

Corn in the Classroom

Let's Learn About Kansas Corn!

Corn

Scientific Name: *Zea Mays*

Nickname: Maize

THE CORN PLANT

Corn Plant

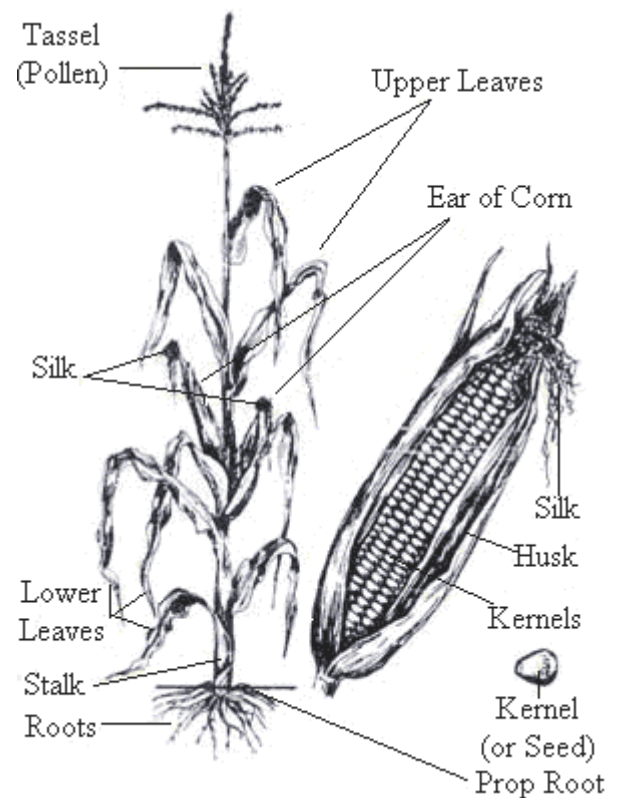
Corn is an annual plant that grows 7 to 10 feet tall. Strong roots called prop roots help support the cornstalk. A tassel grows at the top of each jointed cornstalk and contains hundreds of small flowers that produce pollen. Long, sword like leaves grow outward from the stalk and end in a pointed tip.

Ear of Corn

Ears of corn grow where the leaves join the stalk. A plant normally has one or two ears. Special leaves, called husks, protect each ear. An ear consists of a corncob covered with row of kernels. An ear may have 8, 10, 12 or more rows of kernels.

Kernel or Seed

Each corn kernel has what looks like a silk thread that runs from the kernel up the row, and sticks out of the husk at the end of the ear. This thread is called the corn silk. Each silk needs to be pollinated to produce a kernel of corn.



HOW IS IT GROWN

Corn is usually planted about 2 inches deep in rows about 30 inches apart. A corn kernel serves as the seed. Seeds need their own food supply to help them get started. The endosperm in the seed serves as the food supply for the corn kernel as it grows from embryo to plant. Thus, the corn plant begins its life cycle of approximately 120 – 150 days. During this life cycle corn can grow from 3 to 15 feet tall, depending on the variety.

How does it all begin? Seeds soak up water that makes them swell and burst through their outer covering (pericarp) and sprout. Then they start to grow. Part of the embryo grows down into the soil to form roots that absorb water and minerals to support plant growth. Roots also serve as an anchor for the plant.

Part of the plant pushes up through the soil to reach the sunlight. A single stalk forms and bears about 15 long broad leaves. Sunlight provides the energy necessary for photosynthesis to begin. During this process, the plant absorbs sunlight, water, and carbon dioxide that work with the plant's chlorophyll to produce the sugar that feeds the plant.

Once the plant matures and begins to produce the ears, the pollen from the tassels on top of the plant must fall on the silks to produce the corn kernels. Pollination, as it is called, occurs by the pollen falling, blowing in the wind, or being transferred by insects and birds to the silks.

CORN HISTORY

Most people think that corn originated with the American Indians, but Indians in central Mexico developed corn from a wild grass over 7,000 years ago! The Indians in North, Central, and South America grew corn for thousands of years. Corn has been found in places where Indians lived so long ago that the cobs have petrified (turned to stone).

When Columbus arrived in the New World, American Indians had already been growing corn for quite some time. They called it maize. They gave Columbus corn to take home to Spain. From there, corn spread quickly throughout Europe and the rest of the world.

American Indians stored corn for the winter – it was their main food, and their lives depended on it. Corn was so important to them, various tribes prayed to the Corn Gods they believed had sent it to them. They had festivals at planting and harvest times. They chanted and made music, and each tribe danced its own Corn Dance. Some tribes considered corn one of the three sacred foods (along with beans and squash), and some groups even worshipped it.

The term corn dance is applied to certain rituals of many Indian tribes of North America. Corn, traditionally a sacred plant to many American Indians, needs plentiful rain to grow, and the dances are intended to induce rain, to promote fertility, or to thank the god for the harvest. Corn dance rituals are associated with tribes of the arid Southwest, where Indians originally farmed without irrigation and

thus were entirely dependent upon rain for the germination and growth of their crops. Among tribes of the southeastern United States, the green corn dance, in celebration of the early harvest, was the most important ritual.

Chief Massasoit taught the Pilgrims and other European settlers how to grow corn. The Pilgrims at Plymouth Rock would have starved in 1621 if American Indians had not taught them how to grow corn. He showed them how to heap little mounds of earth, bury five corn seeds, and five herrings that would rot and make the soil rich. Maize saved the pilgrims' lives. On the first Thanksgiving, the Pilgrims and the Indians gave thanks for the corn harvest, as the American Indians had always done.

The Pilgrims learned other uses for corn from the American Indians such as stuffing mattresses with cornhusks, burning the cobs for fuel, making toys from husks, and feeding corn to their livestock.

In England, one of the Pilgrims' favorite dishes was hasty pudding. It was made by boiling water and wheat flour in a cloth bag. But in America they had trouble growing wheat, so they made it with corn flour and called it corn pudding!

Pioneer breads were baked in many ways. Corn bread was often baked in a three-legged iron pot called a bake kettle. Johnnycakes (little round cakes of cornmeal and water) were baked on a board that was propped in front of the fire. They cooked quickly and were served at almost every meal. Since johnnycakes were easy to carry, travelers often carried them in their pockets, thus the name "journey cake."


THE MANY USES OF CORN

Corn has many uses in today's society. It is used for industrial purposes, food, drug, and cosmetic uses, and as an animal feed. Here is a breakdown of how corn is used.

- ▶ 0.2% Seed – High yielding hybrids are planted annually.
- ▶ 1.8% Food – Americans eat little whole kernel corn, but we eat 120 million bushels in processed foods.
- ▶ 2.5% Starch – This extract thickens foods and is used in numerous "new" industrial products such as biodegradable plastics.

- ▶ 11% Alcohol – Ethanol from corn powers cars and a variety of other engines.
- ▶ 5.3% Sweeteners – Corn syrup has replaced imported sugar in a host of products like soda and candy.
- ▶ 57% Animal Feed – Feed for cattle, hogs, and poultry continues to be the largest market for corn.
- ▶ 19.3% Exports – The U.S. provides about 80% of the world’s corn needs and is the world’s largest exporter of corn. Corn exports create jobs in the U.S. and help our balance of trade.
- ▶ 10% Ending Stocks – Corn held at year’s end provides a sustained food supply in bad crop years.

From One Bushel of Corn . . .

	<p style="text-align: center;"> 32 pounds of cornstarch OR 33 pounds of corn sweetener OR 2.7 gallons of ethanol PLUS 1.6 pounds of corn oil AND 11.4 pounds of 21% protein gluten feed AND 3 pounds of 60% gluten meal </p> <hr/> <p style="text-align: center;"> A bushel of corn fed to livestock produces 5.6 pounds of retail beef, 13 pounds of retail pork, 19.6 pounds of chicken or 28 pounds of catfish. One bushel of corn will sweeten more than 400 cans of soda. </p>
--	--

OTHER FUN FACTS ABOUT CORN



There are approximately 72, 800 kernels of corn in a bushel.



75% of all grocery items contain corn in some processed form. Even when you buy meat, don't forget the animal the meat came from probably ate corn.



Each ton of paper uses 28 pounds of cornstarch!



Corn is grown on every continent except Antartica.



Some corn can grow over twenty feet high.



An ear of corn averages 800 kernels in 16 rows.



Corn is used 276 ways just to make cookies.

For more information about Kansas Corn contact:

Kansas Corn Growers Association

P.O. Box 446

Garnett, Kansas 66032

800-489-2676

www.ksgrains.com/corn

