeteners keep frozen yogurt from turning into ice.



Dried Corn Products

Dried corn is an ingredient in many household products. The pillow you sleep on and the comforter keeping you warm could have corn in them.



Day 0



Day 12



Day 33



Day 45

Corn is also being used to run cars. That may sound strange, but a fuel called ethanol lets us do just that. Ethanol is made from corn and can be used to power automobiles. Henry Ford's first cars could run on ethanol or gasoline or a combination of both. Burning ethanol creates less pollution than burning other types of fuel. Most gas stations today offer a blend of gasoline and ethanol for their customers that is friendlier to the environment.

And think about this the next time you use plastic plates at a picnic. When you throw the plates away, they may sit in the trash dump forever. Could we make plates out of a new material that would fall apart over time and become part of the soil? Scientists are working on ways to make just such a form of plastic out of cornstarch.

Did you brush your teeth this morning? If so, your toothpaste may get its flavor and smoothness from corn. Corn is used in many different personal care products from toothpaste to makeup, and from soap to shampoo. As you fall asleep tonight, think about all the different ways you may have used corn. And thank our Midwest farmers! ♦

This fork is made from a corn-based plastic. It decomposes safely and quickly—in just 45 days.