

# CORN



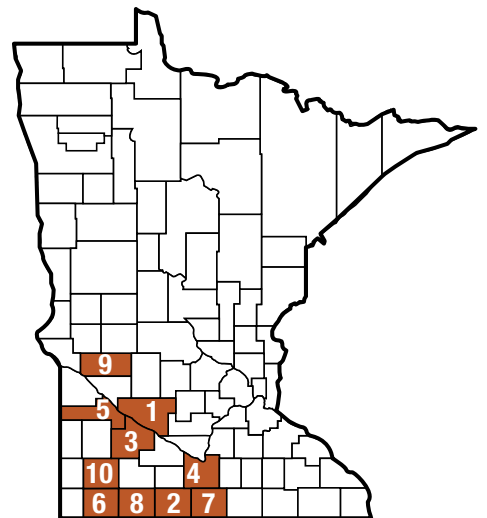
A.



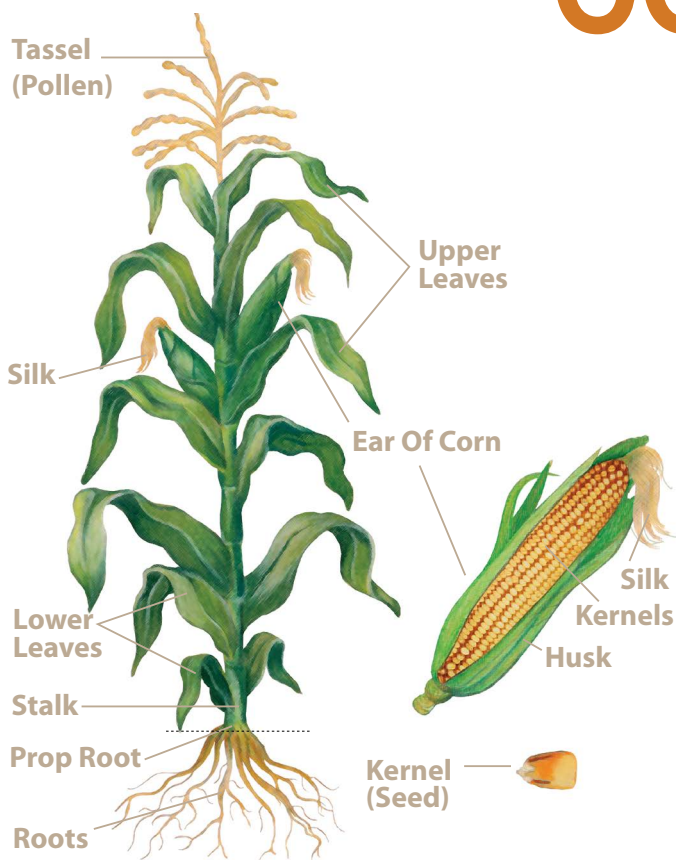
B.



C.



# CORN



## Corn

Most of the corn grown in the United States is produced in the Corn Belt, which includes Illinois, Indiana, Iowa, Minnesota, Missouri, Nebraska, Ohio and South Dakota. In 2013, Minnesota ranked third nationally in corn production. The different types of corn include dent corn, sweet corn, popcorn and flint corn. Dent corn is commonly called “field corn” because it is fed to livestock. Sweet corn, popcorn and flint corn are used for human food.

## Field Corn

Producers use hybrid seeds to grow crops each year. Hybrid corn is made by crossing two or more corn plants to produce a reliable corn seed. Corn is planted in the early spring using a corn planter. The machine drops the kernels into rows and then presses the soil around each kernel. A producer may cultivate the corn when it is still small. This is similar to hoeing a garden. It helps get rid of the weeds that compete with the corn plants for water and nutrients.

## The Growing Factor

Today’s producer grows a bushel of corn with only six minutes of labor using tractors and special equipment. The growing season is generally from 75 days in northern Minnesota to 120 days in southern Minnesota. Before a producer plants the corn seeds, fertilizer is placed in the soil that helps feed the corn plant. Rain is extremely important because the corn plant needs water to grow.

Sometime between late September and November the corn will be dry enough to be picked or harvested. Corn is harvested by a large combine. The machine removes the ear of corn and separates the kernels from the corn cob.

## Minnesota Corn Utilization

In 2012, Minnesota’s 21 ethanol facilities had a production capacity of 1.1 billion gallons of ethanol per year, using over 400 million bushels of corn. Ethanol is a renewable fuel and helps to reduce pollution emissions and U.S. dependence on oil. Currently, Minnesota’s corn utilization includes: 42% for export, 39% for processing (includes ethanol), 17% for animal feed use and 2% other uses.

It is important to note that nearly half of the corn produced in Minnesota is still shipped out of state without any value added to it. Processing corn products instead of exporting raw corn doubles the value of each bushel. Closer to home, corn can be found in more than 3,500 products in a grocery store. Fructose, a liquid sweetener from corn, is used to sweeten soda pop, cake and candies. Polylactic acid (PLA) is derived from the starch of the corn kernel and is being used in the production of biodegradable packaging materials, plastic cups, plates, golf tees and in the fibers for clothing and carpet.

The most successful co-product from ethanol production is distillers dried grains, or DDG. Minnesota is the third largest DDG producing state in the U.S. About 40% is consumed in state as high protein animal feed. 17 pounds of DDG’S is produced for every bushel of corn that is converted to ethanol. DDG contains 27% protein compared to 9% protein from raw corn, making it a very favorable animal feed.

### Top 10 Minnesota Counties Producing Corn for Grain in 2013:

1. Renville
2. Martin
3. Redwood
4. Blue Earth
5. Yellow Medicine
6. Nobles
7. Faribault
8. Jackson
9. Swift
10. Murray

## On The Front

### A. Corn Plant

Corn is an annual plant that grows 7 to 10 feet tall. Strong fibrous roots called prop roots help support the cornstalk. A tassel (male) 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.

### B. Ear of Corn with Kernels

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 may have 10 to 18 or more rows of kernels (always in pairs). Ears have 300-600 kernels.

### C. Single Kernel or Seed

Each corn kernel has what looks like a silk (female) 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.



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