



the Seedhead News

NEW SEEDS FOR SPRING

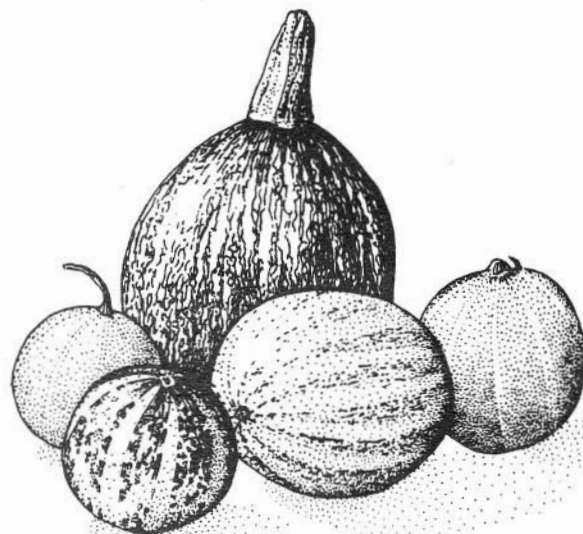
Native Seeds/SEARCH has completed the 1985 seed listing. It will be sent to 26,000 gardeners in the western states. Though in the same format as former listings, the number of items to choose from has doubled. We include some exciting new varieties, obtained through the conscientious seed searching by Mahina Drees, Barney Burns, Charlie Miksiek, Gary Nabhan, Eric Powell, and others.



The greater Southwestern crops most completely represented are from the Tarahumara tribe of the Sierra Madre and the Pima-Papago tribe of southern Arizona. Many Tarahumara corn and beans collected by Drees and Burns during the past year are important new contributions. In the next years we hope to add crops from other tribes within our region.

Successful seed searching requires dedication. The foundation of finding crops from any area is based on friendships with local farmers and merchants built over years of visitation and interchange. The common language of growing and producing food draws people from any culture into open discussions upon which friendships are based.

Currently some tribes are represented by little more than family groups in remote places, yet they are still growing the seeds of their forefathers--thereby maintaining distinct genetic races. The Mountain Pima amaranth seed, newly offered, is an example. Amaranth was grown historically by the River Pima of Arizona and has been found in prehistoric ruins there. The seed for sale was discovered several hundred miles south, in a Piman village across the border in the sierras, far from their tribal relatives to the north. At most 10-20 families now grow it. Much of the seed we carry holds a similar legacy.



Requests for tepary beans continue to be high because of their famous drought tolerance. In past years we have not offered cultivated tepary beans, but rather the wild progenitors. Domesticated teparies, which thrive in the Sonoran desert, were found to carry bean common mosaic, a seed-borne virus. It causes leaf puckering and slightly reduced yields in desert climates, but may cause the crop to fail in more humid climates. We caution all gardeners not to plant this most popular bean near other bean crops of any sort, since the virus may be transmitted to other types.

Scarlet runner beans are listed for the first time this year. This large seeded species is perennial in the tropics; however, it is frost-sensitive and flowers when days become short, and has little heat tolerance. Climates suitable for growing would be those with cool, dry, frost-free fall days and moderate summer rains.

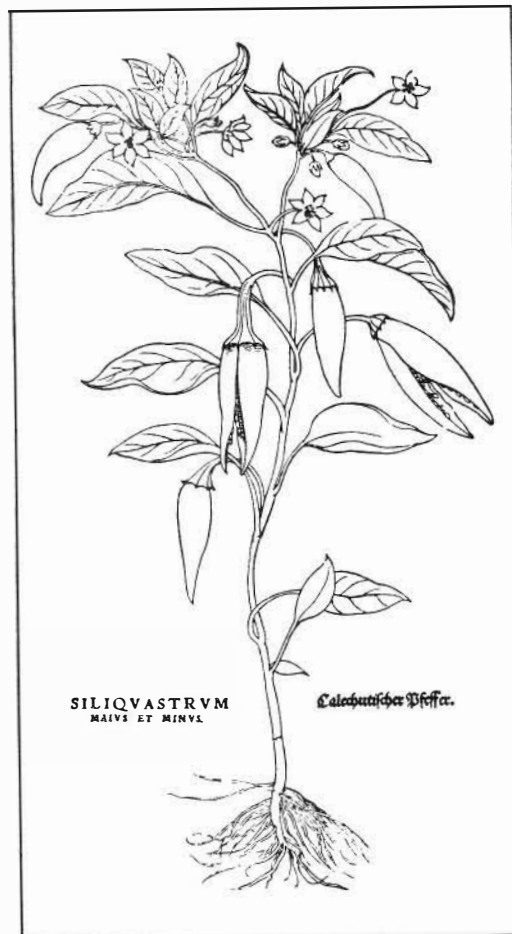
Lima beans offered are from a wide range of climates in Arizona. Though domesticated both in Mexico and South America, they reached their varietal diversity in the Southwest. They are prolific, yielding two crops if planted early in the spring in Tucson, though they do require water. They are salt tolerant and have superior protein-mineral acid quality.

The common bean *Phaseolus vulgaris* is the lowly bean that feeds the people. More colorful names for its many varieties are eye of the goat, bay beans, pintos and butter beans--or names referring to seed color--sulphur, black, yellow, purple. These are not desert beans, having originated from the semiarid and subtropic uplands of Mexico. The most primitive common bean is the eye of the goat. The pinto is the common bean grown in the western U.S. Azufrado and Vayo beans are grown with greater success in low deserts than are the other varieties. The 50 offerings on the seed listing, many from the Tarahumara Indians, constitute a tremendous potential to increased diversity for U.S. crops and palates. They should grow well in areas outside low deserts.

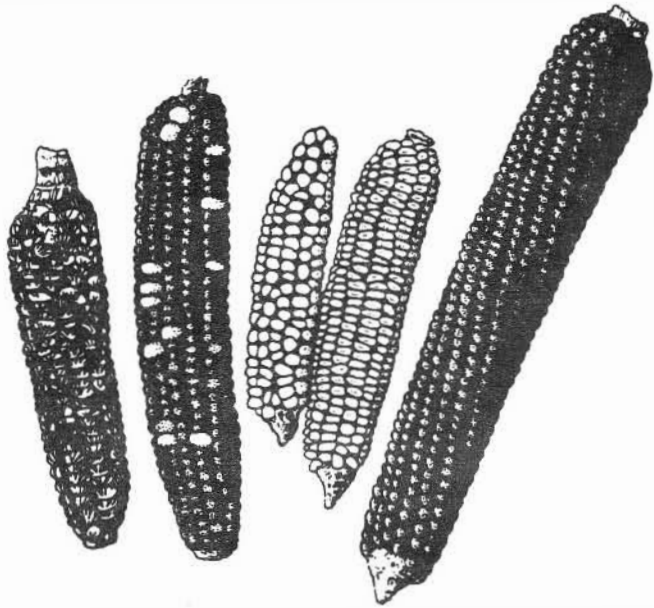
Six new wild beans are being offered. These have some specific growing requirements. Before planting the seed coats should be scarified or scratched to allow moisture to enter. Unless noted they are annual and usually not frost tolerant.

Another very drought tolerant legume comes to us via the early Spanish from the Old World. It is the black-eyed pea. We have several color variants of the same species. They are as heat tolerant as teparies and can be eaten dry or fresh like green beans, and produce quickly. They are prolific and adapted to backyard gardens.

A domesticated chile serrano--the Pico de Gallo--comes from Guasabas, Sonora, where it has been grown by a local farmer. This is our first domestic chile to be listed because we believe it to be non-hybrid.



The many varieties of corn grown in northern Mexico today are as varied and beautiful as gemstones. Corn from the Tarahumara Indians should grow well at higher elevations. Papago corn is more suited to low deserts. Corn crosses readily from pollen carried by wind. All corn should be planted in isolation from other varieties to prevent that "Thanksgiving Indian Corn" look resulting from genetic mixing.



Tarahumara gordo flour corn has a short growing season, similar to the Papago 60-day corn which has been one of the best selling items in past years. Navajo flour corn is also new. Pepitillo is a flour corn with an interesting pointed pumpkin-seed-shaped kernel.

Flint corns are particularly beautiful because they appear translucent. The cristalino de Chihuahua is a pretty corn. Onaveno produces well at high elevations in Mexico. The highest elevation corn is the Tarahumara amarillo hibrido. In the mountains where it is grown the farmers uproot the stalks and turn them upside down as the kernels are drying to prevent moisture from running into the cobs.

An interesting new corn having pink kernels is the Apachito. The Ocho de carrera is also curious because it has

only eight rows but extremely large kernels. The most common white corn in southern Mexico for tortillas and tamales is a dent called Tuxpeno, or locally called June corn. We include nine new offerings of dent corn, including the 90-day Yacqui June corn and the gordo corn, which has a longer growing season.

The most ancient strain of corn we offer is the popcorn called chapalote, along with its progeny reventador. Both are now somewhat rare, used for pinole and tortillas as well as popcorn. Also of interest are two varieties of sweetcorn, probably very old Mexican corns.

The wild corn relative, teosinte, should be planted with special care in cold climates. The rhizomes should be brought inside and stored in moist peatmoss during the winter. In warmer climates it can be planted in the ground where it will be frost back each year.

The gourds we offer are long-season crops to be grown with irrigation. The bottle gourd is the earliest domesticated plant known to man. To retain the beautiful characteristic shapes of each variety, grow them in isolation--for they will cross by bee pollination. New shapes are the giant bule, teardrop and bi-lobal. The dipper and canteen shapes continue to be offered.

For a delicious taste treat, try the Tarahumara mustard greens. The leaves are mild tasting when young, and contribute important vitamins and minerals to the diet.

We offer four new pepo squashes which are related to zucchini. They should grow well except in low deserts. The seed is a favorite for mole, but the squash can also be eaten whole, when young, or peeled and seeded as for pumpkin when mature.

We urge you to try our crops. Save the seed, plant only one of the same variety or species at a time, and report back to us. We'd love to hear your successes--or failures too! Did your short-statured Hopi blue corn grow to 14 feet tall?

Karen Reichhardt

BOOK REVIEWS

MEETING THE EXPECTATIONS OF THE LAND--ESSAYS IN SUSTAINABLE AGRICULTURE AND STEWARDSHIP

Edited by Wes Jackson, Wendell Berry and Bruce Colman. Contains 17 new essays by numerous authors. 1984. Published by North point Press, 850 Talbot Avenue, Berkeley, California 94706. 250 pages. \$22.50 clothbound, \$12.50 softbound. (Softbound available for \$12.50 plus postage from Native Seeds/SEARCH.)

Reading this book is like taking 17 condensed courses in agricultural ecology, each with its own approach. Each author is uniquely qualified to lead a fascinating, informative journey into the past, present, and future of agriculture. Their backgrounds are diverse, but all have common bonds of deep love for the land, and the desire that we might all share in the bounty that the earth can give, while enriching it for future generations.

Traditional farmers are held in a place of respect here, and rightfully so. Whether in the lush, moist Northwestern forests, or the hot, rain-poor deserts, they have sensed that one must work within the flow of energy in their particular environments. The flow of water and the support of various lifeforms by the soil cannot be taken for granted by such farmers.

The Amish and the Papago farmers, though separated by miles, have common links:

- (1) They both rely upon their communities for support, in times of need and plenty. Their survival depends upon this sharing.
- (2) Their farms are also homes where family members share the many tasks involved in sustaining production.
- (3) No large amounts of financial credit are involved. The land farmed is either ancestral, or is paid for out of farm earnings. Each family or community farms only what they can farm well.

It is to such enduring traditions that we need to look to for some answers to sustainability. For instance, Marty Bender presents research showing that draft animals are indeed practical for the moderate-sized farm. It is not "going backwards," nor does it take too much land to feed the horses. Besides doing heavy work such as plowing and hauling that are now done usually by costly equipment, they also produce colts and usable manure, and "always start on cold mornings."

Scale is a concern. With higher yields ushered in by industrial nitrogen and other chemicals, the farmer pushed himself past the point where he had just enough acreage "where his mind could be on his work." He tried to obtain more land and higher yields, but these brought on depressed market prices. Even as grain silos overflow with excesses, farmers in the East are leaving their lands in alarming numbers. Large irrigated farms subsidized with water in the West are part of this problem. The results in both regions are violence to the land: loss of topsoil, water, genetic diversity, and local sufficiency.

Agriculture by definition involves the rearranging of nature, but how can our food-getting be done in a more ecological way? The needs of society must be met, but not necessarily all the wants. Take the draining of the Colorado River, and the pumping from the Ogllala Aquifer, each year more water than the entire annual flow of the Colorado--the way we treat these "streams of life" reflects ourselves and the future.

We need a national land and water conservation policy that encourages farmers to have a long-term commitment to the land. We need to better look at our options. Jennie Gerard and Sharon Johnson suggest the possibilities of land trusts; Gary Nabhan outlines the potential for floodwater-fed farming with desert-adapted plants, and Dana Jackson urges us not to underestimate the value of backyard and community gardens. Finally, Wes Jackson searches for a unifying concept for sustainable agriculture that may be discovered in nature's arrangement of ecosystems. By understanding how

organisms are integrated with their surroundings, the "mind of the farmer" can become one with the farm.

In reviewing this timely publication, I was once again struck by how interdependent we are on other members of our own species, and on all living beings. We must feel the bonding of place which makes us familiar with and holds us in the land of our choice. For me it is the prairie, for Gary Snyder it is the Sierra Nevada, but finally it is our collective vision which will create a sustainable agriculture on this earth.

Esther I. Moore

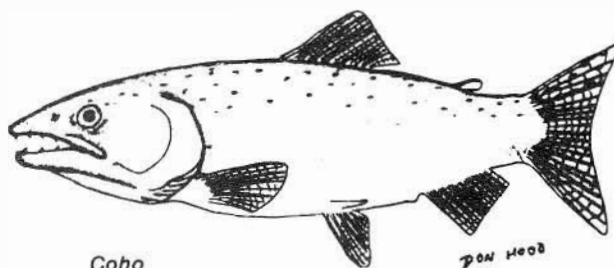


BIOPHILIA--THE HUMAN BOND WITH OTHER SPECIES

Written by Edward O. Wilson, 1984.
Published by Harvard University Press,
Cambridge, Mass. 157 pages. \$15.00
hardback.

Dr. Wilson, a Pulitzer Prize winner and pioneer in sociobiology and island biogeology, argues that the human mind has evolved within the rich texture of diverse natural environments. He outlines a deep conservation ethic, not based on utilitarian factors as much as on our intrinsic need to affiliate with other organisms to grow more ourselves. His flowery descriptions of being a naturalist in the tropics are mixed with powerful philosophical messages which no one can stand to ignore. Consider Dr. Wilson's own often-quoted words: "The one process now going on that will take millions of years to correct is the loss of genetic and species diversity by the destruction of natural habitats. This is the folly our descendants are least likely to forgive us."

Gary Nabhan



Nuxalk Food and Nutrition Handbook--A
Practical Guide to Family Foods and
Nutrition Using Native Foods.

Produced by The Nuxalk Food and Nutrition
Program. 1984. Published by the Division
of Human Nutrition, School of Family and
Nutritional Sciences, The University of
British Columbia, Vancouver, British
Columbia V6T1W5, and Nuxalk Health Clinic,
P. O. Box 93, Bella Coola, British
Columbia, VOTICO.

This is a handbook on food and
nutrition for the native people of Canada,
especially the Nuxalk people of Bella
Coola, British Columbia. Strong emphasis
is given to the use of traditional native
foods for the benefits derived in the form
of nutrition, economics and physical
fitness.

The book covers traditional Nuxalk
foods, nutrition, lifestyle, and back-
ground information for the Nuxalk Food and
Nutrition Program. All aspects of salmon
fishery and fish preservation are
described, along with other seafoods and
shellfish. Descriptions and instructions
are given for harvesting and preparing 22
different berries. Greens, roots, teas,
tree foods (bark) and game are also
included.

Food preparation, nutrition and
lifestyle are discussed as it pertains to
the Bella Coola, and all resources
available to them. The book is a model
for Native Americans in attaining an
optimum balance in health by taking charge
of food procurement and preparation. It
is also exemplary of collaboration between
scientists and tribal health professionals
in a way that helps people.

Karen Reichhardt

SEED SAVERS IN THEIR OWN RIGHT

It is fitting that we honor Kent Whealy as a model for us all in this, the tenth anniversary of his organization, The Seed Saver's Exchange. Kent's recent release of The Garden Seed Inventory (\$12.00 paperback, \$20.00 hardcover, postpaid, 203 Rural Ave., Decorah, Iowa 52101) is a testament to the ability of an inspired individual to make a larger, more concrete contribution to genetic resource conservation than can two dozen bureaucrats. The Inventory surveys 239 North American seed outlets which cumulatively offer 6,000 standard, non-hybrid or heirloom varieties. Kent points out that 48% of these are only available from any one source, and may go out of circulation if economic problems, personal disasters or other causes affect these single sources. He and others are now buying up examples of these rarer vegetable varieties, to distribute through grower's networks and to government seed banks.

To do such an inventory, Kent devoted most of his personal time for three straight years. He learned computers from scratch, dealt with the difficulties of scientific and folk taxonomies, and stumbled upon twice as many seed companies and varieties as he had originally projected. In the meantime, he and his wife Diane moved away from his self-built home in Missouri, rallied behind family members who had to be hospitalized due to illness or accident, and tolerated scaling-down on the activity that brought them to the topic of seeds in the first place--home gardening. An amount of personal sacrifice went into this project that I believe is unparalleled in seed conservation history. The finest thing we can do to repay Kent for this effort is to use his publication to keep these seedstocks from losing ground and losing genes.

Ten years after beginning the True Seed Exchange with a dozen haphazard correspondents, Kent and Diane Whealy have thousands of fans and participants in seed-saving; and his work is discussed by

those in "higher places"--from the International Board of Plant Genetic Resources, to the U.S. Congress Office of Technology Assessment's Biological Diversity Project. You've come a long way, hombre.

IS SONORAN PANIC GRASS ENDANGERED?

On July 30, 1984, the Board of Directors of Native Seeds/SEARCH submitted a petition to the Office of Endangered Species (OES) in Washington, D.C. to officially list Panicum sonorum (Sonoran Panicgrass) as threatened in the U.S. This petition argued that neither wild nor domesticated Sonoran panicgrass had been seen in the U.S. since the 1940s, although both had long been associated with Colorado River cultures before that. In January this year, we received a letter from the OES acknowledging that the species may be extirpated in the U.S., but its status in Mexico was too unknown to allow listing it as endangered in all or a significant portion of its range. We were also sent the December 18, 1984 Federal Register (Vol. 49, No. 244, p. 49118) in which the Fish and Wildlife Service discussed its determination, noting that "this plant has become very rare in Arizona," and requesting further information on its status in Mexico. As a result of this interest, Gary Nabhan met with LaVerne Smith of OES in March to discuss the prospects of a future field survey for this plant to further determine its status north and south of the border. Although official endangered species status would have been a new achievement for a native American food plant, we agree with the OES that additional knowledge of the plant's distribution and abundance is clearly warranted. We encourage you to write LaVerne Smith, OES., U.S. Fish and Wildlife Service, Washington, D.C. 20240 in support of further investigation of panicgrass, or to obtain copies of documents relating to this plant.

LINDA PARKER IS WINTER INTERN



In fall of 1984 Linda Parker began volunteering her gardening skills with Esther Moore at the Native Seeds/SEARCH demonstration garden. She helped prepare garden beds, build wire plant protection cages and plant winter crops, and clean seed using the "clippers" at the Soil Conservation Service Plant Materials Center.

This winter as a winter intern, conducting nearly all of the germination tests for the seeds to be offered in the 1985 seed listing--nearly 300 samples! Her observations of the germination tests provided information for the planting guide, in addition to the viability results.

Linda's previous experience is varied. She has a B.A. from Eastern Illinois University in education, focusing on home economics and nutrition. Before becoming a horticulture student at the U of A in 1982 she farmed in Illinois and was a Peace Corps volunteer in Central America.

Linda's time working with Native Seeds/SEARCH has been invaluable. Thank you, Linda.

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SURVEY POINTS TO INTEREST IN NATIVE GARDENING

What are Native Seed Searchers really interested in, and how did they start on this path? In the Number 8 issue of The Seedhead News, we enclosed a survey regarding the needs and interests of our readers. Roughly one-seventh of our members responded, and their answers are providing us with insights that will help shape future educational materials and activities. Twenty-seven of these members volunteered to help in growouts of rare or low viability accessions of seeds in need of increase--thereby initiating our first Grower's Network, patterned after that of the Seed Saver's Exchange. This will hopefully evolve into an important facet of our "grassroots" conservation efforts. Responses also suggested 20 different topics for future workshops.

How have people first heard of us? We find our members to be readers of a wide range of publications that have covered Native Seeds/SEARCH, from Whole Earth to Native Self-Sufficiency. Others have been reached by word of mouth, mailings, fairs, and even by TV. Native plant gardening is our membership's main interest, but many also use wild plants and are quite interested in native foods cookery. Yet there is also a concern for genetic conservation and saving the Southwest's agricultural heritage that our members express. Most are in fact seed savers and active native plant gardeners in their own right. With the dozens of rare seed packages being sent to them in early April, their skills will help nurture a number of kinds of seeds not abundant enough to be offered on our 198 listing.

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