

ARIKARA AGRICULTURE

The Arikara always chose alluvial sandy loam soil for their fields. When prospecting for new ground for fields they looked for suitable places in the flood plain of the river or in the valleys or creeks. Buck brush (*Symphoricarpos occidentalis*) was a natural indicator of good garden ground. They chose sandy soil, but that containing good black humus.

When new fields were laid out for clearing, they were marked by stakes at the corners. Sometimes conflicting claims occurred which had to be adjusted. But claims, once established, were held without controversy so long as they were kept in continuous occupation.

In the first clearing the brush was cut close to the ground with axes. After drying it was gathered, piled and burned. The roots were removed from the ground by means of digging sticks. In later times, of course, they obtained steel and iron tools from the traders. They say that it is told among their people that in ancient times they made axes from flint, and with these the brush was cut.

Religious ceremonies were held in early spring at the time of the coming of the wild geese from the south. This ceremony, or dance, was held by the Goose Women's Society. The purpose of this ceremony was to propitiate the crows, blackbirds, grasshoppers, and other enemies of the corn, so that they should not molest it, and that there should be a good crop. A part of the performance of the Goose Women's Society was to carry, and scatter out on the prairie, upon the young green grass, pieces of dried meat as offerings to all the creatures which might be inimical to the crop.

There was a ceremony preliminary to the planting, which ceremony was held at night time. In this ceremony, the sacred ancient hoes, contained in the sacred bundles, were used in the dance in movements imitating the actions of preparing the ground for planting. The sacred ancient bow and arrows were also displayed in this dance.

When the corn had germinated and had attained a few inches in height, another ceremony was held; this one in day time. At this ceremony, a stalk of corn, saved over for this purpose from the year before, was brought out and placed before the altar to represent Mother Corn. On this occasion, gifts

were given to those who performed the ceremony, and the tongue, trachea, heart and lungs of a buffalo all connected in one piece was made an offering to the Thunder.

The time for planting corn was when the buck brush (*Symphoricarpos occidentalis*) began to show new leaves. Squash and beans were planted when the wild plum blossoms came out. For belated planting of both corn and squashes, the seeds were placed in a bed of the soft lower blades of bluestem grass (*Andropogon furcatus*), dampened, wrapped in a piece of rawhide, and suspended above the fireplace. In two days they would be found germinating and ready to plant. In the case of belated planting of beans they were germinated by merely soaking in water.

Corn was hoed three times in the growing season.

When the corn was well up and appeared as though it would make a good crop, old men walked about the field and sang songs of thanksgiving. This was a spontaneous and voluntary matter according to their inclination and not according to any rule.

At the time of corn harvest the selection of ears for seed was made in the field; the best, most perfect and typical ears of the different varieties, from the healthiest, strongest stalks, were chosen out, and these were braided into strings and saved especially. Two years supply of seed corn was always saved to provide against a possible failure. If properly cared for, it was considered possible that seed even four or five years old might germinate, but that it was not surely dependable.

At planting time they examined the seed corn. If they found an ear in which the "heart" of some of the kernels was dark, that ear was rejected. It was known such seed would not grow. From the ears whose kernels showed bright "hearts" the grains at butt and tip were shelled off. The grains from the middle of the ear were used for planting.

Hills were dug up with hoes and made fine by working with the hands. The hills were one cubit in diameter across the top and two paces apart. Nine grains were planted in each hill. First four grains in a square, then one in the center, then four more outward from the square toward the edge of the hill.

This plan of the corn hill was referred to the plan of the Arikara earth-covered dwelling house, and was called "a house for Mother Corn". The position of the first four grains (indicated in the diagram

by crosses) is that of the four pillars of the house; the fifth grain is in the center, the position of the fireplace; the last four grains are in the position to represent the wall posts of the circular, dome-shaped, earth-covered dwelling house of the Arikara people.

The grains are pushed down into the earth and covered with the fine soil, and then the hill is patted three times with the right hand, and then pressed three times with the right foot. The distance from one corn hill to the next is two steps. The middle space between the corn hills was either planted to squash or beans, or was reserved to plant corn later to extend the season of green corn. The plantings would be placed thus:

The circles represent the corn hills first planted and the crosses represent the hills planted to squash or to beans or reserved for later corn planting. They said the hills were placed two paces apart. This would probably make the space between the hills to be about the distance of five feet.

They said they used to watch and tend the corn very carefully and almost lived with it during the growing season. They worked with their hands in the hills, keeping the soil in good condition, and hunted out the cut-worms and killed them. They said that in planting time they must be careful to leave not a grain of corn visible anywhere, for if they did so the crows would find it, and would then dig up the hills of planted corn. But if crows did begin to do damage scarecrows were set up in the field. These were made from old pieces of buffalo robe wrapped up to appear like a person. These effigies they fixed upright by a stake, leaving two strips hanging free to dangle in the wind, and give appearance of a person's legs in walking.

Štešta-kata said that sometimes grasshoppers took the crop. She remembered one time they came in such enormous numbers that, before they alighted, the air seemed to be thick with them, and after they settled down they made the ground appear all shining from the glancing of the sunlight on their bodies. And then, when they rose again, the people's fields and gardens were bare of vegetation.

Another enemy of the corn of the Arikaras, just as in these later times it is an enemy of the white man's wheat, was the ground squirrel. The ground squirrels used to dig up the planted corn. Boys used to have sport snaring the ground squirrels. Sometimes, when ground squirrels made depredations in the

cornfields, the women would offer a treat of some especially well-liked articles of food for a feast to parties of boys to induce them to snare the ground squirrels which infested the borders of their fields.

Štešta-kata said that they had no trouble from the buffalo damaging their fields, but sometimes the deer came in and damaged the beans, though they did not bother the corn. Horses gave the most trouble. Sometimes women were so exasperated by the damage done by horses that they stabbed and slashed them with their knives when they found them in their fields devouring and trampling the corn which had cost them so much labor and pains to produce.

Drought sometimes injured the crop, and they had no way to avoid this, for they had no irrigation system. If ever they had an excess of rain, it did no damage, for their plan of planting in hills prevented the water from standing on their corn. On the upper Missouri River, where the Arikaras have lived for many generations, the growing seasons is very short; quite often killing frosts of spring continue into June, and the first killing frost of autumn may come in August. And sometimes it happens that there is no month in the year entirely without frost, even though it may not be a killing frost. But, at the best, the growing season is short, and the nights are always chilly, even in midsummer. And yet, by a long process of careful selective breeding, the Arikaras have produced varieties of these southern species of plants, corn, beans and squashes, which are resistant to cold and of quick maturing habit, acclimated to the rigorous conditions of their present northern habitat.

Informants said, "In old times we did not have so many weeds as now. (That is perfectly true. Most of the species of weed now infesting the fields are of recent introduction from the old world. There were few species of native weeds, and they were not so difficult of control. M.R.G.) The only weeds which troubled us were milkweed (*Asclepias syriaca*), wild licorice (*Glycorhiza lepidota*), lamb's quarter (*Chenopodium fremontii*), and tuberous sunflowers, also called "Jerusalem artichokes", (*Helianthus tuberosa*). Milkweed and lamb's quarter were not altogether bad for they were good for food, used as greens. Tubers of "Jerusalem artichokes" were eaten fresh and raw or roasted. No chance was given to weeds to grow in the gardens, for we kept after them all the time. After a rain, as soon as the surface of the ground was dried our grandmothers told us to go out and with our fingers loosen the soil about the

plants.”

Corn smut (*Ustilago maydis*) did no damage, for if it destroyed a small percentage of the corn it in itself substituted another desirable article of food. When firm and white, before the maturing of the spores, it was cooked with squash both fresh and dried and put away for winter, when it was cooked with dried squash.

Štešta-kata said “At roasting ear time, the Dakotas would come to visit us, even though in war they might have killed some of us not long before. I do not know how they, in their country, would know at what time our corn would be in roasting ear, but they seemed to have some way of knowing and always came around at that time.” (The thing which puzzled Štešta-kata is explained in the phenological fact of the blooming of certain species of native prairie plants, among them *Liatris* sp., contemporaneously with the ear stage of corn. This fact had been observed by the Dakotas, and they used the information to time their visits to the Arikaras. M.R.G.)

The Arikaras tried to have their corn as early as possible of course, but they also extended the green corn period by late plantings so that they often had roasting ears until shortly before the first frost of autumn.

The blossoming of the squashes marked the proper time for observing the festival of the Holy Cedar Tree. At this time a stick of ash wood (*Fraxinus viridis*), about six feet long, was prepared by making notches on it, for use as a musical instrument, or as a musical accessory. This instrument must be made in the Holy Lodge. There the stick was peeled, notched painted red, and three sticks were made for producing sound by rubbing over the notched surface of the large stick. When the instrument has been made ready, a proclamation to that effect was announced from the roof of the Holy Lodge by the official herald. Then the instrument (which we shall call a guayo, as that is the already accepted technical term for this instrument) is carried in procession through the village, into every house in turn and round about its fireplace. After this procession had visited every house and its fireplace, a delegation went out to bring in the cedar tree (*Juniperus scopulorum*) which was to be used in the Holy Cedar Tree festival.

The festival of the Holy Cedar Tree was held next day at the Holy Lodge. The cedar tree was

emblematic of everlasting life. At the end of winter, when the ice has gone out, the people bring the worn out moccasins of their little children and tie them on the branches of the Holy Tree. The Holy Cedar has stood before the entrance of the Sacred Lodge during the past year, participating in the successive seasonal festivals of the people, witnessing all their joys, their endeavors, and their accomplishments, as well as their sorrows and disappointments. Now, all being ready, the Holy Tree, with all its freight of memories of the past year, is taken down from its station and carried in procession to the Missouri River and placed in the current of the stream, and watched with reverence by the people as it begins its long journey, drifting down the current of the river which they call the Holy River or the Mysterious River. As Holy Grandmother Cedar goes down the stream, she passes successively, in reverse chronological order of their occupation, the ancient village sites of the Arikara, carrying to each of them the message of the Arikara people that their tribe still lives, and they still perform the ancient rites and faithfully celebrate the festivals as did their people in the ancient times. And she carries the message also that they still have hope for the future, as attested by the worn moccasins of their little children, which she is carrying in her arms.

The people feel a strong reverence for the Holy River. For countless generations their people have dwelt along its shore, have drunk of its waters, have been fed by its bounty of fish, their hearts have been warmed by fires from the woods of its forests, they have planted and harvest previous crops from the fertile loam of its valleys. Through all the history of their people, Mother Corn has led them and nourished them along the course of the Holy River. And always, Mother Corn has led them upstream, ever further on toward the source of the Mysterious River; hence all their ritual acts symbolic of progress and prosperity are performed upstream. And so, when finally a man's days in this life were ended, he was laid to rest with his feet pointed to the west, upstream, so that when Mother Corn should revive him, and call him to the next life, he should rise up with his face directed in the path of manifest destiny of the Arikara race.

So, in the life of this agricultural people, the old year was dismissed with fond hopes for the new year just to begin. Soon, the spring festival of preparation of the fields would begin again, when the

honking of the wild geese, returning from the south, proclaim the advent of the springtime.

Above we have followed the course of events through the seasons as connected with the Holy Cedar Tree. There were other festivals, especially in honor of Mother Corn, those of planting time and cultivating, green corn harvest, and the final ripe corn harvest of autumn.

They say that the final festival celebrated after the ripe corn was harvested in the fall was a dramatic representation of the procession of the seasons, ending with the hibernation of all nature. For this last ceremony, held when the harvest was finished, a pond was made in the Holy Lodge and branches of different kinds of trees were brought in and placed therein, in imitation of the beaver's winter storage of food supplies. During the celebration of this festival there were placed on the altar the skin of a beaver, of a muskrat, and of a loon. These skins upon the altar have mythic and mystic signification. According to the sacred legend, the people of the very ancient time, who were the ancestors of the Arikara, in their journeying from the place of their far-off beginning in the time long ago to the now in their present country, encountered many great dangers and difficulties, endured many hardships, persevering and overcoming them all in the end through their own courage and persistent endeavors, guided by the admonition and counsel of supernatural helpers. One of the difficulties which they had to overcome was a great and terrifying expanse of water. It was the loon which showed the people a path across the great water.

It is said that during the celebration of the festival of preparation for winter there could be heard in the Sacred Lodge the sounds of piping frogs, of the singing of many kinds of birds, and the sounds made by various kinds of animals. At the conclusion of the festival, the branches which had been brought and placed in the artificial lake in the Sacred Lodge were removed and carried down to the river and placed in the stream in such manner as the beaver lays his food store of branches under water in the stream in autumn in preparation for winter.

The motive of this autumn festival seems to have been a thanksgiving for the harvest and a teaching of economy and wise foresight in providing a store in time of plenty against the hard times of need in winter, taking example from the teaching of the industrious brother peoples in the animal world.