

# Arkansas was major center of plant domestication thousands of years ago

BY JULIE L. MORROW  
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About 13,000 years ago, Arkansas was inhabited by hunters who migrated from Asia toward the end of the last great Ice Age.

Small bands of probably no more than 20 to 30 people hunted animals and gathered easy-to-process plants like tubers, roots and berries. This foraging way of life requires a lot of land. Resource-poor environments like western Australia can support 1 to 2 foragers per 10 to 50 square miles, while resource-rich environments like Northeast Arkansas can support 10 to 30 foragers per square mile. Arkansas is a very rich area due partly to its location near the Mississippi River.

By domesticating plants, people in various

regions of the world have been able to feed increasingly large numbers of people using smaller parcels of land. Northeast Arkansas is one of the World's ancient centers of plant domestication. By 5,000 years ago Native Americans here were beginning to domesticate a number of plants that are still important in today's global economy.

Then, between 5,000 and 2,500 years ago there was a marked population increase in the Mississippi River Valley. As groups became more sedentary and repeatedly occupied the same camp sites on a seasonal basis, thick midden or trash deposits accumulated. Middens and pits contain the remains of animals and plants that were eaten and disposed of as well as discarded stone and bone tools, and

other cultural debris.

By 5,000 years ago people had begun cultivating wild plant foods. One of the first domesticates was squash or gourd. Genetic testing of Middle Archaic period (8,000 to 5,000 years ago) gourds indicate they were growing wild in the Mississippi Valley and were not the domesticated types imported later from Mexico.

Gourds were probably first used as floats for nets, but they were eventually grown for food.

In oxygen-poor conditions like bogs, rock shelters and dry caves, archaeologists sometimes encounter uncharred leaves, stems and seeds of plants. One extraordinary piece of evidence that Native Americans were practicing horticulture at



ASU students Sherry Hawkins (left) and Elizabeth Bryant sort artifacts and plant remains excavated by the Arkansas Ar-

chaeological Survey last year from an 800-year-old agricultural village near Egypt.

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least 3,000 to 4,000 years ago came from the Arkansas Ozarks. In 1934 excavators found a crevice at the Marble Bluff site that contained three bags of thin testa chenopod seeds, a bag of cultigen squash seeds mixed with sunflower seeds, a one-gallon cache of mixed seed types that may have been stored in a basket and an assortment of gardening tools including deer antler rakes and perforated mussel shell hoes.

Along with starchy, protein-rich chenopod, Native Americans grew two oily-seeded plants: sumpweed and sunflower. The modern relative of Chenopodium, termed goose-foot or lambquarters, is routinely eradicated via herbicides today.

Other plants Native Americans gathered from the wild or cultivated included marsh elder and

maygrass. People were routinely consuming the starchy seeds of chenopod and maygrass and the oily seeds of sumpweed, sunflower and domesticated pepo squash. About 2,000 years ago, knotweed and little barley are frequently found in the same archaeological deposits. These seven plants, referred to as the Eastern Agricultural Complex, produced highly nutritious seeds that could be boiled into cereals, ground into flours, or eaten directly.

### **Maize**

Maize entered the Mississippi Valley about 2,000 years ago. It offered several advantages to the small seeded cereal plants. Maize farmers did not need to be right there when the maize was ripe, like they did with the seeds crops. Maize stalks ripe with ears could be

left standing until people had time to harvest.

Maize fields attracted animals like deer, raccoon, squirrels that Native Americans seem to have favored. Although maize became a staple crop by A.D. 1200, people continued to cultivate starchy and oily seed crops until around A.D. 1400. With beans and cushaw squash adopted via trade routes to the southwest, the Middle Mississippian period, A.D. 1100 to 1300, was probably the peak of crop diversity in Northeast Arkansas. By A.D. 1400 maize dominates archaeological assemblages, and by the sixteenth century European explorers encounter Native Americans growing predominantly maize, beans, sunflower and squash.

Women did virtually all the farming in the Mississippi Valley and were also probably responsible for

plant domestication which played a huge role in making the United States a very prosperous country.

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