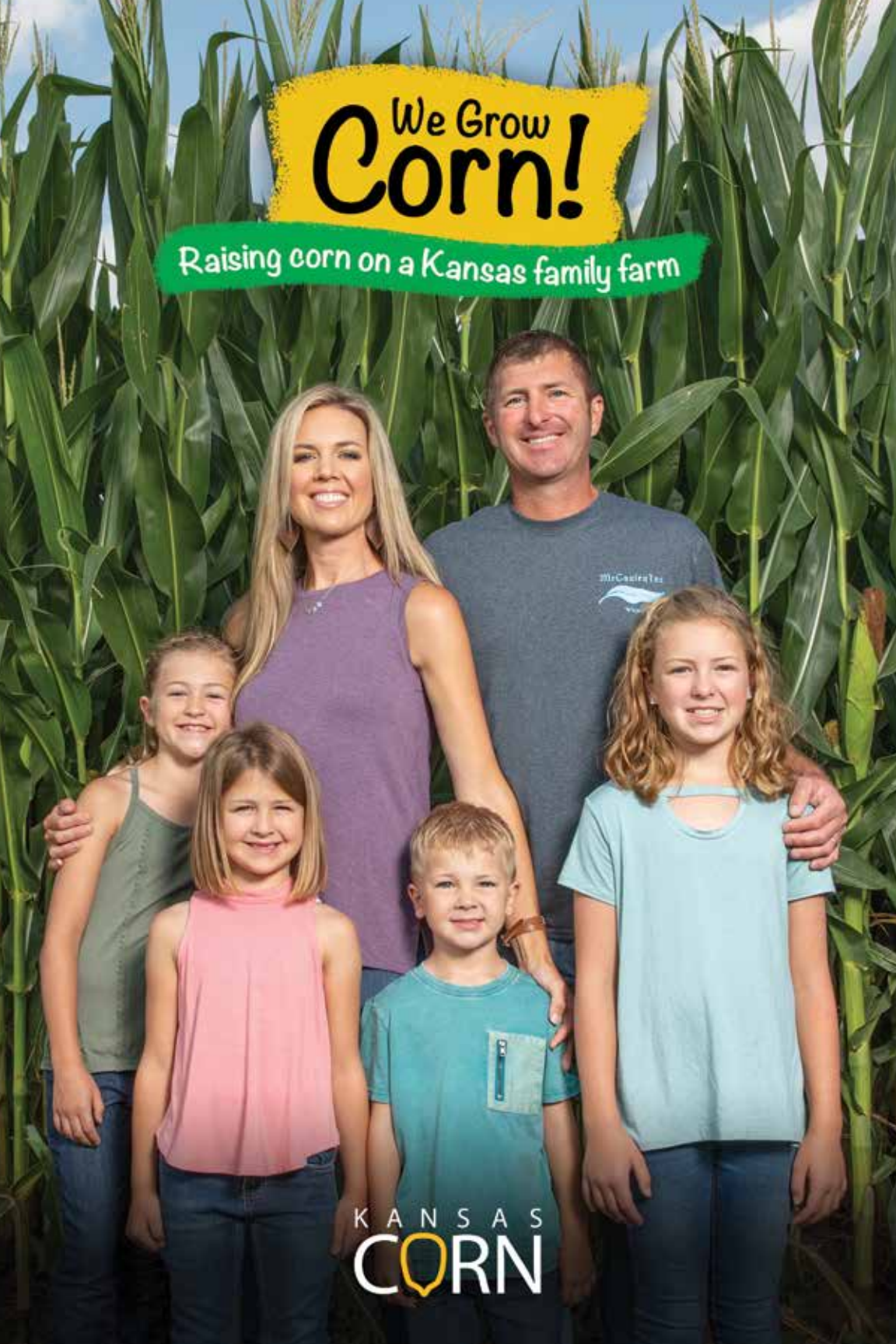
We Grow
Corn!
Raising corn on a Kansas family farm
KANSAS
CORN

Written by Sharon Thielen, Ph.D.
Edited by Sue Schulte

Designed by Insight.
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KANSAS CORN COMMISSION

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Meet the McCauley Family

Brad and Danyelle raise their four kids, Kamryn, Reese, Morgan and Andrew, on a farm in northeast Kansas.

Fun Fact:

The McCauleys are the sixth generation on their family farm. Brad's great-great-great-great-grandparents started the farm in 1858.

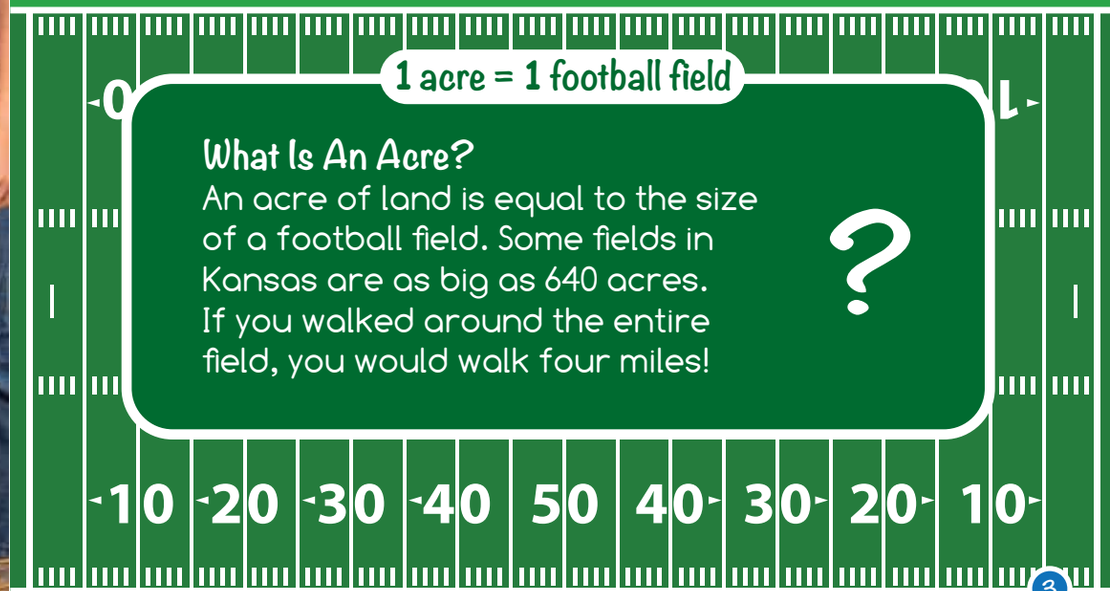
Our Farm

Welcome to our **farm**! Everyone in our family helps on the farm. **Corn** is our main crop. It is hard work, but it is also fun to watch our corn grow from planting through **harvest.**

Meet Farmer Brad McCauley Video Link ▶

Did You Know?

Almost all farms (97%) in the United States are family farms.



What Is An Acre?

An acre of land is equal to the size of a football field. Some fields in Kansas are as big as 640 acres. If you walked around the entire field, you would walk four miles!

?

Farm Machinery

We work every month of the year. In the winter, we get our equipment ready, and we haul grain stored from our last harvest. We take care of our machines like you take care of your teeth. If you don't take good care of them, they will become damaged.

Did You Know?

We use GPS guidance to make sure every row is planted as perfectly as possible. Many tractors and combines can steer themselves, guided by GPS.

Preparing for Planting Video Link ▶

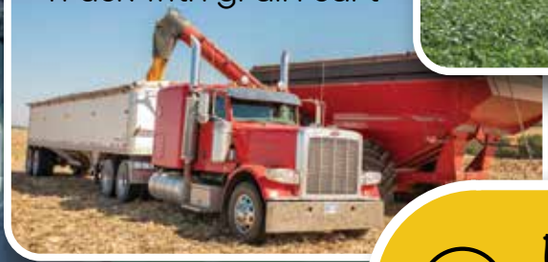
STEM Fact:

GPS stands for Global Positioning System. Many vehicles, phones and other electronics use GPS to guide us.

Tractor with planter

Sprayer

Truck with grain cart



Fun Fact:

A large toy combine is 1/16 the size of a real combine.

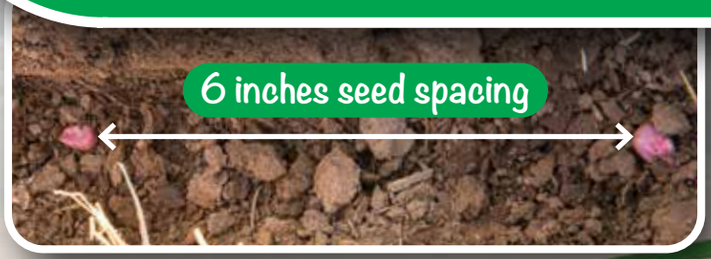
Combine

Let's Plant Corn!

We plant corn in the spring. Have you ever planted **sweet corn** in your garden? A packet of sweet corn seeds for your garden contains 50 seeds. We buy large bags of corn seed for our farm and each bag contains 80,000 seeds. That's why we use a **planter**. This planter plants 16 rows of corn seeds at one time.

Did You Know?

A corn plant needs space. If the plants are too close, they won't get enough nutrients and light. On our farm, we plant each row 30 inches apart. The planter places the seeds in the ground every six inches and covers the seed with two inches of soil.



Video Link: Planting Corn ▶

Math Puzzler:

A farmer will plant about 30,000 corn seeds in one acre. How many seeds would be planted in a 100-acre corn field?

Answer on page 25.

Growing Corn

Corn needs heat from the sun, and it needs water to grow. We wait until the soil is warm to plant our corn. If the soil is too cold, the corn seed will not **germinate**. Water is needed for the seed to germinate and for the plant to sprout. Through the growing season, the amount of water the corn plant receives helps to determine how much corn will be produced.

Fun Fact:
A corn plant can get as tall as a basketball goal.

Did You Know?
Farmers always worry about the weather. If the weather is too hot or too cold, or if the weather is too dry or too wet, our corn won't produce as well. Storms can hurt our crops with wind and hail. This corn was damaged by hail.

STEM Fact:
Corn starts as a sprout from a single seed, also called a kernel. The plant produces its own ear with about 800 kernels. One kernel turns into 800 kernels.

Video Link: Growing Corn in Northeast Kansas ▶

Helping Corn Grow

Farmers Are Scouts!

All spring and summer, we scout our fields to make sure they are getting enough water and nutrients and to check for weeds, diseases or insects that can hurt our corn. We use our knowledge of science and agronomy to raise a healthy crop.

Did You Know?

These bugs will hurt our corn! When we find bugs, we use our sprayer to apply pesticides, substances that kill pests like bugs or weeds. When you see a sprayer in the field, most of what is coming out of the sprayer is water. A small amount of pesticide is mixed with a lot of water to take care of the bug problem.

Video Link: Growing Corn in Southwest Kansas ▶

We usually get enough rain for our crops. The Rome family farm in southwest Kansas is in a drier climate, but they have access to underground water to **irrigate** their fields with "center pivot sprinklers". They use technology and data to decide when and how much water they need to apply to grow their corn without wasting water.

STEM Fact:

We work with agronomists to help manage our corn crop. Agronomists are trained to know about the best ways to grow crops. They are like "crop doctors" and they suggest treatments to keep our crops healthy.

Harvest...

Spring

Summer

Fall

Our corn fields change from spring through fall. Corn grows very quickly. In the summer, a corn plant can grow two or more inches every day! In the fall, our corn plants stop growing. They turn brown and the **ears** point downward. When the corn kernels are dry, we harvest them with a **combine**.

Fun Fact:
We measure our corn by bushels. A bushel of corn weighs 56 pounds and can fill a laundry basket.

1 The combine cuts the plant off and brings it into the machine where it will separate the corn kernels from the rest of the plant.

2 The corn kernels stay in the combine and the rest of the plant is returned to the field. It looks messy, but it is good for the soil.

3 When the combine fills with corn kernels, we unload the corn into the grain cart, which takes the grain to the grain truck. The grain truck hauls the corn to storage bins on our farm, to a **grain elevator** or an ethanol plant.

Video Link: Harvesting Corn in Northeast Kansas ▶

Harvest can last days to weeks depending on how much corn needs to be cut. It is a busy time for our family! The best way to spend time with family is often in the field. The kids enjoy riding in the combine and watching the grain carts and trucks haul away the grain.

Did You Know?

Farm safety is very important. We make sure that everyone knows where we are so they can see us as they drive the big machines. It is dangerous to play in the grain so never jump into a grain truck, grain cart or grain bin full of corn. Farmers have one of the top 10 most dangerous jobs in the United States.

We often bring meals to the field or to our farm shop. Our family and the people who help us harvest eat together. It's like a picnic! We even celebrate birthdays during harvest!

Video Link: Harvesting Corn in Southwest Kansas ▶

Fun Fact:

Farm equipment comes in many colors. The color is based on the company that made the equipment.

How is Corn Used?

Most of the corn we grow in the U.S. is dent corn (also called **field corn**). While a small portion of dent corn is used for corn cereal, corn starch, corn oil and corn syrup, dent corn is a grain used mostly for livestock feed and ethanol production.

The corn on the left is sweet corn and the corn on the right is dent corn. These two ears of corn were both picked in July. You could cook and eat both as corn on the cob. The dent corn won't be as sweet and juicy. Sweet corn is a variety grown for people to eat as a vegetable and is picked when the plant is still green. Dent corn matures in the field until late summer or fall when it is hard and dry and is picked when the plant is brown.

Did You Know?
There are over 3,500 uses for corn.

STEM Fact:
Corn originated in North America. Its ancestor was a grassy plant called teosinte. Over thousands of years, people have improved the corn plant so it can produce corn as we know it today. Corn can now be grown in many parts of the world.

Fun Fact:
A bushel of corn can sweeten 400 cans of soft drink.

Feeding Livestock

Some of our corn is fed to cattle and other livestock. Kansas is known for cattle and having many **feedlots**. Cattle usually stay in the feedlot for five or six months and eat a special feed that contains corn. Feedlots take good care of the animals. They even have nutritionists who make sure the cattle have a healthy diet. Corn is also fed to pigs, sheep, goats, horses, poultry and more!

What is this?
Here is a photograph of a feedlot near the Rome Farm in southwest Kansas. It was taken with a drone. The little dark specks are cattle!

Fun Fact:
Kansas is one of the top states for raising cattle and producing beef like hamburger and steaks!

Ethanol

We take some of our corn to an **ethanol** plant. The plant grinds the corn and uses a complex process to create fuel that is used in vehicles. Nothing is wasted at the ethanol plant. The parts of the corn not used for fuel are turned into products like distillers grains that are fed to cattle and other livestock.

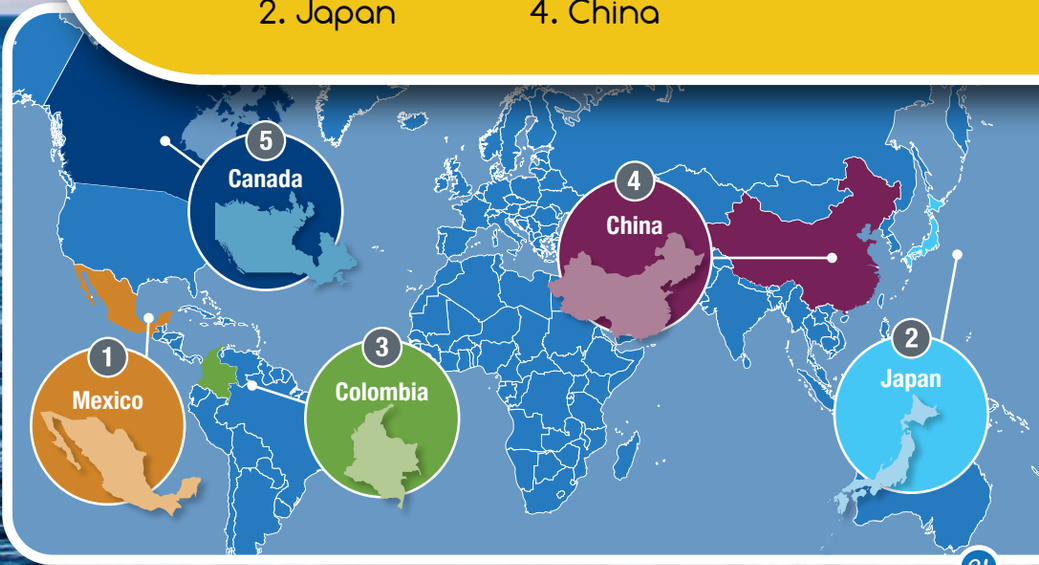
Did You Know?
Most of our gas contains some ethanol. Ethanol is a clean fuel that is good for the earth. The next time you go to a gas station see if you can find one of these types of fuels.

Exports

No country grows more corn than the United States! When we sell and ship our corn to other countries, we are exporting our corn. We want to export our corn to other countries because it helps them, and it helps us make more money from our crop. This ship is being loaded with U.S. corn to be exported to another country. The ships can hold over a million bushels of corn!

Fun Fact:
Our corn goes all over the world! Here are five countries that buy the most U.S. corn:

1. Mexico
2. Japan
3. Colombia
4. China
5. Canada



The World Needs Farmers!

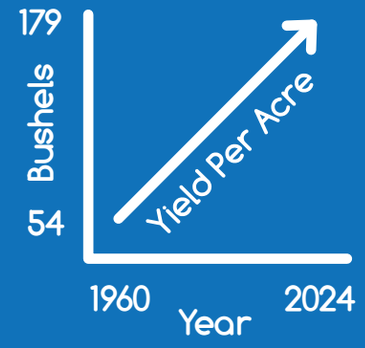
We enjoy farming as a career. Millions of Americans have careers in agriculture. Without **agriculture** to produce food, fuel and fiber, people would not survive. It is rewarding knowing we are growing corn that provides for our family and yours.

STEM Fact:
Today, one farmer feeds **169** people.
In 1960, one farmer fed only **26** people.

Why?
Technology and better farming methods improve productivity.

In 1960, farmers harvested **54** bushels of corn from one acre.

In 2024, farmers harvested **179** bushels of corn from one acre.



Farmers, bankers, scientists, cooks, engineers, writers, economists and many other professionals can work in agriculture.
agexplorer.ffa.org

Glossary and Video Links

Video links can be found at:
wegrowcorn.com

Glossary:

Agriculture - the science and business of cultivating soil, producing crops and raising livestock.

Combine - a machine that separates the corn kernels from the rest of the plant.

Corn - a grass, originally from Mexico, that is grown for its large ears and kernels.

Dent corn - a kind of corn that matures in the field until dry and hard and is a grain (also called field corn).

Ear - (also referred to as a cob) the part of the corn plant that contains kernels.

Ethanol - a renewable fuel made from corn and other plant materials.

Farm - a piece of land used for growing crops or raising animals.

Feedlot - a place where groups of cattle live and are given feed that helps them grow quickly.

Germinate - to cause a seed to begin to grow.

Grain elevator - a place that stores grain before it is shipped to the buyer.

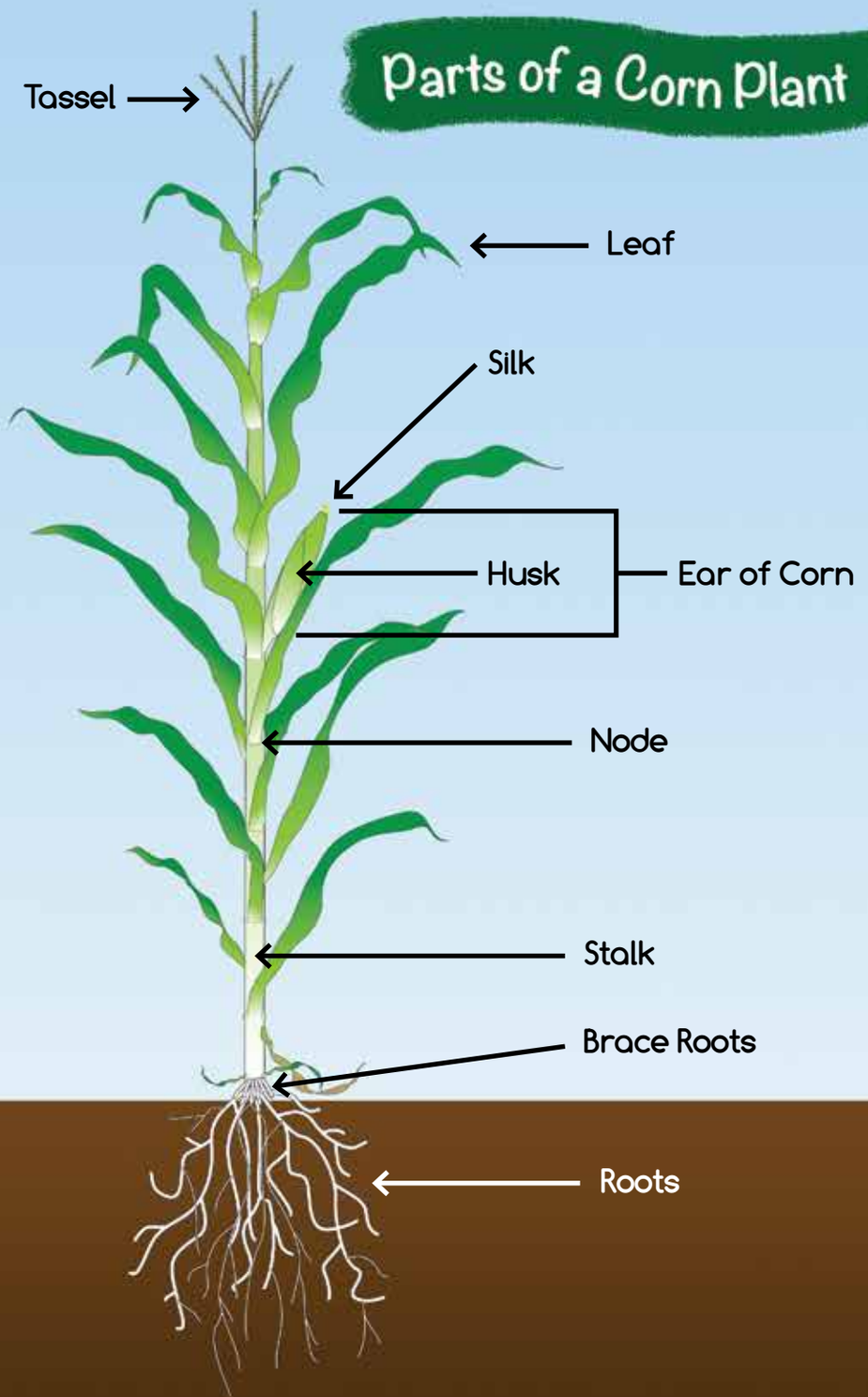
Harvest - a season when crops are gathered from the fields.

Irrigate - to supply land with water by using items like pipes and sprayers.

Planter - a machine that plants seed in the ground.

Sweet corn - a kind of corn that is grown for people to eat as a vegetable.

Parts of a Corn Plant



Math Puzzler Answer: A 100-acre field would have 3,000,000 seeds–wow!

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A project of the Kansas Corn Commission to support STEM education in classrooms.

Find information, curriculum, videos and more at: wegrowcorn.com

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