Todd Horst

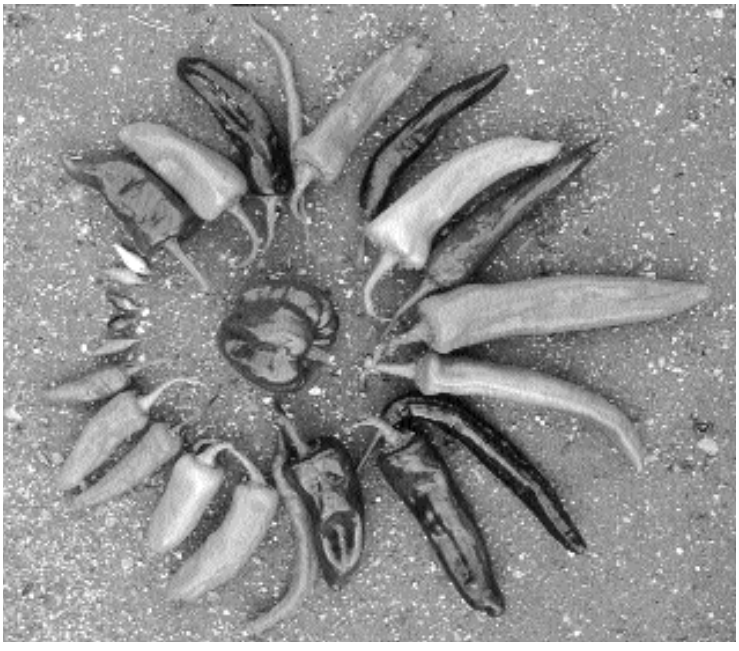
Native Seeds/SEARCH
Tradition and Conservation

Native Seeds/SEARCH (NS/S) is a non-profit conservation organization located in Tucson, Arizona, which was founded as a regional seed bank and conservator of heirloom crops and traditional agricultural techniques of the greater Southwest. The organization serves as steward of a precious resource entrusted to our care by hundreds of Native American families and individuals from the arid Southwest and northwest Mexico. Our primary function is to return benefits in the form of seeds and plant-related information to traditional communities in our region. Additionally, we contribute to the preservation of genetic diversity and make this wonderful variety of delicious foods available to home gardeners worldwide.

For untold generations, Native American farmers of southwestern United States and northwestern Mexico produced a great diversity of food despite the region's marginal growing conditions. After centuries of environmental destruction, cultural change, and land transfers, these farming systems have survived, but just barely. As late as 1925, the Tohono O'odham people of southern Arizona cultivated 10,000 acres with traditional floodwater methods, relying on the gift of summer rains. Today, a few scattered plots remain in cultivation.

Crop loss means an inevitable reduction in genetic diversity, with thousands of years of evolution gone forever. The loss in human terms is equally severe. Traditional farmers are a stabilizing force in many Native American communities. They conserve historic seeds adapted to local conditions, keep traditional agriculture and culinary practices alive, donate crops for ceremonies and feast days, and feed extended families from their fields. If peoples sustained by agriculture lose those traditions, their survival as a culture may also be at risk. Native Seeds/SEARCH is as concerned about the loss of ecological relationships, the traditions of cultures and plants evolving together, as we are about the extinction of single species. For many Native American tribes in the American Southwest and northern Mexico, these relationships are being severed and destroyed. Mexico, the ancestral home of corn and beans, now imports these crops. Shifts away from traditional crops and the activities associated with them often have consequences for nutrition and health. Among the Tohono O'odham, the switch to a western diet has resulted in a dramatic increase of adult onset diabetes.

Native Seeds/SEARCH grew out of the nexus of crop loss, nutritional need, and cultural longing. In the early 1980s, NS/S co-founders Mahina Drees and Gary Nabhan worked for Meals for Millions. As part of a gardening project to improve diet and nutrition among the Tohono O'odham in southern Arizona, they distributed



Variety of chiles from the Summer 2000 growout at the Conservation Farm.

Mission Statement

Native Seeds/SEARCH conserves, distributes and documents the adapted and diverse varieties of agricultural seeds, their wild relatives and the role these seeds play in cultures of the American Southwest and northwest Mexico.

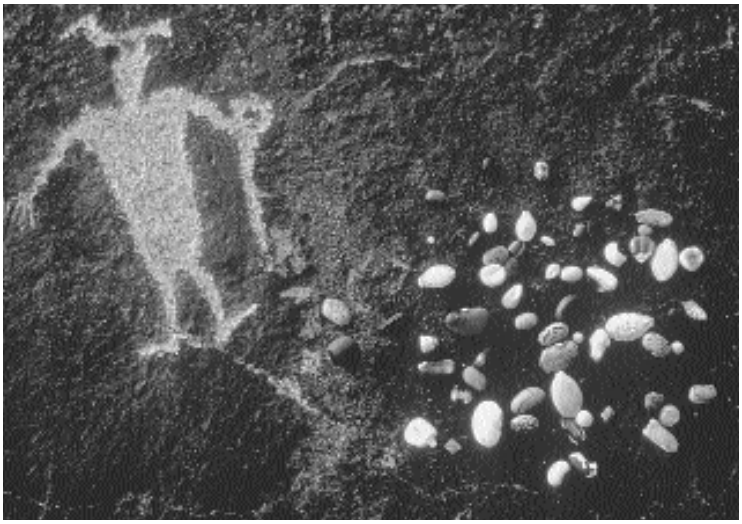
standard vegetable varieties from seed catalogs to local gardeners. Co-founder Barney Burns recalls O'odham telling them, "It's real nice of you folks to offer us radishes and broccoli, but what we're really looking for are the plants that our grandparents used to grow." By asking around the reservation and searching during trips in northwestern Mexico, Nabhan and Drees developed a small collection of seeds, grew out larger quantities, and began returning them to the O'odham. The collection soon outgrew the space available. In 1983, Nabhan, Drees, Burns, and Karen Reichhart founded Native Seeds/SEARCH. Today the collection numbers some 2,000 accessions across 99 species of crops from 18 tribal groups. Our collecting region is the arid southwest ranging from Durango in Chihuahua, Mexico, to Durango, Colorado, and from eastern California to eastern New Mexico. Many of the accessions are rare or endangered; more than 90% of these crops are not being systematically preserved elsewhere.

Half of our collection consists of varieties of the "three sisters." Corn, beans, and squash are the main crops in traditional Native American agriculture. When planted together, each crop benefits and is enhanced by the others. Corn stalks provide a trellis for the climbing beans planted around them. Beans are legumes and fix atmospheric nitrogen into forms useable by the corn. Squash, with its large leaves and spreading vines, forms a living mulch which shades the ground, keeping it cool and moist. Our collection contains 550 accessions of corn (*Zea mays*), stunning in diversity of size, shape, color, and use. In our freezers, small cigar-shaped ears of Sonoran chapalote with chocolate-colored kernels sleep near 12-inch cobs of multicolored kernels from New Mexico pueblos. Two hundred and seventy-five accessions of beans (*Phaseolus vulgaris*) provide some idea of the abundance and diversity which was available before the current dominance of the pinto bean. During a tour of our seed bank, an Akimel O'odham elder asked if we had a spotted bean she had not seen since her youth. A staff member brought out a jar of Gila River Mottled Lima Beans. The elder was visibly taken aback and delighted with the packet of seeds she could take home and grow again. Two hundred and twenty accessions of squash (*Cucurbita ssp.*), mostly hubbard, cushaw, big cheese, and pumpkin, complete the traditional trio.

Other unique and often rare crop varieties are preserved in the Native Seeds/SEARCH seed bank. Red-seeded amaranth is used as a dye by the Hopi; Sonoran panic grass, once thought extinct, is again available for grain or forage; chia is an important source of protein, oil, and fiber for the O'odham; and, yellow-meated watermelons are the best you'll ever eat! Besides the expected drought tolerance of desert plants, many of these crops may have resistance to rusts, insects, chemical toxicity, and other stresses.

Ex situ seed banking, the maintenance of viable populations of genetically pure seed, often far from their indigenous locale, requires long-term storage and occasional regeneration. Freezers provide the storage; seed banking can be done at home. However, regeneration at the 10-year standard for protection of viability is more demanding. Many of our varieties will cross pollinate and must be grown widely separated or in isolation cages. The Native Seeds/SEARCH Conservation Farm was acquired in 1997. In Patagonia, Arizona, 60 miles south of Tucson, NS/S purchased 60 acres of rich farm land alongside Sonoita creek, a riparian corridor owned by the Nature Conservancy. The Conservation Farm allows staff to have greater control over growing conditions and to demonstrate the potential of ecologically safe and sustainable agriculture. The

The "Planting Man" logo of Native Seeds/SEARCH is especially apt in that the seeds in the collection will not survive without human interaction.



Native American petroglyph and traditional squash, cowpea, common bean, and corn seeds.

Illustrations courtesy Native Seeds/SEARCH.

farm's size will help ensure the survival of the 2,000 accessions in our seed bank and allow us to make larger quantities of seed available for distribution to Native American and home gardeners.

These seeds produce richly flavorful foods. Sequalca squash, deep gold and sweet, makes soups and pies that delight. Different varieties of tepary beans are nutty, earthy, or sweet. Punta banda tomatoes survive desert heat to bear delicious half-dollar-sized fruit. In the fall of 2000, NS/S staff roasted and sampled 40 varieties of chiles grown at our Conservation Farm. Tastes ran the gamut from delicate and bell-pepper sweet to flame throwers whose fierceness could be quelled only by chocolate!

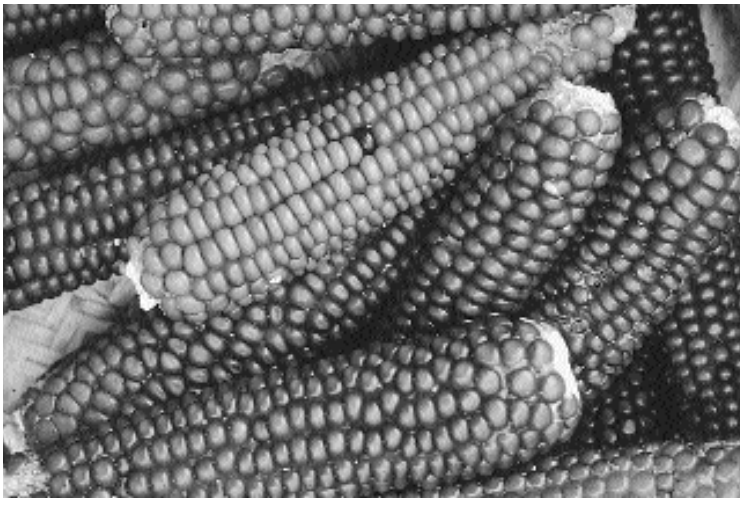
These crops are valued as food, dye stuff, and craft fibers. Some are indispensable in traditional ceremony to the cultures that nurture them. All are inextricably linked to their human partners, few will grow "wild" without the care of people. At her departure, a NS/S staff member of many years reminded the current staff of their important obligation saying, "We protect these seeds while they are far from their homes. They miss their ceremonies and the people who nurtured them. Treat them and each other with respect."

The cultural and historic context of our collection is an equally important part of our stewardship. Our Cultural Memory Bank Project is designed to collect, record, and organize the cultural and historical data about crop varieties in our seed bank. A CD-ROM will hold stories, recipes, planting and harvesting information, and oral histories collected from the people who developed these crops. The initial focus of the Cultural Memory Bank Project is on Navajo crops and traditions and will be used in Navajo Nation schools.

The traditional foods of this region are high in fiber and mucilage which slow digestion. These foods can help maintain stable blood sugar levels. The Desert Foods for Diabetes Project works to promote the production and consumption of traditional desert foods to combat diabetes, a major health problem among Native Americans. From 1990-2000, NS/S diabetes outreach staff gave hundreds of presentations, reaching people on reservations and schools. We have reached thousands more through distribution of educational brochures, recipe sheets, and the *Healthy Traditions Cookbook.*

The Wild Chile Botanical Area in Rock Corral Canyon near Tumacacori, Arizona, was developed in collaboration with the U.S. Forest Service. In 1999, 2,500 acres were designated as a special management area within the Coronado National Forest. Home of the northern-most known habitat of wild chiltepines, the fiery hot "Mother of Chiles," this is the first genetic reserve in North America dedicated to the preservation of wild relatives of domesticated crops.

In 1992, Native Seeds/SEARCH helped to convene the Traditional Native American Farmers



Tarahumara Maiz Rojo, *an incredible red corn.*

Association, a mutual support network for indigenous farmers. This active association is constantly developing solutions to problems that are common to indigenous, traditional farmers. These include engaging the interest of youth in their cultural traditions, finding profitable strategies to market agricultural goods, and creating effective ways to share equipment and knowledge. In 1996, fiscal sponsorship for the Traditional Native American Farmers Association was transferred to the Seventh Generation Fund, a Native American organization specializing in bringing other Native American groups to nonprofit status.

In 1991, NS/S initiated the Arizona RegisTree program, which is designed to recognize and protect outstanding heirloom perennial plants. Heirloom trees and other perennials in nearly 100 locations around the state are now registered through the program. Registrations include fruit trees, olives, and historically important native plants such as yucca, pinon, agave, and mesquite. The program is now operated by Prescott College.

Native Seeds/SEARCH has grown to 4,400 members and a catalog mailing list of 13,000 families. Membership is open to all with minimum annual dues of $25. Native Americans of the Southwest may join free. Since our inception we have distributed seeds to Native American and home gardeners by mail order. In 1997, we opened a retail outlet in Tucson and established a web site. In 2000, we distributed more than 20,000 seed packets, a quarter of which were distributed free to southwestern Native Americans. We are grateful for the generous support of members, donors, and foundations which makes this work possible.

Todd Horst is the Operations Coordinator for Native Seeds/SEARCH. *He appreciates and acknowledges the numerous Native Seeds/SEARCH staff who provided assistance with this overview of Native Seeds/SEARCH's history and programs.*

For more information on Native Seeds/SEARCH or to request a copy of our Seedlisting catalog, please visit our web site <www.nativeseeds.org>; email us at <info@nativeseeds.org>, or contact us at Native Seeds/SEARCH, 526 N. Fourth Avenue,Tucson, AZ 85705.

Barbara Corson

How to Bring a Cow into the Kitchen

Imagine trying to learn about the history of food if you had never used an open-hearth fire, smelled wood smoke, or felt the textures of stoneware, cast-iron, and pewter? We may "know" that people cooked over fires in the past, but this knowledge assumes importance only if we are able to relate to it through a personal point of reference. In addition, learning about animal-related history is more difficult—and less fun—without benefit of some kind of first-hand experience.

We are obviously aware that direct contact with animals was a fundamental part of food production in the past. Domestic animals were essential for power, food, and many other products in the days before electricity, plastics, and gasoline engines. Until the early 20th century, working with animals was both a necessary technology and a meaningful component of everyday life for the average person. However, as our society becomes more urban, it is increasingly difficult for people to identify with this significant aspect of our history, just as the typical museum visitor relates less and less to historic agriculture when small farms continue to disappear from the contemporary landscape and are replaced by large-scale agribusinesses.

Learning about animals and traditional agriculture requires conscious effort for most of us, but the effort is worthwhile. I would like to encourage historians and museum interpreters to explore the interesting range and diversity of functions that domestic animals played in America's food history. As an example, this paper provides an overview of some of the roles played in food production by *Bos taurus* and offers some ideas of how museum staff can figuratively "bring the cow into the kitchen."