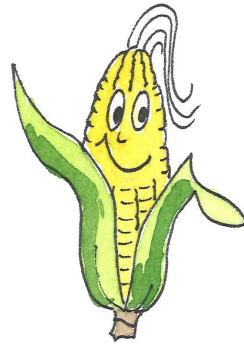


NATURE DETECTIVES

Fall 2022

A-maize-ing Corn



Welcome!

Hello Everyone! I'm a corn plant in a corn garden and I'll be your corn guide for this Nature Detectives pullout! What's a corn garden? A block of corn plants all growing together in someone's backyard or an empty lot or at a community center. All corn plants like to grow up together—the more the better!

How Does Corn Grow Up?

When the soil warms up in the spring, the gardeners take handfuls of corn seeds and plant them in the ground.

What are corn seeds? You have seen them many times—the kernels from corn cobs! Not cooked, of course. Dried in fall and winter on the cob, then shelled and planted in spring.

Embryo—the plant in miniature

Each corn kernel seed is a sac full of nourishing goodness for the mini corn plant-to-be, called the *embryo*. Our mother corn plants have made sure to put some of their own *microbes* in and on our seed coats to help us grow and be healthy.



Tassels, Corn Flowers and Pollen

After a few days or weeks the first leaves of the baby corn plant in the tiny embryo unfurl, green and shining in the morning sun. A growing corn plant can unfurl a new leaf every few days! The leaves reach out to the sun and make food from its light. After a couple of weeks or months, depending on the kind of corn, many leaves rustle in the breeze.

It is then the tiny corn flowers flower along the *tasse/s*, the pollen-bearing parts at the top of the corn plant and side shoots. Hanging like acrobats from the corn flowers is the bright *pollen*, ready to drop onto a corn *silk* and fertilize it to make new baby corn seeds, kernels.

Corn Silks and Pollination

Sometimes the pollen lands on the silk of the same plant it grew on, sometimes the wind blows it to the silk of a different plant.

The silks are actually hollow tubes. One end grows out the top of the corn husk to meet the pollen grains and welcome a couple of their pollen tubes down each silky tube into the *ovule* (which means “little egg” and contains the *embryo sac*.)

The other end of each silk is in an ovule, one silk per ovule. Once the ovule is pollinated, it can start to grow up into a juicy corn kernel to be eaten or planted as a seed.



The Milky Stage, Dough Stage, and Thin Black Line Stage

A number of weeks later, the corn ovules have mostly turned into corn kernels. If you *shuck* a *husk* at this stage and bite into the kernels on the cob, sweet corn milk will burst into your mouth. It is white and looks milky, so this is called the Milk Stage. Some Indigenous corn-growing people hold special festivals and ceremonies to celebrate this stage.

A number of weeks later, more starch has built up inside the corn kernel, which thickens the milk, turning it more doughy; so this is called the Dough Stage.

A number of weeks later, the corn plant has grown up! How do you know it is mature? Look carefully and you will see a thin black line at the bottom of many corn kernels (you test a few to tell if the rest are ready, too). This means: done! Ready to eat or cook or dry for planting!



So many Recipes from All Over the World

There are so many different ways to eat corn, so many different recipes from all over the world. Almost every part of the corn plant can be eaten! It has nourished many people in many places for many centuries.

Corn came originally from a wild plant in what is now called Mexico; people developed it for agriculture—to make it easier to grow and harvest—perhaps 7-10,000 years ago. Corn spread to the rest of the Americas over a thousand years ago and to Europe, Asia, Africa around five hundred years ago; it is found on every continent but Antarctica and many people believe it is a native plant in their area, it has been there so long. In many regions it is called “maize.”

Types of Corn We Eat

Different types of corn taste different and grow differently. A modern popular type is *sweet* corn. The type most grown in the U.S. is called *dent* corn because each kernel has a little dent in it, easy to see. Dent corn is mostly grown in warmer climates. Of course we all know *popcorn*; hot steam builds up inside until the kernel bursts, turning inside out!

The last two types are *flint* corn, which grows well where it's colder, and *flour* corn. What's the difference? The flint corn kernel is hard like flint, flour corn is soft, like flour. Popcorn is hard like flint and you can cook with it the same way. *Dent* corn is between flint/popcorn and flour corn in hardness. Harder corn kernels are “cornier” tasting, but softer corns are easier to make cakes and puddings with.

The Rainbow Colors of Corn

Corn is yellow, yes, but have you seen corn that is white, red, orange, green, blue, purple or all those colors mixed together in random swirls and patterns? The different colors make dishes look and sometimes even taste different. Corn is the most interesting, diversified, and colorful member of the Grass Family (*Poaceae*)!



Activity: Watch Corn Grow Up!

You can do a corn-growing experiment as an adventure.

First, start with corn kernel seeds. You can either buy them or save some from a cob you didn't eat this fall. Make sure it's raw! Cooked kernels won't grow.

Shuck it and place it in a safe place with good air circulation to dry over the winter.

If you are saving a cob, best to save the whole cob and shell it in the spring, planting however many kernels you have space for.

Plant when the soil is 60 degrees Fahrenheit. You can stick a kitchen thermometer in the soil to take its temperature. (Clean it well afterwards.) Watch the weather report to make sure snow is not in the forecast!

To plant, first try to find some place with a little soil for growing. A backyard with some grass removed is a good start.

Make a hole for each kernel. If you have lots of seed, plant them a few inches apart and thin the plants that are not doing well.

Water the soil so it is moist and keep it moist throughout the growing season. Corn needs water.

If you are growing corn seed you bought, you can expect it to come up all looking the same. If you are growing corn seed you saved, there will be many different-looking ears and kernels.

You can also plant in pots, one kernel per 24" pot.

You may need to put a fence up around your corn garden; all kinds of animals love little corn sprouts!

If your seeds come up, watch them go through the life cycle this article describes. Have fun! Tell gardener friends about your experiment and ask them your questions as your corn grows!

