

## Corn is our Native Grain Crop

### AGRI-VIEWS

by Chuck Otte, Geary County Extension Agent

Many, if not most, of our grain crops are not native to North America. All of our small grains are from various areas in the Eurasian land mass, soybeans are from China, and sorghum from Africa. But corn is North American born and bred and unlike most other grain crops, it has, for its entirety, been dependent on mankind for its survival.

Early successors of corn have been found in caves in New Mexico that are estimated to be 5,600 years old. It appears to have originated in Mexico and Central America and may have simultaneously been domesticated in South America. Some researchers feel that the domestication of corn may have started 7,000 to 9,000 years ago. Researchers generally feel that it has a strong connection to a wild grass called teosinte and others feel that it may be related to tripsacum species. We have a native tripsacum species, tripsacum dactyloides (Eastern Gamagrass) that grows in the Flint Hills. If you've ever seen this plant in bloom you will notice some similarities to corn.

Corn, technically zea mays, or maize in much of the world, is an annual grass. It has a wide area of adaptation growing from Chile in South America clear into Canada. It can tolerate quite hot temperatures, as long as it has adequate moisture and can also grow in surprisingly cool climates and short seasons. Early domesticators of corn did an amazing job of plant breeding by simply continuing to select the plants that produced the most kernels and then selecting those plants that had kernels that were easily ground into corn meal or flour for cooking and baking. Corn was heavily utilized by early natives in Mexico and the US. It was a critical part of their food supply and culture.

If you look at the genetic diversity in corn it is quite amazing. Not as amazing as sorghum, but that's another story. Think of popcorn, sweet corn and field corn. There are many seed colors of field and popcorn. There's also podcorn, where each kernel has a small husk around it, and flint corn that has a very hard outer layer of the kernel. It's quite amazing, if you take the time to notice every day, how much corn is in your food, or used in cooking/preparing your food.

Most grain crops have what we call a perfect flower. The male and female parts of the flower are together in one structure. The cereal grains, sorghum, soybeans, even sunflowers are like this. Corn is botanically monoecious which means that the male and female flowers are borne in separate structures on the same plant. With corn, the male flower is the tassel and the female flower is the ear. From a plant breeders point of view, this is a very easy system to work with to make crosses and develop hybrids.

Corn has become a crucial part in American, and world, grain and livestock agriculture. Corn grain is utilized directly as a food and indirectly as a livestock feed source, both grain and whole plant. In addition to being used as human food, we use it to create sugar (corn syrup), oil, and starch. It is a key feed stock in alcohol production for fuel. It has historically been one of the most highly managed crops that we have with yields easily reaching 200 bushels per acre (11,200 pound per acre) with extremely highly managed corn surpassing 500 bushels per acre. Corn is with us every day whether it's the grits we have for breakfast, the tacos for lunch, the sweet corn at dinner, or the nachos or popcorn we have as a snack. Corn is around us every day and it's our home grown crop!