

the seedhead NEWS

NUMBER 1, 1993

SPRING EQUINOX



We're pleased to present you with the first issue of The Seedhead, a seasonal newsletter which will not only keep you aware of the work of Native Seeds/SEARCH, but put you in touch with related efforts as well. Each issue will include progress reports on our projects, profiles of other "seedheads", brief book reviews, and mention of upcoming events. We encourage you to write in and tell us what you are doing, so that we can share your interests with others.

Native Seeds/SEARCH is a new, non-profit organization, the first devoted to the conservation and promotion of native, agriculturally valuable plants of the U.S. Southwest and northwest Mexico. By distributing seeds we increase to the public and to permanent seed banks, and by documenting their cultural, nutritive, ecological and culinary value, we hope to insure that this agricultural heritage persists for years to come. We will be exploring fresh approaches to assisting native American farmers and gardeners recover seeds that their peoples formerly tended, and to the in situ conservation of wild perennial relatives of crops.

We are grateful that many people have responded to our mail request for annual associates (\$10) and lifetime supporters (\$100 or more). Your generosity has helped us get Native Seeds/SEARCH off the ground, or to tell you the truth, it's getting seeds into the ground! If you are reading this newsletter but have not yet joined us, and would like to, drop us a letter (to 3950 W New York Dr., Tucson 85745). If you have interest in purchasing the native seeds on our first listing (released in late March), it is \$1 for nonmembers and free for associate and lifetime supporters. If you are looking for other Southwest seeds, feel free to write us.

Native Seeds/SEARCH projects

In addition to what we call our "basic work", we're developing four special projects, two of which have essentially begun: the wild chile (chiltepine) conservation project, and the virus-free tepary bean diversity project. Included here are brief progress reports.

Virus-Free Tepary Bean Diversity Project

Our board of directors, as individuals, have all been involved over the past several years, with various research or education projects regarding the desert tepary bean, Phaseolus acutifolius. One of the first legumes cultivated in the Southwest, it has been said to have a "singularly perfect adaptation to arid lands" and is rich in protein.

Native Seeds • SEARCH

3950 West New York Drive

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(Tepary Beans, continued)

Yet it was nearly abandoned altogether as a cultivated species in the U.S. by the 1950s, and was hard to find in the markets of western Mexico as well, according to bean expert Lawrence Kaplan. Its revival over the last decade, and the qualities of teparies responsible for this renewed interest, are the subject of a special forthcoming issue of Desert Plants (Vol. 5, No. 1, 1983), edited by one of our board members, Gary Nabhan. (The issue should be available by May, for \$3.50 postpaid, to Desert Plants c/oBTSA, PO Box AB, Superior Az 85273).

Ironically, while working on the issue, Gary learned that the only commercial sources of tepary seed in the U.S. were likely carrying the seed-borne disease, bean common mosaic virus (BCMV) but because its symptoms appear to be masked in hot, dry environments, they were more obvious when these teparies were grown in more humid localities. If only 5-10% of the seed planted have this virus, but aphids are present and active in the environment, they could easily spread it to 80% or more of the plants over a growing season, as well as to other, more vulnerable bean varieties that may be grown nearby. Because we don't want this problem to diminish people's enthusiasm for teparies, we have begun cooperating with seed outlets and university researchers to get the BCMV-infected seed labelled as such with instructions to help reduce the problem, and in some cases, to remove it from availability altogether. The second step is an effort to screen 100 seed samples of the diversity of tepary collections we have made over the years, to check to find those which are virus-free. Mexican bean virus specialist Emilio Jimenez has been graciously collaborating with us to verify these results. The third step, which we are just beginning, is to get accessions which have little or no BCMV in the seedling stage grown out in isolation, with growers roguing out any plants that later show symptoms, and controlling aphids all along. If you have garden or field space, and would like to help, let us know the size of plot that you can manage this summer. We are hoping to "clean up" enough seed within this next year (two crops this spring and late summer) so that a variety of sources can again offer teparies next year. And we hope this will encourage the use of not just one, but many tepary strains, so that never again will we have all eggs in 1 basket!

Wild Chiltepine Conservation

Chiltepines, the wild ancestor of most commercial chile pepper varieties, are also commercial products in their own right. As a perennial shrub growing in scattered locations throughout Latin America, this wild Capsicum annuum produces insanely hot pea-size fruit relished by Mexican-Americans, Southwest Indians and a few crazy Gringos (like us!) There are a few natural stands of chiltepines in the U.S., in isolated canyons where native Americans once liked to gather them. However, both these U.S. populations and some stands south of the border are endangered due to overgrazing, over-

(chiltepinos, continued)

harvesting (needless uprooting), and occasional pests. Remarkably, other wild stands have been found to be sources of virus resistance useful in breeding reduced vulnerability into commercial chile pepper varieties. We have begun to monitor remaining wild stands in Arizona (some of them less than 100 plants), and are propagating cutting of healthy plants for possible reestablishment in the wild later on. We are also in touch with a Mexican chiltepine propagation project, which one of us hopes to visit in April. Any one who would be willing to volunteer for hiking into Arizonan and Sonoran canyons to stalk the wild chile this summer should contact us for details.

UPCOMING EVENTS:

We will be participating in the two following desert plant exhibitions:

April 2: Arboretum Arid Land Plant Show, Boyce Thompson Southwestern Arboretum, Superior Arizona, 8:00 am to 5:00 pm.

April 23-24: Arid Lands Plant Fair, sponsored by the Phoenix chapter of the Arizona Native Plant Society, at the Paradise Valley Mall, Paradise Valley Arizona.

And don't forget to preregister for this national event:

August 11-12: Home Seed Storage and Backyard Grower's Workshop, sponsored by the Seed Saver's Exchange, to be held at Estes Park, Colorado, with an August 10 visit to the National Seed Storage Laboratory in Fort Collins. For details, write Workshop, SSE, RFD 2, Princeton MO 64673.

SEED-KEEPERS IN THEIR OWN RIGHT:

We'd like to draw attention to the work of two fine people:

SALLY GIFF PABLO---Sally is of River Pima and Papago Indian heritage, and a member of the tribal council of the Gila River Indian Community of Arizona. Through work at that community's Department of Human Resources, she has become very active in education regarding nutrition-related diseases as well as seed-saving. Her family is very knowledgeable about the traditional ways of Pima agriculture and cooking, so it was natural for Sally to integrate this into her education efforts. Originally using native crop seed from Meals for Millions, her parents and a few family friends, she has now developed an O'odham seed bank with a revolving supply. Packages read: "This packet of seeds is the beginning of a Pima seed bank (of)...traditional Pima food seeds...The O'odham way is to return seeds to the source where the seeds were obtained, after the first harvest. The O'odham way will keep the seed bank full."

LARRY SALLEE---Larry, who now lives in Albuquerque, had the good fortune of spending time on many Southwestern reservations when he was growing up. His love for Pueblo corn, as well as his knowledge about it, goes deep. He has helped us reintroduce Pueblo cotton to the Rio Grande Pueblos.

BOOK REVIEWSTHE CHANCE TO SURVIVE -- RARE BREEDS IN A CHANGING WORLD

by Lawrence Alderson, 1978. Published by Cameron & Tayleur Ltd., 25 Lloyd Baker Street, London, WC1X9AT; distributed in the U.S. by Stephen Greene Press, P.O. Box 1000, Brattleboro, VT 05301.

"Many breeds which still survive are in serious danger. Farming is as susceptible to fashion as the motor trade -- old models are cast aside with a reckless disregard for their true value . . . (And yet) there are other considerations that should not be sacrificed in the interest of the maximum immediate profit: those of sentiment, aesthetic pleasure, or concern for the symbols of tradition and heritage. (In addition,) there are other minority breeds which have become adapted to unusual conditions . . . there is an urgent need to search out breeds that function most efficiently, without unnecessary assistance, in particular circumstances."

Does this sound familiar to you?

Substitute the terms "heirloom vegetables" or "traditional seedstocks" for "minority breeds," and you have in a nutshell much of what Native Seeds/"SEARCHERS" and cooperating organizations are all about.

Yet, the minority breeds that Lawrence Alderson is defending are the rare gene pools of livestock breeds scattered around the world. A process of extinction generated by short-term economic gain has affected the world's useful animal diversity, just as surely as it has affected plants. You feel like weeping when you read that the last Norfolk Horn ram was accidentally drowned in 1973; that the remaining Lincolnshire Curly Coat pigs were slaughtered in 1972 after use in experiments; and that between 1959 and 1968, Norway eliminated five breeds and endangered two other hardy minority breeds in a National Program craze that has increased one favored breed from 30% to 98% of the national dairy industry. With minority animal herds, the consequences of too small a population size have been tragically documented: even before the last Norfolk Horn ram drowned, a recessive genetic flaw, monorchidism, was expressed in the gene pool because of excessive inbreeding, "and there were no clean bloodlines to turn to."

A survey in Great Britain recently showed that 54 of the 108 breeds of cattle, sheep, goats, pigs, and horses remaining there would need help to ensure their survival. Alderson and others, therefore, began working through the Rare Breeds Survival Trust based in Northumberland, England to implement strategies of genetic conservation. They work with livestock growers to make sure that the rare breeds are neither "diluted" by mating them only with other breeds, nor too far inbred. "In the ideal situation,

they would maintain a breed as a closed population and organize selection and mating procedures to ensure the maximum variation within the population." By keeping Herd/Flock Book records on as many individual animals in minority breeds they can find, they help stockmen choose the most distantly related bull in the breed with which to mate their cows. A network of cooperative stockmen has developed now for many minority breeds in Great Britain. For cattle, the U.K. Milk Marketing Board and the Rare Breeds Survival Trust have begun a "Bank of Genetic Variability" which breeders and stock owners may utilize. From every 500 ampules of semen collected from a minority breed bull, 100 are put into long-term frozen storage in the Bank, up to 200 can be purchased by breeders (for income to the project), and the rest are used for contract mating and specific Trust projects designed to conserve the distinctiveness and variation within the breed.

Alderson's book is beautifully written and illustrated. He communicates technical genetic concepts and intricate histories of breeds so that they are accessible and fascinating instead of difficult and obscure. By analogy, the work of the Rare Breeds Survival Trust has a lot to teach seed savers. For those of you who are working on agricultural projects involving both plants and animals, participation in breed conservation may be possible through the American Minor Breeds Conservancy, Inc., P.O. Box 225, Hardwick, Massachusetts 01037. Overall, this book is among the most brilliant describing the valuable genetic resources that are part of our agricultural heritage, the threats they are facing, and philosophies and strategies for conservation.

OTHER BOOKS, IN BRIEF:

A GARDENER'S GUIDE TO PROPAGATING FOOD PLANTS

by: Franklin Herm Fitz, 1983. Published by Charles Scribner's Sons, New York; \$11.95 cloth, 152 pages.

This book provides gardeners with simple, concise information regarding the sexual and asexual propagation of more than 130 cultivated species of food plants. For each food plant, there are guidelines regarding the climatic zones optimal for cultivation, pollination mechanisms, seed viability, etc. Introductory sections detail methods of propagation, much the same way that Hartman and Kester's classic Plant Propagation covers similar material for nurserymen at a more technical level. A few errors due to simplification here, but overall very helpful.

GENETICS AND CONSERVATION

by: Christine M. Schonewald-Cox, Steven M. Chambers, Bruce MacBryde, and Larry Thomas, 1983. Published by Addison-Wesley Publ. Co., Reading Massachusetts, 01867; \$24.95 cloth, 500 pages.

Over 25 articles by such notables as Jack Harlan, Paul Ehrlich, Archie Carr and O.H. Fraenkel are included here. Subtitled, "a reference for managing wild plant and animal populations, the book appears to be less of a practical reference manual in a how-to sense, and more of a thought-provoking reminder of the complexities involved in managing rare populations in the wild as well as in botanical gardens and zoos. Technical/theoretical in style, this book is the first in a new Biological Conservation series.