



Maize, the Miracle Food

The cultivation of maize, or corn as we know it, spread rapidly through the Americas and has fed American Indian civilizations from Lake Ontario to Argentina.

The archaeological search for the origin of maize began in 1949. Richard MacNeish excavated well-preserved cobs in dry caves in the mountains of north-eastern Mexico, and then turned his attention to the Coxcatlin and San Marcos caves in the Central American highlands where he was convinced maize had originated. Radiocarbon samples received dates of 5,000–4,000 B.C.

The oldest cobs were no more than 2 inches long, with 8 rows of 6–9 kernels. At first, it was claimed that these small cobs belonged to an extinct, wild ancestor to domesticated maize. Other botanists disagreed and claimed that teosinte, a wild grass that still grows in Mexico, was the true ancestor. A generation later, new research by other botanists led to the conclusion that the genetic evidence for teosinte being the wild ancestor is rock solid.

For years, the MacNeish radiocarbon dates were widely accepted as the origins of farming in the Americas. So matters remained until 1983 when accelerator mass spectrometry (AMS) revolutionized radiocarbon dating. AMS is more accurate and permits dating of tiny fragments of organic matter. When Austin Long dated cobs from San Marcos, he obtained readings 800–2300 years younger than previous estimates. However, Bruce Smith with the Smithsonian Institution cautioned against being too optimistic about these dates. He has indicated he wouldn't be surprised if future excavations yield corn at least 1,000 years earlier.

How then, did the domestication of maize begin? Smith believes that maize farming started with deliberate planting of harvested wild seeds over a wide area to

expand the range of existing stands. Then, by setting aside seeds of particular varieties and planting them separately, genetically altered plants adapted to a man-made environment, for example, kernels packaged in easily harvested cobs, rather than small grain spikes found in teosinte.

As time went on, the product of this early maize domestication gravitated to North and South America. In the midwestern United States it had been around for several centuries before becoming important from an economic standpoint around A.D. 750. By A.D. 900, however, it had become an integral part of the diets of many midwestern groups. It was the primary crop for the people of Cahokia—the large Indian village society with tens of thousands of people centered east of the Mississippi River but spread out on both sides of the river in many mound groups. These large villages started around A.D. 900 and peaked around A.D. 1050–1250.

By the time Columbus arrived, American Indian farmers had domesticated at least 300 grasses, fruits, and root species, more than any other society in the Old World. However, of all these products, the development of corn had the greatest impact on history. Today corn represents three-fifths of the world's crop production.

So, when you go to the garden to pick corn for the table or to the grocery store to buy this miracle food, recognize that this important food source is one of the many gifts given by American Indians to modern civilizations.

Note: Material for this handout is from a paper written by Brian Fagan for the summer 1997 issue of *American Anthropology*, and *The Prehistory of Missouri* (1998) by Michael J. O'Brien and W. Raymond Wood.

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