

nativeseeds.org 2

2019 seedlisting

# **Many Ways to Get Seeds**

Agricultural biodiversity is most valuable when it is used to strengthen local food and farming systems. Native Seeds/SEARCH strives to provide public access to seeds of regionally appropriate crop varieties through our various seed distribution programs.

**In addition to retail sales**, individuals and organizations can receive access to seeds via:

#### **Community Seed Grants**

We provide free seeds for organizations (including schools, food banks, senior centers, and seed libraries) working to promote nutrition, food security, education, and/or community resilience. Projects that will clearly benefit underprivileged groups are especially encouraged. Applications are reviewed in January, May, and September. See page 9 for more information.

#### **Native American Seed Request**

We provide a limited number of seed packets at no or reduced cost to Native American individuals. See page 8 for more information and details on how to order.

#### **Bulk Seed Exchange**

To encourage small-scale farmers to grow, save, and promote arid-adapted varieties, we provide available start-up bulk seed quantities in exchange for a return of a portion of the seeds after a successful harvest.

Visit www.nativeseeds.org, Email getseeds@nativeseeds.org, or call 520.622.0830 for more information.



Community Seed Grant Recipient: Ochoa Elementary School, Tucson AZ.



Nurturing Hopi Sweet Corn through the drought in the Española, NM, fields of Bulk Seed Exchange Partner Jon Naranjo.



Admiring the pumpkin vine at Seed Grant Recipient Nosotros Academy, Tucson AZ.

ON THE COVER: Yoeme White Tepary Beans, White Sonoran Wheat, Sonoran Chiltepin, Four Corners Scarlet Runner Bean.

## Plant\*Eat\*Save Seed

Plant, eat, save seed. What could be more simple? Only, it isn't...

With the demands of modern life and the abundance of cheap calories available, it's easy to leave biodiversity for someone else to take care of. For the experts. For the seed banks. But at Native Seeds/SEARCH we aspire to something grander — a vision of living, community-supported biodiversity, because it is only when a variety is grown, eaten and shared with others, that it is truly conserved and alive.

Living biodiversity depends on *you*. Seeds are living time capsules that record thousands of years of travel throughout diverse and changing lands, seasons and peoples. Every trait we value, no matter how small, is still present with us because someone, even just one person, loved it enough to save seed. People who save their own seeds not only contribute to conserving valuable genetics and cultural heritage, but on-farm growing allows varieties to continue to adapt to specific local conditions and provide a dynamic genetic basis for creating new diversity of the future.

With this edition of the *Seedlisting* we're celebrating the timehonored cycle of saving seeds. This planting season, get in the game! Become an accomplice in living biodiversity. You can continue to support our mission through your membership, donations, and of course with every purchase of seeds—but please don't stop there. Make it *your* mission to adopt a crop, to attend to it and steward it through its entire life cycle. Help it find purchase in the right soil, savor the delicious harvest with friends, and conspire with us in a more biodiverse future by *saving the seed*.



Celebrating harvest time at *Ndee Bikiyaa*, White Mountain Apache *People's Farm* at Canyon Day, AZ.



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# **Our Seeds**

We are committed to conserving agricultural biodiversity and to providing the highest quality seed available. With these values in mind:

**Open Pollinated Varieties** NS/S provides only OP varieties. Seed saved from the parent plant will grow with the same characteristics if care is taken to prevent cross pollination.

**Landraces & Heirlooms** Seeds from the NS/S Seed Bank Collection (shown with the **S** symbol) are landrace or heirloom varieties with a long historical connection to the Greater Southwest. Landraces are farmer-developed varieties of crops that are adapted to local environmental conditions. Heirlooms are similar in that they are grown and shared over generations.

**Cultural Varieties** Some of our squash, melons, and other crops exhibit a diversity of fruit types within a population. Although it may appear that a grower has allowed varieties to cross-pollinate, and did not maintain the purity of the strain, this generally represents a different approach to growing. Traditional gardeners and farmers sometimes intentionally grow a mix of fruit types to add variety to their harvest and diet. When saving seeds from a diverse planting, gardeners can continue to select for desirable fruit types. Save seeds from the best-tasting squash, the healthiest plants, fruits that stored well, and other plants with the characteristics you want.

**Organic Growing Practices** Seeds in our Seed Bank Collection are grown out at our Conservation Center in Tucson or by partner farmers in the region. While we are not USDA-certified organic, our current growing practices meet and often exceed the standards for organic certification. Please contact us



if you have questions about the specific growing conditions of any seed offered by NS/S. All of our seeds are untreated and allowable for use in certified organic programs.

**Safe Seeds and GMOs** NS/S is a member of the Safe Seed Initiative. We do not buy, sell, or use genetically modified seeds. Our seeds can be considered GMO-free and we work to ensure that they are not cross-pollinated by GMO or hybrid seed stock. For more information, contact the Council for Responsible Genetics, sponsor of the Safe Seed Initiative.

**No Patents on Seed** We support free access to crop diversity and support the rights of indigenous communities (and all farmers) to benefit fairly from the crops and associated knowledge they developed. Seeds obtained from NS/S are not to be used for commercial breeding purposes with a patent outcome unless there are written agreements with the originators of the seeds in the NS/S collection.

### **Seed Bank Collection**

Native Seeds/SEARCH maintains a regional seed bank with approximately 1,900 accessions from over 100 species of wild crop ancestors and domesticated crops used as food, fiber, and dye. These accessions represent the rich agricultural heritage of the region. NS/S works to ensure that these resources remain viable and available to farmers for generations to come. Varieties with declining germination rates are regrown in isolation to maintain genetic purity. We make this diversity available to farmers and gardeners when new crops of healthy seeds result in more than we need to maintain viable samples in the seed bank.

### **Conservation Farm**

The NSS Conservation Farm will continue to be rested through 2019, while a robust herd of Navajo Churro sheep grazes and rejuvenates the soil. Seeds from the NSS collection continue to be regenerated in partnership with many talented farmers throughout the region and in the communities where the seeds originated, in order to preserve their unique adaptations and cultural value. Varieties suited to the low desert are grown in small plots at our Conservation Center in Tucson and visitors are always welcome, so please stop by and meet the plants!

# **Spotlight on Seedsavers**

The Greater Southwest has an extremely long and rich agricultural history. The people of this region developed and conserved an incredible diversity of crop resources that have sustained their communities through many generations. In many communities there are individuals and organizations continuing that work today, and we are excited to share these two examples.

"All the magic and substance is in the *PROCESS*..." — that's what Johnny Ortiz replied when asked why he was harvesting his field of White Sonoran Wheat *by hand*. Johnny has recently become a farmer and is translating his cooking experience in fine dining to produce food sustainably on his Owl Peak Farm and serve it via his /shed Dinner Project. Returning to tradition, he demonstrates what we have all lost to the convenience of industrial farming and how rich a life farming provides.

Johnny received seeds through our Bulk Seed Exchange program for farmers. We provide field-scale quantities of seed and ask for a return from a successful harvest — 3 times

the original quantity provided for many growers, or like Johnny —whose family is from Taos Pueblo, 1.5 times for Native American farmers. Johnny's Taos Pueblo ancestry is actively relevant to him as he engages with farming. Near his ancestors' land, he is also examining their ways of raising plants and animals for food, working with his hands, and making use of everything to eschew waste.

Johnny sums up his farm's mission in an inspiring call to action, "We all have different things that light us up. Goals and ideals. /shed is the practice in that we, you, anyone can start a quiet revolution, to actively vote not with our words but with our actions in shaping the world in a way that we would like to see it." Follow Owl Peak Farm on Facebook and **shed-project.com** to learn more and purchase tickets for their special farmhouse dinners.



Jeremy King is a Hopi cultural consultant, language preservationist, and student of social work, who lives in Moenkopi on the Hopi Reservation, and to say that he was born to farm is an understatement. This warm season, we worked with Jeremy to grow the Hopi White Tepary bean for our annual Adopt-A-Crop, and Hopi Black Dye sunflowers, Hopi White

> Lima beans, and Hopi Sweet corn to meet our distribution needs. He planted all of these crops on land that his family might have farmed for the last 2,000 years, and where Jeremy learned to farm from his grandparents as a child. Drought has hit the Four Corners area hard. In the canyon, however, a canal carrying artesian spring water passively irrigates where it meets the hand-built terraces Jeremy planted. Jeremy tucked planting basins in among cattails and Russian olives to protect tender seedlings from harsh winds and unabated sun. Working this way harmoniously balances the plants he tends within a larger landscape that also sustains birds, snakes, bees and a diversity of wild and naturalized food, herb and medicinal plants.

Many Hopi farmers believe that a seed isn't Hopi unless it was grown in soil at Hopi, and much of what Western science knows about landrace crops like those stewarded by Native Seeds/SEARCH, reflects this idea too. The crops in the collection were shaped over time by the interrelationship of place, plant, and people to survive and thrive in challenging environments. We are attempting to restore this relationship by growing the seeds again at their places of origin, and with this harvest, we are rebuilding a collection of seeds, under Jeremy's care, to remain at Hopi and available to whomever in the community would like to plant. Jeremy is helping Native Seeds/SEARCH to understand how to meaningfully restore not just the presence but also the place of seeds in the communities from which this precious collection came.

# **Growing & Seedsaving Information**

When you save seeds from your garden or farm, you make a vital contribution to crop biodiversity and seed security. Following the basic guidelines below will help maintain distinct varieties and produce good quality seed. Visit nativeseeds.org for more information on seed saving and seed saving workshops. See page 55 for seed saving supplies and page 35 for Saving Seeds in the Southwest.

## Plant

#### Growing healthy seed

Plant healthy, non-diseased seed. Thin plants to a recommended distance within and between rows most plants simply do better with a little breathing room and good air circulation can help prevent disease (see individual crops for recommended planting distances). Rogue out (remove) plants that are diseased or otherwise unhealthy looking. If you're trying to keep pure seed lines, also rogue out plants that don't appear true-to-type (what you know the plant to look like) before they flower.

#### Days to maturity

We do not list days to maturity for seed varieties because we often don't have reliable information. Number of growing days can vary greatly based on where seeds are grown. Moreover, many of these crops reach maturity in different lengths of time depending on when they are planted - e.g., in the spring or with the summer rains.

#### **Population Size**

The reproductive strategy of different crops determines how many plants are needed to produce seed with the genetic diversity to remain healthy. With each crop type, we list a suggested minimum population size for saving seed. The lower number is the recommended minimum. (Though you may save viable seed from a smaller number of plants, the seed may not retain enough genetic diversity to remain healthy for more than a couple seasons of re-planting.) The high number is the preferred size for those who want to share seed with others and maintain the traits of the variety. If you want to save a rare variety over the long term, or do crop improvement, population size should be even larger.

## Save Seed

#### **Keeping lines pure**

Growing more than one variety of the same species at a time may result in crossing. Planting the seeds from crosses may produce something entirely different than you're expecting — which is how we got all this wonderful diversity to begin with! However, if you want to get the same crop you did last year yet maintain a healthy amount of genetic diversity, then



arugula, chickpea, cilantro, fava, kale, lentil, lettuce, onion, pea, radish, swiss chard, wheat, wildflowers

#### Spring early MAR - late APR

amaranth, bean, chichiquelite, chile, corn, cotton, cowpea, cucumber, eggplant, gourd, herbs, melon, sorghum, squash, sunflower, tobacco, tomato (plants) tomatillo (plants), watermelon

#### Monsoon JULY

eggplant, melon, panic grass, sorghum, squas sunflower, tomato (plants), tomatillo (plants), watermelon

#### Fall late SEP - mid NOV

## Learn More



Saving arid-adapted seed varieties depends on people knowing how to save seed. NS/S helps small farmers and gardeners gain knowledge and skills necessary to support regional food security including:

\* Growing techniques for arid lands

\* Seed saving

\* Southwestern regional foods and crop plants

We do this through print media, web resources, and educational workshops. Our programs are tailored for specific audiences including Native Americans, Spanish speakers, K-12 educators, small farmers, and advanced to newer home gardeners.

Visit **nativeseeds.org/learn** for current opportunities and our digital collection of educational resources.

you may need to prevent cross-pollination from occurring and learn the optimum number of plants to save seeds from. For this it is important to know whether the crop is self-pollinating or crosspollinating.

Self-pollinating crops (such as tomatoes, peppers, and beans) are generally the easiest to save seed from; they require less isolation from other varieties, no hand-pollination, and seeds may be saved from just a few plants. Cross-pollinating species (such as corn, squash, and melons) thrive with greater diversity, and their seeds must be saved from many more plants for the population to remain healthy. Also, because they depend on the activity of insects and wind for pollination, exposure to pollinators needs to be controlled or they must be hand-pollinated to ensure parentage. There are several ways to do this:

**Spacing** Plant different varieties at a suitable distance to ensure insects or wind cannot effectively carry pollen from one variety to another; see individual crop descriptions in this listing for recommended distances. In general, wind-pollinated crops (e.g., corn) and crops visited by insect pollinators capable of traveling some distance (e.g., carpenter bees, honeybees) should be grown a mile or more apart from each other. Self-pollinated crops (e.g., beans) may require as little as 20', depending on what's grown in-between or the abundance of insect pollinators present—the more insects, the more likely pollen may find its way from one plant to another. But don't be afraid of pollinators, they are part of a healthy agricultural system.

*Timing* The simplest way to prevent crossing is to only plant one variety within a species in each season (for example, only blue flour corn one year, only sweet corn the next year.) Or, plant different vari-

eties of the same species at different times so that they are not flowering at the same time. This may involve an early and late planting. Be sure there is enough time at the end of the season for the late planting to mature before the first frost.

*Isolation cages* Physically prevent insects from visiting one variety or another by constructing screen cages and placing them over one or more varieties. This is best used for non-sprawling crops, such as tomatoes, beans, okra, cotton, and chiles.

*Hand-pollinating* Manually transfer pollen from one flower to another. Hand pollination will differ depending on the crop but essentially you want to be sure that neither the flower being pollinated nor the one used as the pollen source have been previously pollinated.

#### Harvesting

Remember to mark the specimens you're saving seed from, and allow them to reach their full maturity before harvesting. For most crops, this means leaving them in the field to dry — corn, beans, gourds, okra, devil's claw, peas, chiles, etc. Some crops require afterripening (e.g., squash) or fermentation (tomatoes).

### **Cleaning & storing seeds**

Remove all plant material, including chaff, stems, or flesh from seeds and allow to dry thoroughly. Use sealable plastic bags, paper envelopes, jars with good lids or any airtight container to store seed from one year to the next. Spread wet seeds from squash, melons, tomatoes, etc. on clean dish towels. We do not recommend paper towels (they stick) or newspaper (toxic print). Once seed is dry use sealable plastic bags, paper envelopes, lidded jars or any airtight container to store seed. Store seed containers in a cool, dry place, such as your hall closet or freezer

# **Native American Seed Request**

Roughly two-thirds of the seed varieties in the Native Seeds/SEARCH collection originate with Native American communities in the southwestern U.S. and Mexico. NS/S works to ensure that indigenous people continue to have access to these traditional seeds, and one way we do this is through the Native American Seed Request Program.

NS/S is able to provide up to 10 free seed packets per calendar year (limit 3 packets per seed variety) for Native Americans\* residing in the Greater Southwest region (see map), or belonging to tribes from the Southwest region regardless of residence; up to 20 additional packets can be purchased at half price. Members of non-southwestern tribes living outside of southwest can request up to 10 seed packets at half price per calendar year (limit 3 packets per seed variety), and additional packets may be purchased at regular price. Group exceptions may be considered, so please contact us and we will do our best to meet your needs

Given that the goal of this program is to promote and conserve traditional arid-adapted crop seeds, please note that only seeds from the NS/S Seed Bank Collection (indicated with an **S** symbol) are available through this program. We strongly encourage recipients to save seeds from the plants they grow to continue the cycle of giving... save the seeds, share



Clayton Harvey and Nick Garber at *Ndee Bikiyaa*, White Mountain Apache *People's Farm*.

them, keep them alive in the community. For more information on saving your own seeds, please see page 6.

\*Native American identity for this program is selfreported and no tribal identification card is required.

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#### **How to Order Seeds**

There are several ways to place your Native American Seed Request order please, only one order form per household. *Shipping charges are \$3.95 per 10-packet request.* 

- Visit the NS/S Retail Shop at 3061 N. Campbell Avenue in Tucson, AZ
- \* Call 520.622.0830 x113 or toll-free at 866.622.5561 x113 — 10am to 5pm, Monday through Friday
- Mail your order form to 3584 E. River Road, Tucson, AZ 85718
- Email your request to barmstrong@nativeseeds.org

## Community Seed Grants

## With your support in 2018, we donated over 3890 seed packets to 172 organizations!

Native Seeds/SEARCH is pleased to offer small donations of seeds to eligible organizations in the Greater Southwest region. These grants are designed to support the work of educators and those working to enhance the nutritional, social, economic, or environmental health of underprivileged groups. They also keep locally adapted crop varieties alive and in active use in farms and gardens.

Donations are open to organizations working on educational, food security, or community development projects. Strong preference is given to organizations working in the Greater Southwest region. Applications are reviewed three times each year in January, May and September. Please visit our website for more information and to apply:

www.nativeseeds.org/get-seeds/communityseedgrants



Nosotros Academy, Tucson AZ, September 2017 Seed Grant Recipient — "The kids always look forward to getting down and dirty in the garden every Friday."



Atrisco Elementary, Albuquerque, NM, January 2018 Seed Grant Recipient — "Sooo proud" of the seedlings they've grown!

## Seedlisting Key

#### HIGH Desert: >3,500 ft and LOW Desert <3,500 ft

Refer to the origin of the seed varieties and what is suitable based on our experiences in Tucson and Patagonia, AZ. Often plants can be grown beyond these ranges and if you experiment we encourage you to report back to us!

#### SEED Bank

Varieties that are formally conserved in the NS/S seed bank. They are considered landraces, heirloom, or crop wild relatives with a long historical connection to the Greater Southwest.

#### **NON Collection Seed**

Open pollinated varieties that are not from our Seed Bank collection. These are included to broaden NS/S offerings to meet the needs of those wishing to grow additional species and varieties that will perform well in our region. Unlike our Seed Bank offerings, these varieties do not have a specific history to the Greater Southwest (more info page 19).

#### **F**AVORITES

The most essential seed varieties in our gardens.

#### **MEMBERS** Only

Indicates varieties that are in low supply and only available to NS/S members, including the Native American Seed Program. Details on pg. 8 & 54.

#### **B**ULK Seeds Available

Indicates varieties where bulk quantities are available. Sizes from ¼ oz to 1 lb, depending on variety. For pricing, please call 520.622.0830 ext. 102 or email getseeds@nativeseeds.org.

#### More information at nativeseeds.org

### Amaranth Amaranthus spp.

**Plant:** Plant in spring after soil warms or with summer rains. Broadcast and rake in, or plant 1/4" deep in basins or rows. Thin the edible seedlings to 10–15" apart. Amaranth grows taller if soil is enriched with compost. Likes full sun. Approx. 0.3g/300 seeds per packet. **Eat:** Eat the young leaves raw in salads or sandwiches, or cooked. Grain can be milled into a fine flour, eaten whole, or popped. Grown by Native Americans for millennia, both leaves and grain are highly nutritious, rich in lysine, calcium, and iron. **Save Seed:** As wind or insect-pollinated annuals, amaranth species will readily cross. To prevent this, put paper or cloth bags over flower heads. When ripe, cut off dried heads and lightly beat in a bag to remove seed. Screen or winnow off chaff. Recommended minimum population for seedsaving: 1–20 plants.

**Alegria** *A. cruentus.* Collected in a market outside of Mexico City. Produces mostly blond inflorescences sometimes tipped with pink. Seed used for the traditional central Mexican confection. Greens are edible, best before flowering. Grows to 9 ft. with multiple flower heads. **C008 H L S B** 

**Hopi Red Dye** *A. cruentus. "*Komo." The beautiful plant can grow 6' tall with a 1–2' long inflorescence and dark reddish-green leaves. Young tender leaves are excellent in salads and the black seeds are also edible. In Hopi land, this readily crosses with wild *A. powelli*. Originally collected in Lower Moenkopi. **C002 H L S F** 

Mano de Obispo Celosia cristata. "Bishop's Hand." This ornamental cockscomb decorates graves for Dia de los

*Muertos* (Day of the Dead). Flowers are magenta, some golden. The black seed is edible. **C010 H L S** 

**Mayo Grain** *A. cruentus.* Another gorgeous amaranth from Alamos, Sonora, with bright fuschia or scarlet inflorescences and dark reddish-green leaves which are used as *quelites* (greens). The black seeds are used for *esquite* (parched), pinole and atole. **C003** L S

**Mountain Pima Greens** *A. cruentus.* From the Sonora/Chihuahua border in Mexico. The abundant red-tinged leaves are used for greens and the black seeds are ground for pinole. Produces beautiful, bright fuchsia inflorescences. **C004 H L S** 

**New Mexico** *A. hypochondriachus.* From a dooryard garden near Rinconada, its beautiful tan inflorescence with pink tips yields edible golden seeds. Eat the tasty greens before the flowers form. **C006 H L S B** 

#### **Tacos de Quelites**

These work beautifully with lamb's quarters, amaranth, spinach or any greens.

- 6 loosely packed cups greens, chopped
- 1 onion, sliced thinly
- 1 tbsp olive oil
- 2-3 garlic cloves, minced or pressed
- 1 tsp chile flakes
- 1/4 c broth or water
- salsa of your choice
- corn tortillas

Saute onion in oil over medium heat for 4 minutes, add garlic and chile flakes and stir briefly. Add broth, 1/2 tsp salt, and the greens. Cover and cook till greens are tender, then uncover and stir till almost dry. Put greens mixture onto warmed tortillas, top with salsa (and cheese if desired).



#### **Bean** — Common Bean Phaseolus vulgaris

#### \$3.25

**Plant:** Beans need warm soil for best germination. Plant seeds after soil warms in spring or with summer rains about 1" deep and 6" apart. If beans need a trellis, try intercropping with corn or sorghum. Approx. 15g/50 seeds per packet. **Eat:** Native to the New World, beans are a traditional protein complement to corn, and are rich in minerals. Beans also contain soluble fiber helpful in controlling cholesterol and diabetes. Harvest when pods are young and tender for green beans, or let dry on the plant for dry beans. **Save Seed:** An annual that is generally self-pollinating, but can cross with other plants. Dried pods can be harvested throughout the growing season, or harvest whole plants. Separate varieties by 10 feet (3 meters). Recommended minimum population for seedsaving: 5–10 plants.

**Amarillo del Norte** Large golden-seeded pole bean from Vadito, New Mexico at 8000'. Early maturing. Green beans taste very good. **PC012 H S** 

**Bolas Maycoba** Small, rounded sulfur-colored beans from Mt. Pima country near the central Sonora-Chihuahua border. Day-length sensitive, late maturing when grown at the Conservation Farm. **PC110 H S** 

**Frijol de Sinaloa** A fast-maturing pole bean from eastern and southern Sonora. Very productive, but day-length sensitive, so may not have time to mature in northern climates. Plant with monsoon rain in low desert. **PC069 H L S B** 

Frijol en Seco New Mexican brown and beige pinto collected in Bernalillo. Early-maturing, high-yielding bushy-pole bean when grown at the Conservation Farm. PC090 H S M

**Frijol Gringo** Late-maturing pole bean with good tasting green beans. Originally collected from within the Barranca del Cobre (Copper Canyon). **PC098** 

**Garcia** Light tan-brown beans from Garcia, Colorado at 7000' elevation. Bolita means "little ball" in Spanish, referring to the shape of the bean. **PC030 H S** 

**Hopi Black Pinto** Striking black and white/beige pinto, dry-farmed in Hopi fields of northeastern Arizona. Early-maturing bushy-pole beans with colorful mottled pods. High-yielding. **PC018 H S M** 

Hopi Purple String A beautiful purple bean with black crescent moon-shaped stripes. Very good flavor when picked as a green bean. Performed well at our Patagonia farm. Traditionally dry farmed. PC102 H S B

**Hopi Yellow** "Sikya mori." Large bronze seeds, common in Hopi country, may be dry-farmed or irrigated. High-yielding pole type, delicious as a green bean. White flowers. **PC019 H S** 

**New Mexico Bolitas** Pinkish-beige rounded beans grown for centuries by traditional Hispanics of northern New Mexico in irrigated plots. Faster cooking and richer tasting than pintos, and early-maturing too. High protein content. High-yielding pole bean with white flowers. **PC024 H S B** 



### More Common Bean

O'odham Pink "S-wegi mu:n." A pink bean from the desert borderlands of Sonora and Arizona. Fast-growing, the plants will sprawl and produce in early spring or late fall in the low desert. Delicious and creamy-textured. White flowers. PC063 H L S B

**Rattlesnake** A drought-tolerant pole bean. 7–8" pods are dark green with purple streaks. Harvest early for very sweet snap beans. TS305 H L N

**Rio Bavispe Pinto** Early-maturing bean from the Rio Bavispe Watershed in Sonora. Bushy plants with a late tendency to vine, but do not require support. Greattasting as a green bean, and can cope with the heat... it grows great in Phoenix! PC091 H L S B

**Sonoran Canario** From Hermosillo. Traditionally grown with irrigation during the winter in frost-free desert regions. Early-maturing with an open bushypole architecture. PC082 H L S B

Taos Brown A chocolate-colored bean from Taos Pueblo. Excellent green bean. Indeterminate climber with white flowers. PC127 H S B

Tarahumara Bakámina Rare. Semi-pole plants produce tiny, burgundy, kidney-shaped beans. Pods are quite long and make excellent green beans. PC034 **HSB** 

Tarahumara Burro y Caballito Beautiful Jacob's Cattle/Ojo de Cabra patterning. High-yielding pole bean collected in Cerocahui, Chihuahua. PC037 H S M

Tarahumara Canario Elongated yellow/cream beans collected throughout Tarahumara country. Bush beans, a tasty staple of the mountains. Plant in early spring or late summer in the low desert. PC038 **HLSB** 

Tarahumara Frijol Negro Distinctive pole bean with very small leaves and pods and small, black, quickcooking seeds. Dark lilac flowers. Originally collected from Kirare, Chihuahua. PC128 H S B

Tepehuan Red Kidney Large, dark red kidney type from Nabogame, Chihuahua. Late-maturing pole bean. Day-length sensitive, may not produce well in Northern latitudes. PC112 H S

Walter Brandis Pinto High desert pinto bean saved and grown by Walter Brandis at his family farm outside of Flagstaff since 1945. A semi-vining bean, it will send out runners but can be grown in field settings with nothing to climb. PC206 H S

Yoeme Purple String A prolific pole bean that can be eaten green when very young or shelled. Plants are heat tolerant. Very productive and popular! PC071 **HLSB** 



#### I ima Bean Phaseolus lunatus

Plant: Plant in spring or with summer rains, 1" deep and 6" apart or in basins. These long season plants will produce until frost (production slows in the hot dry months). Trellis vines, or allow room to sprawl. Plants are tolerant of alkaline soil. Approx. 20g/25 seeds per packet. Eat: Shell young beans from the pods and simmer till tender for great fresh flavor. Whether fresh or dried, always cook uncovered to release the cyanide compounds in the beans. Save Seed: Mainly self-pollinating. Separate varieties by 40 feet (12 meters). Dried pods can be harvested throughout the growing season, or harvest whole plants. Recommended minimum population for seedsaving: 10-25 plants.

Hopi Gray "Maasi hatiko." The light beige beans can be plain or mottled with black. The seeds are sometimes sprouted and used in ceremonies. May have good resistance to Mexican Bean Beetle. PL080 H L S B

Hopi Red "Pala hatiko." Selected by the late Hopi artist Fred Kabotie, these limas are prolific in the low desert. Tasty and meaty, the beans are solid red, or may be streaked with black. PL009 H L S

#### **Runner Bean** Phaseolus coccineus

**Plant:** Plant 1" deep and 6" apart in the spring after danger of frost is past. Flowers may drop with no pod set if daytime temperatures are too high. Not recommended for low desert. Runner Beans have tuberous roots that can produce for several years if roots are protected from frost. Approx. 28g/20 seeds per packet. Eat: Harvest when pods are young and tender for green beans, or let dry on the plant for dry beans. Runner beans are very large and creamy and delicious cooked. Save Seed: Mainly self-pollinating. Separate varieties by 40 feet (12 meters). Dried pods can be harvested throughout the growing season, or harvest whole plants. Recommended minimum population for seedsaving: 10-25 plants.

Four Corners Scarlet A beautiful large black and purple bean from the Navajo Reservation. Bright red flowers attract hummingbirds. Won't bear fruit in the intense heat of the low desert, but prolific at the Conservation Farm at 4000'. PS001 H S M

Tarahumara Bordal Large white beans from the remote Tarahumara community of Otachique in Chihuahua. Pole beans with white flowers. Beans will grow larger when cooked so you only need a few for a hearty meal. Meaty taste. PS007 H S



Pima Beige Originally collected from the Gila River Indian Community in Arizona. The light beige beans can be plain or mottled with black. PL010 H L S B

**Pima Orange** Wonderfully orange-colored beans with black mottling. A gem from the Gila River Indian Community in Arizona. Very drought- and heat-tolerant. PL011 H L S F

#### \$4.25

\$3.25



# **The Enduring Tepary Bean**

by Nicholas Garber, Conservation Program Manager

Some of the earliest collections for Native Seeds/SEARCH were tepary beans, and to me they exemplify the best of this collection. In the tepary bean, we have a plant that makes a delicious and unsurpassably nutritious bean, needs little more than monsoon rains, and can improve the soil it grows in! Researching this essay, I started with a special issue of the journal *Desert Plants* published in 1983 dedicated to this endemic legume. The writing came from a number of the founders, one-time staff, and board members of Native Seeds/SEARCH. I wondered how the perspective on this

bean has changed in the 35 years since the founding of this organization and the publication of this iournal what has examining become a bit of a mascot for our seed bank. In that 1983 journal issue, there are comparisons between the nutritional value of tepary and common beans; an examination of what it takes to grow tepary beans in fields suited to modern conventional farming; and a history of traditional farming techniques of the Tohono O'odham from whose community these beans came.

Considering the history of the tepary, O'odham cultural traditions that contributed to its development, and future challenges facing all peoples, this bean remains a remarkable plant whose potential cannot be overstated.

There are two parallel histories of tepary beans: one from colonists to the West and one belonging to the O'odham peoples who steward these plants and adapted them to seemingly impossible environments. The first mention of tepary beans in a Western scientific context might have been at a dryland farming conference in 1912. In the tradition of Christopher Columbus, researchers treated this unflappable bean as a new discovery to revolutionize dryland agriculture, even though it had been in cultivation on the continent for at least 5,000 years previous! Conventional growers searched for ways to modify the drought-tolerant and self-nourishing tepary to fit into the rapidly developing system of high-yield, industrial farming. Simultaneously, U.S. governmental policies were attempting to destroy O'odham cultures and

integral systems of agriculture through relocation and reeducation. Moddiscarded science ern Indigenous traditional knowledge as superstition, which kept Western growers from acknowledging the adeptness of O'odham farming and the superb performance of their crops. According to an agricultural history prepared by Archaeology Southwest, in Tucson's Santa Cruz Valley in 1911, foreign land investors diverted rivers, lined irrigation canals with concrete, and used electric pumps to move the massive quantity of water required for crops imported with European traditions. A flood in 1940 would

destroy the colonists' modern irrigation system, while tepary beans and a system of farming in balance with the cycles of the desert survived with O'odham peoples. Planting with the monsoon rainfall, in geographical features that passively accumulate water, and using crops adapted to the region, Indigenous ways of growing already meet so many of the demands we will have on farming in the future. While modern conventional farming poisons our environment, contributes 1/3 of the total greenhouse gas emissions on the planet, and fails to nourish us.

It is this long connection to O'odham history that shows how valuable tepary beans are for our future. This bean and O'odham farming conventions are so valued simply for surviving -surviving the challenging desert for generations and surviving drastic changes in lifeways brought by several waves of immigrants to their lands. Tepary beans are just one of the many ingenious crops borne of O'odham farming traditions that also created corn that produces in 60 days, drought-tolerant squashes with huge fruits and sweet flesh, and monsoon-planted melons eaten at every stage of ripening, including the most delicious yellow-meated watermelon. All of these super-food crops were cultivated as part of the landscape, which allowed this agricultural biodiversity to be supplemented in traditional diets by wild nutritional powerhouses harvested from the desert, like cholla buds and saguaro fruits. The foodways of these excellent farmers cannot be separated from a way of life — I guess most farmers would say that, but in this case farming is tied to caring for plants, community, and planet in a way that modern conventional farming cannot allow. Instead of digging canals, water was moved across floodplains with brush dams, and instead of leveling fields, seeds were planted in geographical features like arroyos where water naturally gathered. No-till agriculture and crop rotation maintained soil fertility without needing additional inputs for adequate harvests. Dependence on monsoon rainfall required O'odham farmers to observe and respond to the changing of seasons, and starting their calendar year with the season of abundance the summer rains bring. The plants in the collection were effectively 'bred' through the culture and community preferences, but this process bears little similarity to modern breeding that demands the biggest, fastest, and most uniform plants to produce as much as possible, regardless the disruption to the ecosystem.

Tepary beans and most other seeds in the seed bank are landrace crops developed to thrive in local environments through a process more akin



### **Tepary Nutrition**

O'odham peoples would not have treasured the tepary bean if it didn't provide the nearly unsurpassed nutrition that it does. Short growing seasons with long dry spells between made high nutrition and extended storability as important as drought- and heat-tolerance in the crops planted in the desert. One nutritional analysis of the tepary suggests that not much more than the bean would be required for a complete diet! The weight of this teeny bean can be made up of as much as 31% protein, but on average the 24% protein it contains is higher than either navy, kidney or pinto beans. Teparies also outperform those three beans in their calcium, potassium, and iron content among other minerals, and high-fiber gives them a very low glycemic index.

The nutty sweetness of tepary beans makes this nutrition extremely palatable, too! Losing space in the diet for traditional foods like tepary beans and replacing them with highly processed, nutrient-deficient yet high-calorie replacements, has had an extreme impact on O'odham communities across their homelands. Type-II Diabetes incidence among adults is almost 50%. Outside communities are also suffering dramatically increased incidence of dietary disease, and a return to traditional foods like these almost magical beans could be part of the solution for all of us.



Many more products are available at nativeseeds.org

### **Bean Common Mosaic Virus**

Bean-Common Mosaic Virus (BCMV) is a plant disease that can affect all New World beans (*Phaseolus* spp.), including common beans, teparies, limas, and scarlet runners. It is not harmful to humans or other animals, but can cause decreased yield or death in beans.

Tepary beans may be "carriers" of BCMV, as they tolerate the disease with only minor symptoms if grown in arid regions. Because teparies may carry BCMV, do not grow teparies near other species of beans that are more susceptible to the virus — especially those to be saved for seed. Signs of the virus include stunted plants, downward curling and puckering of leaves, and yellow-green mottling of leaves.

BCMV is a seed-borne disease, and seeds saved from infected plants can pass the virus on to future crops. Healthy plants can be infected by aphids spreading the virus from diseased to healthy plants, by infected leaves touching healthy ones, or by gardeners handling healthy plants after working with diseased plants. Diseased plants should be carefully rogued (removed) and discarded.



#### Nick's "Quick-Cooking" Tepary Bean Recipe

Don't soak your teparies. Preserve their flavor by retaining the cooking liquid.

Put 1 pound of tepary beans in a lidded ovenproof pot and add water to cover by 2 inches. Season with 1-2 T salt, optional.

Heat to boiling on the stove top and keep them boiling for 15 minutes.

Put the covered pot directly into a 325° oven and cook until beans are tender, about 90 minutes for white, brown might take 2 hours of cooking, and black tepary beans normally need 2.5 or 3 hours in the oven. Allow to cool and eat!

## Enduring Tepary continued

to guided evolution, while modern agriculture primarily grows hybrid crops produced through inbreeding. Landrace crops are dynamic populations of plants made up of relatives like siblings but also distant cousins, and not identical clones like elite hybrid varieties. This genetic diversity can be the source of new tastes, colors, and culinary properties, which makes the stewarding of landrace seeds so joyful and rewarding. More importantly, the distant relatedness in populations of landrace plants helps them to adapt to differences across seasons (especially relevant in the age of climate change) and new planting locations because each planting includes individuals that have grown and produced seeds through diverse challenges that may be different than that of their sisters or 5th cousins. Tepary beans have accumulated adaptations to hot and dry regions over 5,000 years of growing here, and when we plant them again in their home soils, we take a place on the continuum of growers who worked so hard to create such an enduring crop.

Native Seeds/SEARCH has stewarded tepary beans since 1983, and we still have so much to learn from them. These indomitable beans produce food in the real sense of the word sustaining, healing, nutritious - in an environment where many plants struggle to survive. These crops flourish within the landscape and improve soils while allowing space for the diversity of other organisms that call the desert home. A system of agriculture produced these beans without leaving a scar on the land or pollution in the water or air, driven by the ingenuity of generations of farmers from time immemorial. Join us in furthering their work. Plant tepary beans with the monsoon. Eat their delicious beans cooked as you would others, or adapt recipes that will benefit from their characteristic sweet nuttiness. Most importantly, keep writing the tepary bean's story, and save its seeds.

#### Tepary Bean Phaseolus acutifolius

#### **\$3.25** Unless otherwise indicated

**Plant:** Plant seeds 1/2" deep and 4" apart with the summer rains. If rains are sparse, irrigate when the plants look stressed. Teparies do not tolerate overwatering. Teparies may carry bean mosaic virus; do not plant near other types of beans. Approx. 7g/50 seeds per packet. **Eat:** Tepary Beans are high in protein and contain soluble fiber helpful in controlling cholesterol and diabetes. Pods are not edible... shell out dry beans and cook; great on their own or in stews, soups, and salads. White tepary beans have a slightly sweet flavor and brown ones have an earthier flavor. **Save Seed:** A self-pollinating annual. Harvest pods as they dry. Be careful: mature pods will pop open and drop seeds if left on the plant. An alternative is to harvest the whole plant when pods are turning brown, allow them to dry on a sheet, then thresh and winnow seeds. Recommended minimum population for seedsaving: 5–10 plants.

**Black** A rare black tepary selected from white teparies purchased many years ago in a Tucson Mexican market. Similar to a historic Tohono O'odham and Yuma variety. **PT082 L S B** 

**Blue Speckled** Unique and beautiful tan beans with navy blue speckles. From highland areas of southern Mexico, this variety is a Mayan folkrace. Does not tolerate low desert heat, but is otherwise prolific. Delicious. **PT079 H S F B** 

**Menager's Dam Brown** "W'pegi bawi." A red-brown bean from Menager's Dam, a Tohono O'odham community near the Mexican Border. **PT119 H L S B** 

**Paiute White** From the Kaibab Indian Reservation in southern Utah. Grown near the Santa Clara River. Paiute teparies are our most northerly collection of tepary beans. **PT084 H L S B** 

**Pinacate** Originally obtained from the most arid runoff farm in Mexico, in the Sierra El Pinacate Protected Zone. Tan beans with slight mottling. **PT074 L S B**  **Rock Corral Canyon Wild** *P. acutifolius* var. *tenuifolius*. Originally collected in the Wild Chile Botanical Area in southern Arizona, home to other crop wild relatives including chiles, cotton, devil's claws, and squash. Readily reseeds, pods will pop open when dry. A fun exploration of agricultural history and wild plant conservation. **PW103 L S B \$4.95** 

Santa Rosa White An old collection from the Tohono O'odham village of Santa Rosa. O'odham legend says the Milky Way is made up of white tepary beans scattered across the sky. Smooth, rich flavor. Droughthardy. PT111 H L S B

**Yellow** Small yellow/tan-colored beans. USDAselected and grown out in Tucson. Can be grown on trellis or sprawling on the ground. **PT077 L S B** 

**Yoeme Brown** Colorful mixture of medium-sized beans. Early-maturing, with both white and lilac flowers. Originally from a Yoeme village on southern Sonora's coastal plain. **PT078 H L S** 



#### Many more products are available at nativeseeds.org

### Jack Bean Canavalia ensiformis

**Plant:** Soak seed overnight before planting into warm ground in spring and water young plants deeply and regularly. Once established, their deep roots allow them to be quite drought resistant. Long vines will not twine, so need to be twisted or tied to supports if you want them to climb. Require a long growing season, not suitable for northern climates or high elevations. Approx. 13.5 g/10 seeds per packet. **Eat:** Young pods can be harvested, boiled and eaten like green beans; very mild flavor and buttery texture. Mature dried beans are mildly toxic and should not be eaten raw or in large quantities. Rinse repeatedly and boil in lots of water. **Save Seed:** Let the huge pods dry on plants and shell out beans. Plants can winter over in mild climates and will produce fruit and seed much earlier in the second year. Recommended minimum population: 10-25 plants.

Jack Bean Ancient jack beans have been recovered at archeological sites throughout central and southern Arizona, and were evidently part of southwestern diets as long ago as 700 AD. The plants produce large white beans in huge pods up to a foot long, and long vines of lush tropical foliage and flowers surprising in a desert environment. Wonderful .... also edible! Extremely Rare. The plants produce long vines of lush tropical foliage and flowers in a desert environment. Wonderful as a landscape plant and a piece of southwestern history that is also edible! **PJ001 L S M** 

### Beet Beta vulgaris

Plant: Beets prefer deep, rich, well-composted soil with trace minerals and plenty of sun. Plant 1/4–1/2" deep. For larger, more uniform roots, thin to 1 plant every 4". Tolerates moderate frosts. Expect slow growth until temperatures rise above 60°F. A cool season plant in the low desert. Approx. 2.5g/200 seeds per packet.
Eat: Native to Europe, beets are tremendously nutritious. Their earthy sweetness is enhanced by slow roasting. Save Seed: Flowers contain both male and female parts, but do not self-pollinate before flowers open. As pollen is carried long distances by wind, grow seeds for only one variety at a time. Note: beets will cross with Swiss chard. Recommended minimum population for seedsaving: 20–50 plants.

**Early Wonder** Selected about 100 years ago from Crosby Egyptian for earliness and vigorous, lush top growth, making it a great choice for early beet greens. Produces deep-red 3–4", exceptionally sweet globes. 45–50 days from planting. **TS020 H L N \$3.25**  **Golden** An orange skinned, golden-yellow fleshed root with pleasantly sweet flavor that is milder than most red beets. Best eaten when roots are 2" in diameter. 55-60 days from planting. **TS021 H L N \$4.95** 



### All seeds are open-pollinated and non-GMO

produce medium-large heads and lots of side shoots.

**Red Acre** Beautiful, red version of the famous Golden

Acre with larger, 2–3 lb. heads. Red Acre takes 2 weeks

more to mature, but stores better and longer in root

weeds and make for easy pulling. TS068 H L N

Excellent for juice. TS061 H L N

Scarlet Nantes A timeless heirloom favorite. Bright-

orange, very sweet, slightly tapered, 6-7" roots with

characteristic nantes rounded tip. A good keeper.

cellars or refrigerators. TS059 H L N

## Broccoli Brassica oleracea

**Plant:** Produces better in higher elevations and cooler climes than in the warmer lowlands. Approx. 0.5g/70 seeds per packet. **Eat:** Garden-fresh, has a far richer taste than store-bought. After you harvest the head, plants will continue to produce tasty side-shoots. **Save Seed:** Provide at least two or more flowering plants to assure seed formation. Bees can cause cross-pollination with other *Brassica*, so isolate varieties by 1,600 feet (488 meters) or more. Recommended minimum population for seedsaving: 20–50 plants.

TS033 H L N

**Waltham 29** Delicious and dependable broccoli bred to withstand especially cold weather. Short 20" plants

## Cabbage Brassica oleracea

**Plant:** Demands soil high in nitrogen and phosphorus. A cool season plant and requires a long season, so plant in fall in the low desert. Approx. 0.5g/150 seeds per packet. **Eat:** A versatile vegetable, used fresh, cooked, or fermented. Garden-fresh cabbage has a sweetness and tenderness not found in store- bought. **Save Seed:** Provide two or more flowering plants to assure seed formation. Since bees can cross-pollinate cabbage with other *Brassica*, isolate varieties by 1,600 feet (488 meters) or more. Recommended minimum population for seedsaving: 20–50 plants.

**Golden Acre** One of our favorite cabbages for winter desert gardens. Solid, round, 3–4 lb. grey-green heads on short-stemmed, erect plants. White interior with tightly folded leaves. High yields. **TS058 H L N** 

### Carrot Daucus carota

**Plant:** Carrots do best in rich, uncompacted soil. Plant seeds very shallowly. Keep seeds moist while germinating. A cool season plant in the low desert. Approx. 1g/600 seeds per packet. **Eat:** Sweetness is enhanced by frost, so plant in fall in the low desert. **Save Seed:** Carrots are biennial with perfect flowers. As insects are a major pollinating agent, separate different varieties by 1600 (488 meters) feet. Recommended minimum population for seedsaving: 20–50 plants.

**Red Cored Chantenay** Our farm crew all rated it at or near the top for eating quality, whether fresh or cooked. An excellent performer in heavy and loamy soils; broad (1.5–2") shoulders, 4–6" long roots that have a a blunt tip. Strong, bushy tops are effective for competing with

#### Non-Collection Seeds

Many vegetables, like lettuce, carrots, and broccoli, don't have botanical origins or cultural roots in the Greater Southwest and thus are not a part of our collection. To accommodate interest in growing them, NS/S offers selected heirloom seed varieties from outside of our region. These seeds are marked in the catalog with an **N** for "Non-collection seeds". Since all are open-pollinated varieties, if grown to avoid crossing, you can save seeds that will grow true to type the next year. We have chosen **N** varieties that are relatively heat- and drought-tolerant or that have a shorter growing season, so they are more adaptable to growing in the Southwest. As much as possible, we purchase from sources that produce seed organically and/or using sustainable agricultural practices. When you purchase from Native Seeds/SEARCH, you financially support our work of conserving the NS/S treasure of regional heirloom seeds.

\$3.25



\$3.25

## Chile/Pepper Capsicum annuum

**Plant:** Start seeds inside, 1/4" deep in sandy soil, 8–10 weeks before last frost. Seeds are slow to germinate and need warmth. Transplant seedlings 12–16" apart. Partial shade is best in low desert; full sun in cooler climates. Provide support. Approx. 0.1–0.3g/25 seeds per packet. **Eat:** Chiles are one of the great Native American contributions to the cuisines of the world, valued for their flavor ranging from sweet and fruity through all levels of heat. On these pages, mild, medium and hot are relative heat ratings, while sweet refers to a sugary taste. Even chiles listed as mild may contain some heat. Bell peppers are heat-free. **Save Seed:** The insect-visited flowers can self-pollinate or cross. Grow only one variety at a time or isolate flowers. Allow fruit to ripen and mature on the plant. Chiles turn red or dark brown when mature. Take care not to touch your eyes when removing seeds from hot chiles. Recommended minimum population for seedsaving: 5–20 plants.

**California Wonder Bell** An exceptional strain of this treasured heirloom bell pepper from the 1920s. Vigorous, 24–48" plants produce thick-walled, blocky 4" green fruits which turn red if allowed to mature fully. **TS325 H L N F** 

**Caribe** From southern Chihuahua. Medium-hot, sometimes increasing after a few seconds to hot. 2–3" long. (a) **D055 H S** 

**Chilaca** "Chilaca" is the fresh chile, dark green, thinwalled, sweet, and medium hot. It is called "pasilla" when dried, possibly because of its brown raisin color. This chile from Mexico requires a long growing season. Plants can grow over 4' tall, with chiles 7" long. Dried pods are used in moles, adobados, and other sauces. (g) **D016 L S**  Chile Del Arbol A long, thin, red, pungent chile used for salsa. Among the most productive in our 2012 trials in Patagonia, also the toughest variety in our Tucson test plot, very drought tolerant. Usually hot. (a) D001 H L S

**Chile Dulce** This long-season sweet bell pepper has a lovely flavor with a hint of fruitiness. 2.5–3.5" blocky shape, but thinner walls than modern bell peppers. Collected in Mérida, Yucatán. **D018 H S M** 

**Chimayo** From the farming town in northern New Mexico at 5,900' famous for its local chile. Relatively early-maturing. Mild. 3.5–5" long. (i) **D018 H S F** 

**Del Arbol de Baja California Sur** From an *ejido* (communal farm) south of Guerrero Negro. Narrow, round, bright red chiles with medium heat. 4" long. (d) **D056 H L S** 



#### Find more varieties at nativeseeds.org

#### **More Chile/Pepper**

**Isleta** From Isleta Pueblo at 4900'. Exceptionally tasty native chile. Traditionally strung into ristras, then ground. (j) **D015 H S** 

Jalapeño Produces 3", fleshy peppers that are generally medium-hot. Usually picked when dark green, but will ripen to red if left on the plant. Earlier than most jalapeño varieties, with a prolific and continuous harvest. (h) TS327 H L N

Jemez Grown in Jemez Pueblo in northern New Mexico along the Rio Jemez, a tributary of the Rio Grande. Relatively early-maturing. Medium heat. 3–4.5" long. (i) D019 H S

**Mirasol** Called "Look at the sun," yet these chiles from southern Chihuahua hang down on the branches. This chile is called *guajillo* when dry. Used in soups, stews, and chicken dishes. One of the most productive varieties in our chile trial in Patagonia, Arizona. Mild to medium. 1" wide and 5" long. (g) **D005 H L S** 

Nambe Supreme From Nambe Pueblo in New Mexico, at about 6,000'. A farmer in the Pueblo selected this cross between heritage and commercial varieties. Smooth-skinned and slightly triangular. Medium heat with a slight sweetness when red. 5.5" long. (j) **D058 H S** 

**Ordoño** A stunning ornamental chile from Batopilas Canyon, Chihuahua. The small upright fruit mature from purple through yellow, orange, and finally red. Heat and drought tolerant and extremely productive. Good for container gardening. Hot and edible. 0.5" long. (f) **D009 H L S F B** 

**Patagonia** An Hispanic heirloom grown in Patagonia, Arizona. The cone-shaped chiles stand up on the plants, and are yellow with some purple mottling, ripening to orange then red. Used to make a thin hot sauce by blending with vinegar. Medium-hot. 1" long. (f) **D059 H L S M**  **Pequin** A northern New Mexico chile, 3–4" long. Medium heat, increasing to hot after a few seconds. Some plants are fuzzy with long, hanging chiles, other plants are smooth with shorter chiles that stand up. (a,d,e) **D010 H S B** 

**Poblano** Called an Ancho when dried, a Poblano when fresh. Pick when green for a mild flavor or wait until red for increased medium-hot heat level. Extremely versatile in the kitchen. (k) **TS323 H L N** 

**Quatro Milpas** Large, fleshy chiles grown in the mountain village of Quatro Milpas, Sonora. Ripe fruits are dark brownish red and mild flavored. 5" long. (j) **D031 H L S B** 

**San Felipe** Planted in mid-May by many farmers at San Felipe Pueblo. Popular for making ristras. Medium to medium-hot. 3–4" long. (j) **D007 H L S B** 

**Sandia** Collected in Albuquerque, New Mexico, where it is used for rellenos, enchilada sauces, and stews. Medium to hot. 6–9" long. (j) **D004 H L S** 

**Sinahuisa** From a Mayo *ejido* (communal farm) in Sonora. The fruit are very fleshy, hot, and similar to serranos. They are excellent *en escabeche* (pickled). Plants can grow to about 3.5'. Good for container gardening and extremely high-yielding. (e) **D006 H L S** 

 Tabasco C. frutescens. Hot, prolific, and hardy, this is the famous ingredient in Tabasco sauce. Narrow 1" fruits are yellow or orange maturing to red. Good for container gardening. (c) DF001 L S

Tarahumara Chile Colorado A poblano-like chile from southern Chihuahua, wide shouldered and very shiny when green. Mild heat. (k) D006 H S

Wenk's Yellow Hots From Albuquerque's South Valley; fleshy and tasty, early maturing and prolific. Waxy yellow fruit turn orange and then red. Exceptional flavor, medium hot to very hot. 3" long. (h) D030 H L S F M



## Chiltepin Capsicum annuum var. glabriusculum

**Plant:** Start seeds inside, 1/4" deep in sandy soil, 8–10 weeks before last frost. Growing chiltepines from seed is challenging. Seeds are very slow to germinate and need warmth. Scarifying before planting may help. Transplant seedlings 12–16" apart. Chiltepines require partial shade in the low desert, full sun in cooler climates. Chiltepines are attractive perennial landscape plants for shady to filtered light areas in the low desert. They will freeze back in the winter. Approx. 0.1g/25 seeds per packet. **Eat:** Tiny but mighty, these wild relatives of cultivated chiles pack a fruity, hot, and spicy punch. Dry them and crush when needed to add heat to any dish (even ice cream). They are traditionally served pickled in Sonora. **Save Seed:** The insect-visited flowers can self-pollinate or cross. Grow only one variety at a time, or isolate flowers. Allow fruit to ripen and mature on the plant. You may need to protect fruit from birds. For best seed result, fruit should be almost dry at harvest. Wear gloves to harvest and process seed! Recommended minimum population for seedsaving: 5–20 plants.

**Bacadehuachi** Originally harvested by Gary Nabhan in Bacadehuachi, Sonora, a small agricultural village within the Opata homelands, at about 1,600'. Small round bright red fruits. **DC008 L S** 

**Fort Worth** This chiltepin seems very comfortable growing at low elevation. It was sent to us by a Fort Worth, TX, couple who found it volunteering in their yard. Small, round, bright red fruits. **DC030 L S M** 

**Phoenix** This seed was given to a Phoenix, AZ, man by a friend. One plant grew under an orange tree and up through the branches to the top, reaching a height of 23 feet! The oblong fruits are hot. **DC031 L S** 

**Pima Bajo** Collected from the Pimas near the Rio Yaqui in Sonora, Mexico. **DC025 L S** 

**Rio Purificacion** Originally collected by NS/S Cofounder Gary Nabhan near the Rio Purificacion in Jalisco, Mexico. **DC010 L S** 

**Rio Sonora** The original seed in the collection was harvested near Babiacora on the Rio Sonora at about 2,000' elevation. Small round bright red fruits. **DC007** 

**Sonoran** Wild-harvested from central Sonora, Mexico. Small fruit that packs a punch. Try them sprinkled over vanilla ice cream. Immature green fruits are traditionally pickled. **DC080 H L S** 

#### **Let Plants Work for You**

Over generations farmers have used careful observation to identify remarkable plants and mold them to yield plentiful and nutritious foods, meanwhile also selecting for traits that helped the plants survive in challenging environments. So many of these traits also produce broad benefits that make a farmer's job easier, add nutrients to the soils, or effectively till the soil with deep root profiles and without disrupting critical soil microbial communities. We will highlight some of these hard-working plants throughout the *Seedlisting* to celebrate their dual nature: delicious crops with special abilities.



#### All seeds are open-pollinated and non-GMO

## Corn/Maize Zea mays

#### **\$3.25** Unless otherwise indicated

**Plant:** In early spring or with summer rains, plant seeds 1" deep. It is best to plant numerous plants (20 or more) to promote pollination and kernel development. Needs rich soil and moisture. Heat, aridity, and high winds can all reduce pollination. Approx. 10–18g/50 seeds per packet. Seed Saver Size contains approx. 250 seeds. **Eat:** Corn is classified into different types based on the composition of hard and soft tissues of the kernels. Indigenous seed savers have made selections leading to thousands of different corn varieties, and there are countless ways to eat corn. Find suggestions for preparation under each corn type. **Save Seed:** An annual, corn is wind-pollinated, and all varieties will cross. Hand-pollination (with bagging) or staggered planting times is necessary to keep seeds pure if multiple varieties are grown. Allow ears to mature and dry on the plant. However, do not let sweet corn varieties dry on the stalk during high temperatures because they can ferment, ruining the seed. Recommended minimum population for seedsaving: 100–250 plants.



**Sweet Corn** High sugar content in sweet corn types are due to genes that control conversion of sugar to starch. The sugars are distributed throughout the kernels rather than in a layer. Dry, mature kernels have a wrinkled appearance. Kernel color develops as the ears ripen past the milk stage. Typically sweet corns are harvested and eaten in the milk stage.

**Golden Bantam Improved** Genuine old-fashioned corn flavor. The original strain of this legendary variety was introduced in 1902, and this improved strain produces even larger, more tender ears on tall plants. Vigorous, early growth, approx 80 days to maturity. 100 seeds/packet. **TS360 H L N \$4.95** 

**Maricopa** Grown along the Gila River in the late 1800's and collected by early prospectors. Kernels are white at fresh eating stage and then mature to beautiful multicolored yellow, red, chinmark, and blue. Good corn flavor, moderately sweet. **ZS127 H L S \$4.95** 



**Stowell's Evergreen** Popular across the country for more than 160 years. "King of All White Sweet Corn Varieties". Sweet, 10' ears on 7' stalks. 90+ days. **TS361 H L N** \$4.95

#### Seed Saver Size Packets

Corn is a unique plant and requires special attention from those wanting to save seeds, including growing many more plants than an ordinary seed packet provides. These special foil packets contain 250 seeds for a genetically healthy population, as well as growing and saving info. (This size counts as 5 packets in the Native American Seed Request Program.) Currently available for 7 varieties, **\$15.95** per packet:

Chapalote ZP090.SS
Dia de San Juan
ZD084.SS
Glass Gem ZP103.SS

Hopi Blue ZF029.SS Onaveno ZT111.SS Pima 60-Day ZL152.SS Reventador ZP092.SS

### More Corn/Maize

\$3.25 Unless otherwise indicated

**Dent Corn** Hard endosperm surrounds soft sugary layer in dent corn types. The soft starch shrinks as it dries, creating a 'dent' in the top of the kernel. Ears are typically hefty and plants tall and strong. Dent varieties can be ground for a fine cornmeal, roasted in the milk stage, or nixtamalized for tortillas and tamales. Dent corns are also used in many industrial corn products and for animal feed.

**Dia de San Juan** An all-purpose white corn used for everything by the Mayo. From north of Alamos, Sonora. Planted on the Dia de San Juan (June 24) when the coming of the summer rains is celebrated. Grows 10'+ tall. Staff favorite for green corn tamales and roasting corn. ZD084 H L S B Seed Saver Size: ZP084.SS

**Mayo Tuxpeño** Originally collected in Saneal, Sonora, Mexico. Large fat ears on 10–12' tall plants with yellow, blue and yellow, or pink ears. **ZD083 H L S B**  **Tarahumara Tuxpeño** Medium to large ears with white, orange, and yellow dented kernels. Like many landrace maize varieties, occasional striped kernel ears present. Stalks can reach 10' tall. More commonly grown at slightly lower elevations within the canyons of the Sierra Tarahumara. A general purpose corn used for elotes, tamales, and tortillas. A high number of rows and kernels per row, making it very productive. **ZD090 H L S** 

**Flour Corn** Kernels are composed largely of soft starch, white in color. Color is found in thin outer layer that has a slightly dull opaque appearance. Flour corn can be easily ground into a fine meal for bread, piki, or atole. Flour varieties harvested in the milk stage are used for chicos and elotes. Flour types are the best for parching as they are not too hard. Dried kernels can be nixtamalized for posole.

**Hopi Blue** Blue kernels are ground to make ceremonial piki bread. Dry-farmed below the Hopi mesas. Plants tend to be short (less than 5' tall with tassels) and early-maturing. 62 days to pollination, 106 days to dried ears from planting at the Conservation Farm in Patagonia, Arizona (4,000'). **ZF029 H L S Seed Saver Size: ZF029.SS** 

San Felipe Pueblo White From the pueblo in northern New Mexico. Used for meal, whole kernels in stews, and chicos. Traditionally irrigated. **ZF053 H S B** 

**Tarahumara Harinoso de Ocho** Distinctive large flat white kernels on large ears. Grown at low elevations in the Barranca del Cobre, Chihuahua. **ZF057 L S B** 

**Tohono O'odham 60-Day** Extremely fast-maturing, desert-adapted corn traditionally grown with the summer rains in the 'ak chin' floodwater fields of the Tohono O'odham. Produces short (6–10") ears with white kernels on short plant stalks. Usually roasted and dried before being ground into flour. The plants are remarkably tough — in our 2012 growout in Tucson, this variety produced on rainwater alone. **ZF016 H L S F M** 

**Yoeme Blue** Smallish kernels range from steel blue to dark purple on small cobs. The plants are 3–4' tall and bushy. They are heat tolerant and fast growing. Originally collected on the Salt River Pima Reservation in Arizona, this is one of the few low elevation blue corn varieties in our collection. **ZF024 L S M** 



#### Find more varieties at nativeseeds.org

**Flour/Flint Corn** Diversity present in landraces can prevent them from fitting into distinct categories. These varieties have kernels with a majority soft endosperm like flour types but still retain some flint endosperm characteristics within some kernels. These types can be used just like flour and flint/popcorn types. With careful selection, seed savers can promote desirable traits within the future generations.

**Guarijío Maiz Amarillo** Collected from a Guarijío farmer in Sonora, Mexico. A dry-farmed, semi-flint corn with yellow and some white kernels. Used for tamales, atole, pinole, and as elote. Plants were over 8' tall and very productive when grown at the Conservation Farm. **ZT045 H L S B** 

**Onaveño** An ancient grinding corn used for pinole, cornmeal, and tortillas. From along the Rio Mayo in Sonora. Flinty, cream-colored kernels, with occasional pink and purple on tall plants, ca. 8–10'. Pollination process can withstand high temperatures. Late maturing. **ZT111 H L S B Seed Saver Size: ZT111.SS** 

**Pima 60-Day** A traditional corn grown by Ramona Farms on the Gila River Reservation. Very fast maturing and similar to Tohono O'odham 60-day. About 20% flinty kernels and 80% flour kernels, the perfect texture for making the Pima corn dish Ga'ivsa. **ZL152 L S B Seed Saver Size: ZL152.SS** 

**Tarahumara Apachito** Kernels are typically a pearly light pink to dark rose-colored and occasionally white or yellow. The fastest maturing Tarahumara corn in the NS/S collection. Short plants. Used for cornmeal, tor-tillas, atole, and pink variants are used to prepare *tesgüino*, a corn beer. **ZT033 H S** 

**Tarahumara Maiz Caliente** Called *caliente* because it is planted by the Tarahumara at the hottest time of the year. Grown in the lower canyons, the tall plants bear long ears of small apricot/copper-colored kernels. **ZT039 H L S B**  **Tarahumara Serape** This gorgeous Cristalino de Chihuahua landrace has beautiful, long slender ears with pearly white, red, or striped kernels. Plants 4–5' tall. **ZT044 H S B** 



#### **Try out ADAPTS!**

Have you ever wanted to learn more about a particular variety before you plant it? Did you ever wonder which NS/S variety or accession is best suited to the climate where YOU are growing? If you want to dig deeper, ADAPTS is the tool for you! This online platform can tell you more about any accession in our seed bank collection. It provides details including information about when and where it was collected and the climate conditions of the collection site. Search tools also allow you to identify seed accessions originating from a climate similar to your own among other features. Visit **nativeseeds.org**/ **get-seeds/adapts** for more information.



### More Corn/Maize

**\$3.25** Unless otherwise indicated

**Popcorn** The slightly translucent kernels are hard and have a soft endosperm that expands and turns the kernel inside out when heated. Popcorn is a subtype of flint corn. They usually have much smaller kernels and ears. Popcorns are most often consumed as popcorn but are also used as polenta and pinole.

**Chapalote "Pinole Maiz"** A stunning corn variety that at one point was widely grown from southern Arizona to Sinaloa, Mexico. One of the four most ancient corns. A gorgeous deep brown color (the only brown corn), ranging to a light tan color. Small-kerneled, with slender ears. Plants are very tall and late-maturing. Makes a sweet meal excellent for pinole. Can also be popped. ZP090 L S F Seed Saver Size: ZP090.SS

**Flor del Rio** A mix of multi-colored and chinmark kernels on small ears (2–6"). Some plants will have deep burgundy stalks and cobs. High concentrations of health-promoting carotenoids and anthocyanin pigments. Collected in Velarde, New Mexico, along the Rio Grande. **ZP093 H L S** 

Glass Gem A stunning variety selected by Carl Barnes, a Cherokee farmer, in Oklahoma. It was developed by crossing many native varieties of varying colors. Produces a diversity of gorgeous, translucent, jewel-colored ears, each one unique. The kernels may be ground into cornmeal or popped. ZP103 H L S B Seed Saver Size: ZP103.SS

**Navajo Copper** Short plants, 2.5–3', with small, beautiful, copper-toned ears. Colors are reminiscent of Southwestern sunsets. Early maturing. Originally collected from a Navajo farmer in New Mexico. A great option for children's gardens! **ZP098 H S** 

**Palomero de Chihuahua** White pointy kernels on small 5" cobs typical of many popcorns. Plants are about 5–6' tall. Grown at almost 8,000' elevation. **ZP099 H S** 

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**Reventador** Old-fashioned pinole corn with translucent white kernels once grown in Arizona with irrigation. Originally from central Sonora, Mexico. It makes a very flavorful, hardy, crunchy popcorn when popped. Requires a long growing season, so it is not recommended for northern climates. Plants grow 6–8' tall. **ZP092 H L S B Seed Saver Size: ZP092.SS** 

**Tarahumara Epachi** A fast-maturing Tarahumara popcorn variety. Pearly white kernels with occasional lavender and purple kernels. Slender 6" ears from 5–6' tall plants. **ZP102 H S** 



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#### All seeds are open-pollinated and non-GMO

#### Cotton Gossypium spp. Cotton seeds can only be shipped to AZ, NM, TX and OK addresses.

Plant: Plant in spring after last frost, 1/2" deep, 12" apart. Plants need a long season for bolls to mature. Approx. 2q/20 seeds per packet. Save Seed: An annual, mainly self-pollinating, but with large showy flowers that attract insects which will cross varieties. Harvest dried pods as they mature. Remove bad seeds and cotton fiber before storing. Recommended minimum population for seedsaving: 5–10 plants.

**Davis Green** G. hirsutum x G. barbadense. An intentional cross between Pima cotton and a Louisiana green cotton, selected by P. Davis in Albuquerque to create richer color and longer fiber. Lint color is variable, pale green, olive, blue-green, or brown. Said to produce a longer fiber than most green cottons. Warmer weather and more mature plants produce a darker green fiber, color deepens with washing. H005 H L S M

### **Cowpea** Vigna unguiculata

Plant: Plant 1" deep and 6" apart, or in basins, into warm soil in spring or with summer rains. Plants will sprawl, trellising can be helpful for some varieties and can produce higher yield. Likes well-drained soil, excessive nitrogen will reduce yield. Pick very small, 2-3", for "green beans" or let dry on vine for dry peas. Approx. 5g/25 seeds per packet. **Eat:** This plant introduced from Africa loves the heat and deep roots help it tolerate drought, so it produces very well in the low desert. Many ways to enjoy: pick pods when very small (2-4") for "green beans". Shell out the green peas and cook fresh, or let them dry on the vine for dried peas; both have a wonderful distinctive flavor. The young leaves can also be cooked as greens and have a good flavor. Save Seed: An annual that is mainly self-pollinating. Large, showy flowers attract pollinators. Dried pods should be harvested throughout the growing season. Mature pods will split open if left on the plant. Recommended minimum population for seed- saving: 10–25 plants.

Bisbee Gray A Bisbee gardener and seed saver selected and stabilized this speckled cowpea out of the Bisbee Black variety. Both she and our partner farmer at Ransom Ranch near Bisbee say it's very productive! V021 H S

Bisbee Black Original seeds came from a Native Amer-

ican in Bisbee, Arizona, who gave them to a truck driver,

who passed them on to an NS/S member in Missouri. Solid black seeds, a good producer in the low desert. V001 H L S

Guarijío Muni Café A small beautiful bean with a dark eye. From the Rio Mayo watershed in Sonora, Mexico. V007 L S B



#### Favorites Members Only **Bulk Seed Available**

many years under the name "Sacaton Aboriginal." Pimans planted cotton "when the mesquite began to leaf out." A stunningly beautiful plant. H002 H L S

**Sacaton Aboriginal** G. hirsutum var. punctatum.

Grown by the Pimans for food and fiber until 1900. Padre Kino noted its use for weaving into clothing and

blankets. This variety, related to Hopi cotton, was

maintained by the Field Station in Sacaton, Arizona, for

### \$4.25

\$3.25

### More Cowpea

Mayo Colima From Sinaloa, Mexico, the seeds are shades of beige to orange with a dark ring around a white eye. V003 H L S B

Mayo Speckled The pinto bean of cowpeas! A colima variety with pinto bean mottling over light chocolatecolored seeds. From Los Capomos, Sinaloa. V015 **HLSB** 

Pima Bajo "Tukwupoikam" (Black eyes it has) Originally from the Pima Bajo living near the Rio Yaqui in Onavas, Sonora. The small white beans have black and brown eyes. V009 H L S B

Tarahumara From a remote village in Batopilas Canyon in the Sierra Madre. The seeds are predominantly cream to beige with occasional brick- or black-colored seeds. Later maturing. V019 H L S B

Cucumber Cucumis sativus

seedsaving: 5–10 plants.

\$3.25 Plant: Cucumbers prefer direct sun and warm growing conditions. Plant in rich, warm soil 1" deep and 6" apart. Give the long vines a trellis to climb or space to sprawl. Approx. 0.8 g/30 seeds per packet. Eat: A cooling and crunchy summer favorite. Pick when young (1.5-2 inches diameter) for best eating. Save **Seed:** Cucumbers produce separate male and female flowers. Females can be recognized by their ovaries at the base of the blossoms. Unless hand-pollinating techniques are used, bees are primary pollinating agents. Provide at least 1,600 feet (488 meters) between varieties. Recommended minimum population for

Armenian Long Botanically actually a melon (Cucumis melo), this unusual, 12-18" long "cuke" has pale green, thin ribbed skin, and a mildly sweet flavor and good

crunch. Thrives in hot weather. TS318 H L N

Beit Alpha A crisp, delicious, thin-skinned cucumber, great for both salads and pickling. Middle Eastern heritage makes this a heat tolerant and productive plant. Pick fruit when small, 6–8". TS319 H L N F

Tetapeche Gray Mottled These speckled seeds look

like wild beans. They are pea size with white eyes.

From a market in Sonora, Mexico. V005 H L S B

**Texas** The color of red sandstone, this cowpea is from

the Eagle Pass area of Texas. A heat-tolerant "pole

Tohono O'odham "U'us mu:n." A gorgeous black and

white bean with variable mottling, may be all black

(occasionally brown) or splotched on white. Excellent

for green beans in the low desert. Fast maturing.

Yori Cahui Collected from the village of Ahome, near

Los Mochis in Sinaloa. Our demonstration garden growout produced lots of "yard long" beans that

thrived in our record-breaking heat. Great low desert

bean" with superior flavor. V020 H L S

V006 H L S F B

green bean. V014 H L S B



## Devil's Claw Proboscidea spp.

**Plant:** Peel seed tips and presoak overnight for better germination. Plant with summer rains, 1/2" deep, and allow 2–4' between plants. Plants respond to hot, humid conditions of summer monsoons. Approx. 1.5q/25 seeds per packet. Eat: Cultivated by many southwest tribes, mostly for their use in basketry. However, the seeds are rich in oil and protein and dried seeds can be peeled and eaten. The young green claws are also edible and can be prepared much like okra. Save Seed: Varieties of this insect-pollinated annual will cross. Allow pods to dry and mature on the plant; harvest when they begin to open. Seeds can be removed with ice picks or pliers; be careful not to get poked by the razor-sharp claws. Recommended minimum population for seedsaving: 25-40 plants.

**Colorado River** *P. parviflora* var. hohokamiana. White-seeded variety with long, 12" claws. Collected from Needles, California, west of the Colorado River. R019 L S

**Domesticated Multiclaw** Treasured by weavers as many of the pods split into 3 or 4 claws, instead of just two. Claw length around 8 inches. R006 H L S M San Carlos Apache Domesticated Moderate-sized claws and white seeds. Collected from plants in fields of blue corn on San Carlos Reservation. R016 H L S

Tohono O'odham Domesticated P. parviflora var. hohokamiana. "I:hug" ("ee hook"). Selected by basketmakers for the extremely long claws (up to 15"). White seeds. R004 H L S

## Eggplant Solanum melongena

**Plant:** In the spring after soil reaches at least 70°F, plant seeds directly in the garden 1/4" deep, or start indoors and transplant after all danger of frost. Allow 15" spacing between plants. Approx. 0.1g/25 seeds per packet. **Eat:** This versatile vegetable takes on the flavor of whatever its cooked with, and its meaty texture adds substance to a dish. Save Seed: Allow fruits to mature past eating stage till they begin to turn brown. Cut lower half of the fruit into 1" squares and blend or food process. Add water and stir. Good, clean seeds will sink to the bottom. Rinse and dry on a paper towel. Recommended minimum population for seedsaving: 6-20 plants.

Black Beauty Black Beauty was introduced in 1902 and remains the world's common market eggplant because of its large size, 6", and earliness, 74 days to maturity. Black, shiny fruits. TS321 H L N

**Ping Tung Long** A productive Asian-style eggplant with beautiful bright purple narrow fruits 12–18" long. Mild flavor with no bitterness; no need to peel the tender skin. Organically grown. TS322 H L N



\$4.95

#### \$3.25

## Fava Bean Vicia faba

**Plant:** Soak seeds overnight for better germination. A cool season plant in the low desert, plant in fall or late winter for spring harvest. In higher elevations or more northerly climates, plant in early spring. Plant seeds 6–8" apart and 1" deep. If pollinators are limited in your area, gently shake flowering plants each morning to encourage pollination and fruit-set. Approx. 15 seeds per packet. **Eat:** Fava beans are nutritious and have a wonderful fresh flavor right from the garden. The beans can be eaten as fresh shelled beans before mature, or as dry beans. The young greens from the top of the plant are delicious in salads, and older leaves can be used as cooked greens. **Save Seed:** Favas are self-pollinating, but the showy flowers can attract insects that cause crossing. Isolate varieties by 160' or more. Let seed mature and dry on plant, harvesting only after pods start to turn black. Recommended minimum population for seedsaving: 10–25 plants.

**Broad Windsor** Classic, largeseeded fava with strong, upright, 3–6 foot tall plants bearing large seeds for fresh shelling. **TS010 H L N** 

**Cuarteles** Originally collected in 1988 north of Española in Cuarteles, NM. Plants grow 1.5–2' tall. The seeds are pale green. Very productive at our Patagonia, AZ farm. **FV022 H L S** 

#### Let Plants Work for You: Fertilizers

Plant legumes — beans, peas, cowpeas, favas — to increase nitrogen and beneficial nitrogen-fixing microbes in soils. While growing, most of the nitrogen produced by microbes on legume roots goes to the production of high-protein seeds, but if left in the ground after harvest, decomposing roots and microbes will continue to add to soil fertility. Suggested varieties: Tohono O'odham Cowpea **V006** and Yoeme Purple String Bean **PC071** for warm season, and Salt River Pima Pea **Q009** and Cuarteles Fava **FV022** for cool season.

### Gourd Lagenaria siceraria

**Plant:** Scarify and soak seeds for better germination. Sow 1" deep after soil warms in spring. The long, climbing vines require plenty of room. Plant next to a fence or trellis, or in basins under a tree. Requires plenty of water throughout the long growing season. Approx. 1.5–3.5g/15 seeds per packet. **Save Seed:** Annual. Varieties will cross-pollinate. The night-blooming white flowers are moth-pollinated. Fruits should mature on the plant until the stems are brown and the fruit lightweight, or until frost. Dry until the gourds are beige and the seed can be loosened by shaking. Interior of fruits are toxic, so gloves and masks are recommended when processing gourds. Recommended minimum population for seedsaving: 5–10 plants.



\$3.25

#### Letters at the end of descriptions refer to the key (above) — all shapes may not be currently available.

**Apache Dipper** Originally collected in Peridot, AZ, on the San Carlos Reservation. The neck handle can be up to 12" long, and bowls around 5–7" diameter. (g) **M023 L S** 

**Drum Gourd** Very large round or egg-shaped gourds, the largest in our collection. Donated by an lowa grower who received them in the late 80s and knew them as African Drum Gourds. Potential to grow to 50–90 lbs with a long enough season and plenty of sun, water, and rich soil. (h,d) M081 L S

**Mayo Bilobal** Medium to large gourds with small upper chamber. Collected in the Mayo River Valley in southern Sonora, Mexico. Traditionally used as canteens, strung with ixtle (agave fiber) for carrying. (c) **M002 L S B** 

#### \$4.95

#### All seeds are open-pollinated and non-GMO

#### **More Gourd**

**Mayo/Yoeme Deer Dance Rattle** Fruit shapes vary slightly from tear-drop to short-handled dipper. Used to make rattles for the Deer Dance. (d,h) M031 L S

**Peyote Ceremonial** A very small (2–4") bilobal or dipper gourd shape used for crafts and as rattles by the Native American Church. Plants are incredibly prolific. Smaller vines and faster maturing than most gourd varieties. (e) **M029 H L S F M** 

### Greens

**Santo Domingo Dipper** Short-handled gourds have a medium to large bulb. A few long-handled types may be present. From Santo Domingo Pueblo, New Mexico. (j) M008 H L S B

**Tarahumara Small Bule** Small, 6–10" round gourds with short necks. Used for small hand rattles, tobacco containers, or small canteens. (d) M047 H L S B

**Zia Pueblo Rattle** Round rattle gourd from Zia Pueblo in New Mexico. Produces a mix of flattened and pearshaped fruit. Most are 4–6" across. (h,d) M068 H S

#### \$3.25

**Plant:** Except for Malabar Spinach, these do best as cool season plants in the low desert. Other planting details vary, see instructions on seed packets. Packet sizes vary, see info under each entry. **Eat:** Greens are excellent sources of vitamins, calcium, and iron. All can be used fresh or cooked. **Save Seed:** Varies by species; see information and instructions on seed packets.

**Arugula** *Eruca sativa*. Wonderful, peppery distinct flavor that is treasured by nutritionists and favored by gourmets. Bushy, 1–2' plant. Grow year-round fresh greens in the desert. Cold and heat tolerant. Easy to grow. Approx. 1g/350+ seeds per packet. **TS134** 

**Chamisal Quelites Verdes** Atriplex hortensis. An orach or "mountain spinach" collected at Chamisal, near Taos,

New Mexico, at 7,500'. Grow in the cool season in the low desert. Orach has a flavor milder than spinach and can be used like spinach, fresh or cooked. Approx 2g/120 seeds per packet. **GR017 H L S** 

**Dwarf Siberian Kale** *Brassica napus*. Ruffled, delicately flavored leaves. Compact plants, approximately 1'. Hardy variety, perfect for small gardens. Approx 0.5g/150 seeds per packet. **TS103 H L N** 



### **More Greens**

**Lacinato Kale** Brassica oleracea. Ready 50–60 days from transplanting. Dark blue-green savoyed leaves. Winter and summer hardy. Highly adaptable and can be grown almost year-round in many locations. Tender, succulent, and sweet as steamed greens. Approx 0.5g/150 seeds per packet. **TS107 H L N** 

**Magdalena Acelgas** *Beta vulgaris. Acelgas* is Spanish for chard. A family heirloom from Magdalena, Sonora, donated by Jesús Garcia and grown out at the Mission Garden Project of Tucson. Shorter stems than modern chard varieties, it grows well through winter and into the summer in the low desert. Approx. 4g/200 seeds per packet. **GR016 H L S F** 

**Mostaza Roja** *Brassica* sp. "Mequasare." A wild mustard with tender, simultaneously sweet and spicy. Use in salads or as cooked greens. Plant with summer rains or in the fall in the low desert. Very productive. Approx. 0.2g/100 seeds per packet. **GR008 H L S M** 

**Purple Orach** Atriplex hortensis. Deep purple to maroon leaves are great fresh in salads, as a microgreen, or a cooking green. Use like spinach. Slightly salty, nutty taste. Beautiful plant that is attractive in winter and spring gardens in the low desert. Approx. 1g/100 seeds per packet. **TS201 H L N** 

**Rainbow Mix Swiss Chard** *Beta vulgaris.* Beautiful mix of colors. Dark green, savoyed leaves. Enlarged stems with crisp and delicate flavor. Plant early and often. **TS211 H L N** 

**Red Malabar Spinach** Basella rubra. Not a true spinach. Thrives in hot weather, unlike regular spinach. Beautiful vining plant with dark red stems and deep green leaves rich in vitamins. Plant in the warm season. Approx. 1g/50 seeds per packet. **TS202 H L N** 

**Tarahumara Mostaza/Mocoasali** Brassica campestris. Old World introduction; this wild mustard is often found in fields in Tarahumara country. Tender, slightly spicy leaves are harvested when young to be used in a salad or cooked. The flowers also have a wonderful light spiciness. Plant in the fall in the low desert. Approx. 0.2g/100 seeds per packet. **GR005 H L S** 

#### Let Plants Work for You: Weed Suppressors

Make a farmer's life easier with plants that help protect other plants! Mostaza Roja and other mustards may deter insect pests and grazing rabbits and rodents. Big brassica leaves also shade the soil, cooling it and keeping weedseeds from germinating. Allelopathic sunflowers exude germination-suppressors into the soil that keep broadleaf weed seeds from germinating. Watch where you plant extremely suppressive sunflowers like the Ft. Apache, or risk losing crops planted too close!

## Herbs

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#### \$3.25

**Plant:** Most herbs are easy to grow and are quite happy in poor, gravelly soils. They are valuable in the garden for drawing pollinators and repelling pests. See each entry for specific growing information and packet sizes. **Eat:** Herbs add dimension to food with their rich and varied flavors. Our gardens and plates would be lacking without them! **Save Seed:** Herbs are insect-pollinated so members of the same species will cross. Harvest dried seed stalks, and hang upside down for complete drying. Crush to remove seeds, and winnow off chaff.

**Corrales Azafrán** *Carthamus tinctorius*. This red/ orange thistle-like flower is used in cooking as a saffron substitute. A sunflower relative, azafrán can be grown as an annual flower and keeps well as a dry flower (though very prickly). Collected in Corrales, New Mexico. Plant seeds with the summer rain about 1/4" deep. Plants grow 3–4' tall. Approx. 1g/25 seeds per packet. **HB014 H L S B** 

**Epazote** Chenopodium ambrosiodes. A commonly used herb in southern Mexico. Aromatic foliage has a distinct flavor that is a favorite seasoning for beans.

Also said to reduce the flatulence caused by beans. Approx. 0.1g/200 seeds per packet. **HB015 H L S** 

**Genovese Basil** Ocimum basilicum. Genovese basil's strong flavor and aroma make it the favorite of many for making pesto. This variety is relatively slow to bolt. Approx. 1g/200 seeds per packet. **TS536 H L N** 

**German Thyme** *Thymus vulgaris*. Aromatic leaves and small, pink flower spikes on a short, creeping plant. A long history of medicinal use: thyme oil is antiseptic, tea is mineral-rich, anti-spasmodic. Tolerates relatively poor

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#### **More Herbs**

soil and prefers full sun. Approx. 0.1g/100+ seeds per packet. TS522 H L N

**Guarijío Conivari** Hyptis suaveolens. A cooling drink is made from the jelled, chia-like seed which has highfiber mucilage. Mayo Indians use it for an eye remedy and to control diarrhea. For summer gardens. Plant seed with the summer rains about 1/4" deep. Approx. 0.5g/50 seeds per packet. **HB008 H L S B** 

**Italian Large Leaf Basil** Ocimum basilicum. Larger leaves mean more pesto in a hurry! Sweet and spicy leaves grow to 3–4 inches and are great for salads, including Caprese. Plant in the summer. Approx. 1g/200 seeds per packet. **TS537 H L N** 

Italian Parsley Petroselinum crispum. Flat leaves. The preferred parsley for cooking. Prefers full sun or partial shade, and rich soil. Approx. 0.5g/80 seeds per packet. TS160 H L N

**Mammoth Dill** Anethum graveolens. Garnish salads, soups, fish and more with the lacy leaves of this popular herb! Easy to grow for foliage or seeds. 2–3' tall. Approx. 1g/200 seeds per packet. **TS510 H L N** 

**Mrs. Burns' Famous Lemon Basil** Ocimum basilicum. This famous basil variety was grown for 60 years in southeastern New Mexico by the mother of NS/S cofounder Barney Burns. Readily self-seeds. Amazing lemon flavor. Heat and drought tolerant. Plant seed in spring or with the summer rains about 1/4" deep. Approx. 0.2g/50 seeds per packet. **HB003 H L S F** 

Sweet Italian Basil Ocimum basilicum. Larger, tender leaves and deep, rich basil flavor. Plant in the summer. In the low desert, give plants some shade to get larger leaves. Approx. 1g/200 seeds per packet. TS535 H L N

Sweet Marjoram Origanum majorana. This herb has a wonderful, delicate flavor. Related to oregano, and can be substituted for it, but has a sweeter, more floral taste. Marjoram does not tolerate subfreezing temperatures. Approx. 0.2g/600 seeds per packet. TS540 H L N

Tarahumara Chia Salvia tiliafolia. A plant native from southeastern Arizona to South America. The cute flowers and foliage make it an attractive landscape plant, unexpectedly lush for summer desert gardens. Gathered and used medicinally by the Tarahumara. Plant seed with the summer rains about 1/4" deep. Approx. 0.2g/50 seeds per packet. **HB007 H L S B** 

**True Greek Oregano** Origanum vulgare hirtum. Deep, genuine, oregano flavor! Soft gray-green leaves. 12–18" tall. Plant in fall through early spring in the low desert, spring through summer in colder climates. Approx. 0.1g/200 seeds per packet. **TS516 H L N** 



## Lettuce Lactuca sativa

**Plant:** Water lettuce at base to avoid rot. To assure a steady supply, stagger plantings every 10 days, planting smaller amounts more often as weather becomes hot. Plant seeds 1/8" deep and 1" apart. For full heads, thin to 8". A cool season plant in the low desert. Approx. 1g/700 seeds per packet. **Eat:** Cool and crisp or soft and buttery, there are many wonderful colors and textures to choose from. Garden fresh is the best! **Save Seed:** Lettuce produces perfect yellow flowers on tall, bushy seed stalks. Since flowers self-pollinate, there is less chance of cross-pollination between varieties. For purity, separate at least 10 feet (3 meters). Recommended minimum population for seedsaving: 5–10 plants.

Black-Seeded Simpson Looseleaf Sets the standard by which to measure all looseleafs. Large, light-green, broad, frilled leaves with exceptionally crisp, fresh flavor. TS120 H L N

**Cimarron Romaine** Adds color to salads along with the unmistakable texture of a delicious romaine. Broad, flat, crisp, sweet, and juicy leaves range from dark red to bronze. Very attractive. **TS124 H L N** 

Jericho Romaine Large heads of bright green romaine have excellent flavor and keep their sweet crispness well into early summer. TS126 H L N F

Lettuce Mix This diverse mix of lettuce varieties contains equal proportions of 5 varieties. A beautiful blend of colors, tastes, and textures for your salad. TS255 H L N **Oakleaf Looseleaf** This timeless heirloom is very popular because of its tender, thin, delicious leaves that are similar to oak leaves in shape. **TS122 H L N** 

**Red Saladbowl Looseleaf** The beauty, flavor, and tenderness of Saladbowl with solid red color, fuller head, and slightly more compact shape. Delicious. Withstands hot weather as well as the green saladbowl. Excellent flavor! **TS127 H L N F** 

**Summer Bibb** Beautiful and mild-flavored, wide green leaves with wonderful bibb tenderness. Summer Bibb grows quickly in cool weather. When the heat comes on it resists bolting longer than buttercrunch bibb. Organically Grown. **TS123 H L N** 

**Summertime Crisphead** Iceberg lettuce. A reliable offering for crisp, tender heads even as summer temperatures begin to rise. **TS233 H L N** 

## Luffa Luffa operculata

**Plant:** Scarify and presoak seeds for 24 hours. Sow 1" deep in the spring when temperatures are warm. May take several weeks for germination. Plant next to a fence or trellis so vines can climb. Requires plenty of water throughout the long growing season. Approx. 1g/25 seeds per packet. **Save Seed:** This annual is insect pollinated. Allow fruits to dry on the plant before harvesting the seeds, which can often be shaken directly out of the fruits. Recommended minimum population for seedsaving: 5–10 plants.

**Wild Luffa** From dooryard gardens along the Rio Mayo. Produces copious quantities of 2–3" fruit. Removing the thin skin from dried fruits reveals the small scrubber "sponge." In the low desert, plant with summer rains. M012 H L S B



\$4.25

### **Saving Seeds in the Southwest:** An invaluable resource for southwestern gardeners and seed savers

Whether you are a grower serious about increasing seed production on your farm, or a backyard gardener wanting to save seed on occasion, *Saving Seeds in the Southwest* will give you the information you need to be a productive seed saver.

**Newly updated!** Now includes more general information and crop-specific information on 3 additional crops: wheat, tobacco, and devil's claw. Spiral bound, easy to use.

#### **Topics include:**

- \* Understanding trait inheritance and plant life cycles
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- \* Safe seed storage, and more.



This little book includes detailed information for 32 popular crops that grow well in Southwestern gardens, plus a quick reference guide on isolation distances and seed saving techniques.

Native Seeds SEARCH staff members Joy Hought and Melissa Kruse-Peeples have produced this great resource with our region in mind, but it would be useful for gardeners in most any climate. The 96-page guide is affordably priced and is part of NS/S's effort to spread seed-saving knowledge far and wide.

English (2nd edition) PB2017 \$14.95 Spanish (1st edition) PB2019 \$9.95

### Melon Cucumis melo

**Plant:** In the spring after soil warms or with summer rains, plant 3–5 seeds 1/2" deep directly in basins, 24" apart with plenty of room for sprawling vines. Melons like soil rich in compost. Overwatering can dilute flavor of fruit. Approx. 1g/25 seeds per packet. **Eat:** Melon fruits are highly varied, with orange, green or white flesh. Flavor varies greatly too, depending on variety and growing conditions, from sugary sweet to crisp, light and refreshing. **Save Seed:** Annual plants are insect pollinated. Male and female flowers form on each plant. Hand pollinate and bag flowers, or separate varieties by 1600 feet (488 meters). Remove seeds from ripe cut fruit, wash off fibers, and spread seeds out to dry. Recommended minimum population for seedsaving: 5–10 plants.

**Acoma** Fruit are round or oval, with smooth yellow skin and ribs. Flesh is white to salmon-colored with a mild, sweet flavor. **F014 H S** 

**Chimayo** Spanish heirloom cantaloupe from northern New Mexico. Oval fruits have netted skins and sweet, orange flesh. **F003 H S B** 



#### \$3.25

### **More Melon**

**Cochiti Mix** A mix of native and honeydew types collected from Cochiti Pueblo. Fruit vary from round, smooth honeydews with pale green flesh to elongated, oval fruit with ribs and orange flesh. **F020 H S B** 

**Esperanza de Oro** A "native" melon, interbred for years with Crenshaw melons and selected for size and sweetness in Corrales, New Mexico. **F017 H L S B** 

Hopi Casaba Two distinct fruit types within this collection: (1) wrinkled, round, yellow-green fruits; and (2) smoothly elongated, yellow-green fruits. Both have pale green to orange flesh. Juicy with a mild flavor. Tasty with chile, salt, and lime. Good keeper if unbruised. F011 H L S B

**Isleta Pueblo** Very diverse ribbed fruit shapes, some orange- and some green-fleshed; from Isleta Pueblo, New Mexico. Tolerates heat. **F004 H L S B** 

**Mayo Minol** A sweet, yellow-fleshed melon dry-farmed in El Saneal, Sonora. From the Mayo or Yoreme people of southern Sonora. Very tasty! **F001 H L S F** 

Melon de Castilla A deliciously sweet melon with pale yellow, smooth skin. From the Sierra Madre Mountains. F016 H L S F

**Melón Mexicano** A small, very sweet cantaloupe-type melon originally collected in Redford, Texas. It is associated with the Jumano people. The farmer who gave the

seed said "old timers used to plant it." Fruits 4–6" in diameter. F027 L S M

**Navajo** Fruit have green to yellow skin. Shape ranges from banana to football to round. The flesh color is mostly white. Collected at a market in Shiprock, New Mexico. **F026 H S** 

Navajo Mix Obtained from a melon entered in the Navajo Nation Fair in Shiprock, New Mexico. Produces three fruit types: ribbed, smooth ovals, and elongated. Mild flavored flesh is pale green to light orange. F009

O'odham "Ke:li Ba:so" "Old man's chest," referring to the wrinkly appearance of the fruit. A favorite of Tohono O'odham and Pima low-desert farmers. Fruits are casaba type with light green flesh. Very tasty. F005 H L S F M

**Ojo Caliente** From northern New Mexico. The oval fruits are smooth-skinned and can weigh 5–7 lbs. Pale green flesh with a tinge of orange is sweet and juicy with excellent flavor. Harvest ripe fruits when bright yellow and aromatic. **F008 H L S B** 

**Santo Domingo Native** Typical of melons grown for centuries in New Mexico pueblos. Fruit are oblong, ribbed, and mostly smooth, with some netting or "cracking." The flesh is orange and tasty. **F018 H S** 


## Okra Abelmoschus esculentus

#### Okra seeds can only be shipped to AZ, NM, OK, and TX addresses.

**Plant:** Scarify and soak seeds overnight in the spring after soil warms or with summer rains, plant 3–5 seeds 1/2" deep directly in basins, 24" apart with plenty of room for sprawling vines. Melons like soil rich in compost. Overwatering can dilute flavor of fruit. Approx. 2g/25 seeds per packet.

Eat: All parts of this introduced African plant are edible. The leaves may be eaten raw or cooked. Fruit are versatile in the kitchen: try them fresh, pickled, fried, or in gumbo. Fruit is ready to pick when they snap off the stalk. Save Seed: This annual is insect-pollinated, so varieties will cross. For purity, separate varieties by 800 feet (244 meters). Allow the pods to dry and mature on the plant. Harvest before pods split open. Remove seeds carefully. Recommended minimum population for seedsaving: 5–10 plants.

Beck's Gardenville An heirloom from San Antonio, Texas. A vigorous, very productive, and drought-tolerant plant with green, short, stocky ribbed pods that are tender up to 3" long. Indeterminate producer that can be harvested over several months. OK002 H L S B

**Eagle Pass** From the Carrizo Springs/Eagle Pass area in Texas. Good in gumbo or cut and fried. Not slimy or stringy when cooked. Perfect for those who claim they don't like okra! Plants bear large pods beginning near around level, up to 5'. OK004 H L S B

Guarijío "Nescafe" From Sonora, Mexico. The beautiful yellow flowers have red throats. The plants are very broad and bushy, with large leaves, and are very productive. Young pods are fired, boiled, or added to stews and gumbos. Seeds can be roasted, ground, and used as a coffee substitute. OK001 H L S

Texas Hill Country Red Attractive plant with beautiful, colorful, bronze-red fruit. Produces well in summer heat. Plants are 5-6' tall with dark purple stems. Slender pods can be slivered and eaten raw in salads or cooked. OK003 H L S

## Lynne's Easy Refrigerator Okra Pickles

Even some of us who don't like okra really liked these pickles when volunteer Lynne Hakanson brought them to share! Thanks Lynne!

- 2 cups cider vinegar
- 1 3/4 cups water
- 1 tsp salt
- 10 dried chiltepines
- 10 black peppercorns
- 1 tsp yellow mustard seed
- 3 large garlic cloves
- 1 slice of fresh onion
- 1 quart of 3–4 inch fresh okra

For the brine: In a medium sauce pan, bring vinegar, water and salt to a boil. Reduce heat and simmer 5 minutes. | Rinse okra. Trim stems to 1/8th inch of stem cap, no less. | Put chiltepines, peppercorns, garlic & mustard seed in a clean, scalded quart glass jar. | Pack okra lightly into jar and place the onion slice on top of okra. Cover entirely with simmering brine, leaving 1/2 inch headspace. Place lid on jar. | Allow to sit for 36 to 48 hours at room temperature, away from direct light. | Refrigerate for 5 days. Taste. May need 2 or 3 additional days to complete pickling process. | Keep refrigerated. They will keep for 3 to 4 weeks. Makes 1 quart.





**Texas Hill Country Red** 

20-50 plants.

# **Onion** Allium cepa

**Plant:** Onions prefer well-drained, rich soil, high in organic matter. Water frequently, especially during dry spells. See each entry for packet sizes. **Eat:** Whether in the lead or as a supporting player, onions are one of the most necessary and versatile foods in the kitchen. Onions can be baked, boiled, braised, grilled, fried, pickled, roasted, sauteed, or eaten raw. Save Seed: Onions produce perfect flowers, yet require cross pollination. Stigmas in each flower become receptive only after its own pollen is shed. Crosses can and do occur between flowers on the same plant, mostly by bees. Separate from other flowering Allium of the same

species by at least 1,600 feet for satisfactory results. Recommended minimum population for seedsaving:

Chives A. schoenoprasum. Experience the delicious, fresh, delicate-onion flavor of chives on baked potatoes. Handsome, edible, pink flower globes provide a source of long-lasting cut flowers. 12" tall. Approx. 0.5g/300 seeds per packet. TS507 H L N

Evergreen Hardy Perennial Perennial. A delicious bunching onion. Leave some in the garden. Evergreen is a true multiplier onion and will divide itself perennially. Resistance to thrips, smut, and pink root rot. Approx. 1g/425 seeds per packet. TS140 H L N

Texas Early Grano The mother of modern super sweet onions like Vidalia. Large globe, white flesh, nice flavor. Resistant to pink root rot. Approx. 1g/250 seeds per packet. TS143 H L N

Panic Grass Panicum sonorum

Plant: Plant with summer rains by broadcasting. Rake in. Protect germinating seeds from birds. Approx. 0.5g/500 seeds per packet. **Eat:** If you can get to it before the birds do, harvest the tiny seed for grain. Try replacing a guarter to a half of the flour in recipes with finely ground seed. Panic Grass is a native domesticate of arid America. Save Seed: A wind-pollinated annual. Birds love the seed, which is borne in loose heads. Protect with paper or cloth bags. Harvest when dry, strip seeds, and winnow off chaff. Recommended minimum population for seedsaving: 25–40 plants.

Guarijío "Sagui." A rare grass collected by NS/S cofounders Gary Nabhan and Barney Burns during a 2-day burro trek to remote villages in Sonora, Mexico.

The small golden seed is rich in lysine. Attractive plants are fast-growing and heat-tolerant. Birds love it! 0001 **HLSFB** 



Tohono O'odham I'itoi These wildly popular and prolific multiplier onions were an early introduction to southern Arizona by the Spanish. Today they are eagerly sought out by chefs for their mild shallot-like bulbs and slightly spicy greens. They are very easy to cultivate and in the low desert will grow in response to both winter and summer rains. In cooler regions their growth is in the summer. Rarely flowers; propagate by division of the bulbs. The name l'Itoi signifies the Elder Brother, who is the creator deity in Tohono O'odham legends. Approx. 10 bulbs per packet. Seasonal availability only, beginning mid to late summer; substitution is TS140. B001 H L S F B





## Pea Pisum sativum

**Plant:** This cool season crop should be planted in the fall or winter in the low desert, or very early spring in cooler climates. Plant 1/2" deep and 6" apart. Plants will sprawl, or climb if supported, and can produce until days get too hot. Approx. 10g/50 seeds per packet. **Eat:** The peas in the seed bank collection were traditionally harvested as dried peas, but they are sweet and tender as fresh shelled peas if picked young, before they fill the pod. Pea greens are wonderful in salads. **Save Seed:** Peas produce perfect, self-pollinating flowers. Cross-pollination by insects is possible but rare because pollination occurs before the flower opens. Ideally, different varieties need to be separated 50 feet or with another crop flowering at the same time. Dried pods can be harvested as they mature or entire plants dried and threshed near the end of the season. Recommended minimum population for seedsaving: 5–10 plants.

Yoquivo del Sur From a remote region in the sierra in southern Chihuahua. A beige, smooth seed. Q021 H L S B

**O'odham Green** From Santa Rosa Village on the Tohono O'odham Nation. Good in soups and stews. Also nice and sweet if shelled before peas fill the pod. Smooth, green seeds. Very hardy in low desert winters, doesn't mind a light frost. **Q020 H L S** 

**Oregon Sugar Pod II** Snow pea (edible pods). Famous for its sweet, mild flavor. Delicious raw, in stirfries or steamed "al dente." Tall, 24–30" vines bear smooth, 4" pea pods. Resistant to both pea enation virus and powdery mildew. **TS186 H L N** 

**Salt River Pima** The young peas are nice and sweet when picked early. The dried peas are good in soups and stews. Hardy in the desert, but also does very well at the Conservation Farm (4,000'). **Q009 H L S B** 

Sugar Ann Snap The earliest snap pea. Short 2' vines need no support. Both pods and peas develop well and are exceptionally sweet. Eat fresh in the garden! TS182 H L N

# Radish Raphanus sativus

**Plant:** In the low desert, provide shade in summer or plant only in cool season. Plant often for continuous supply, 1/4–1/2" deep and 1" apart. Approx. 4g/475 seeds per packet. **Eat:** Great crunch and flavor raw... but try them roasted with butter, garlic and herbs to settle the spiciness and bring out their sweetness. The seed pods are also tasty fresh or pickled, and leaves are edible too. **Save Seed:** Radishes produce annual flowers which require pollination by insects, primarily bees. Satisfactory results for home gardeners require no more that 250' of separation. If seed purity is required, separate varieties by 1,600 feet or more. Recommended minimum population for seedsaving: 20–50 plants.

**Easter Egg** What colors will you find when you harvest these fast-growing radishes? Tasty pink, purple, white, and red roots make for an underground treasure hunt, great for the kid in everyone! **TS191 H L N** 

**French Breakfast** The best home garden variety for fresh eating. Crisp, red roots are 3" long with tidy white tips. Flesh is white, crisp and only mildly pungent. Plant early and often. **TS194 H L N** 



#### Favorites Members Only Bulk Seed Available

#### \$3.25

#### \$3.25

## Sorghum Sorghum bicolor

**Plant:** In the spring or with summer rains, broadcast seed and rake in, or plant 1/2" deep and 10" apart. Thin to allow space, as plants will tiller (sprout stalks from base). An excellent cover crop to renew tired soils in arid regions. Approx. 2g/75 seeds per packet. **Eat:** Stalks are chewed for their sweet juice, or press out the juice and boil to make syrup. Seeds can be popped like popcorn or ground to a gluten-free flour. **Save Seed:** A wind-pollinated annual, so varieties will cross. Bag seedheads with paper or cloth bags to protect them from birds. Strip dry seeds from stem and winnow. Recommended minimum population for seedsaving: 10–25 plants.

**Gila River Kaña** Collected from Sweetwater on the Gila River Indian Reservation. Grown for the sweet cane. Cut stalks into small pieces, split open and suck the juices out. **S014 L S B** 

Mayo Broomcorn "Caña de Escoba." Tassel spikes are used to make brooms. Collected near Alamos, Sonora. S003 H L S B

#### Let Plants Work for You: Soil Tillers

Throughout so much of our region, bare soils become compacted and impermeable to our limited rainfalls. Till the soil with some of our acclimatized grasses that flourish in unimproved soil, and while doing so send 6' to 12' of roots deep into the soil profile. After harvest, the roots decompose leaving improved soil texture and increased organic matter. We have also found sorghum is unpalatable to the rabbits and ground squirrels at our Conservation Center. Wheat is a good winter choice where protected from grazers. One irrigation in Tucson will give good ground cover and harvest from Sonoran White Wheat. Suggested Varieties: Panic Grass 0001, White Sonoran Wheat WH001, Gila River Caña Sorghum S014, or any of our other sorghum varieties.

Mountain Pima A red-seeded sugar cane grown by the Mt. Pima for eating. S018 H L S

**Onavas Red** The stalks produce many tillers and are sweet and juicy, with burgundy red seeds. From the Pima Bajo village of Onavas, Mexico. **S004 H L S B** 

San Felipe Pueblo Grown as "sugar cane", these stalks are chewed as a sweet treat. Dark black seeds, and plants up to 5' tall. SO11 H S B

Santa Fe Red From Santo Domingo Pueblo, the seeds are brick red on loose, slender heads. Chew the cut stalks for sweet treat. S009 H S B

Tarahumara Popping The white seeds are traditionally popped and ground into flour. Popped seeds can be eaten as a nutty, tasty snack. Originally collected from Batopilas Canyon in the Sierra Madres of Mexico. Flour is nutritious and gluten-free. **S005 H L S B** 

**Tasagui** Collected from a remote Guarijio rancho in the foothills of the Sierra Madre. This is a tall, sweet, sugartype sorghum. The stalks are eaten like sugar cane. The seed is "black" (very dark red). **S017 H L S B** 

Texas Black Amber Molasses An heirloom from Waco, Texas. Plump black seeds. Used for molasses and silage. S006 H L S B

Tohono O'odham "Ka:na." Produces a mix of red and black seedheads. Crosses with *S. halapense*, Johnson grass. S002 H L S B

White Mountain Apache A red-seeded sorghum from Cibeque, Arizona. **S010 H S B** 



# Squash Cucurbita spp.

**Plant:** In spring after soil warms, or with summer rains, sow a few seeds 1" deep in basins 3–6' apart, allowing room for abundant vine growth. Squash likes soil rich in compost. Approx. 4.5g/15 seeds per packet unless noted otherwise. **Eat:** These landrace squash fruits (especially *C. argyrosperma* and *C. pepo*) can be eaten when small and immature as summer squash, or mature as winter squash. Flowers, seeds, and growing tips of vines are all edible. **Save Seed:** An insect-pollinated annual, varieties of the same species will cross. Allow fruits to ripen and mature on the vine until skin is hard and stem brown. After harvesting, fruit needs to after-ripen for 30 days in cool location. Remove seeds, wash, and dry before storage. Recommended minimum population for seedsaving: 5–25 plants.

Acoma Pumpkin *C. pepo.* Round, thick-fleshed fruits have dark and light green stripes; some turn orange when fully ripe. Grown in northern New Mexico and used as winter squash. **EP045 H S B** 

**Apache Giant** *C. argyrosperma.* Pear-shaped fruits with firm orange flesh from San Carlos Apache reservation. Fruits can grow up to 40 lbs. **EA010 H S** 

Calabaza de la Aguas *C. argyrosperma*. Planted with the rains, or "aguas" by the Tarahumara peoples. From the bottom of Copper Canyon in Mexico. Small to medium-sized fruits have light orange, very sweet flesh. EA004 HLSB

**Chihuahuan Pumpkin** *C. pepo.* A beautiful mix of colors, solid and striped skins with orange flesh. Collected from San Ignacio outside Creel, Chihuahua around 7500' elevation. **EP050 H S** 

Gila Pima Ha: I C. argyrosperma. One of our first squash collections. The light-skinned, pear-shaped squash was

originally collected in Bapchule, Arizona. Tasty with a bit of sweetness to the flavor. The fruits are large when mature, averaging around 15" long by 8" wide. Can also be eaten when young like summer squash. **EA003 H L S B** 

\$3.25

**Grey Zucchini** *C. pepo.* A great summer squash for western regions. Stores well and has an excellent flavor. Approx. 2g/20 seeds per packet. **TS332 H L N** 

**Magdalena Big Cheese** *C. moschata.* One of the oldest types of cultivated squash. Excellent producer of large, light orange, ribbed fruits with a flattened pumpkin shape (like a wheel of cheese), and sweet, bright orange flesh. **EM031 H L S F** 

**Mayo Blusher** *C. maxima*. The fruits are round to elongated in shape and blush pink when fully ripe. The apricot colored flesh is firm and slightly sweet. Good keepers. **EX001 L S M** 





## **Squash Vine Soup**

Perfect when your squash vines are taking over the garden!

- 1.5 qt chicken stock
- 1 small onion, diced
- 1 red bell pepper, diced
- 1 tbsp olive oil
- 4-5 cloves garlic, pressed
- 1 c young squash, diced
- 1 c corn kernels, fresh or frozen
- 3 c squash vine tips, chopped
- 1 c squash blossoms, chopped
- 1 c young amaranth leaves or baby spinach, chopped (optional)
- salt and pepper to taste lime wedges

Sauté onion in olive oil in a soup pot over med heat for 3 minutes. Add red pepper, sauté 2 more minutes, then add garlic and sauté an additional minute. Add chicken stock and bring to a simmer. Add squash, chopped vine tips, corn, additional greens and simmer 20 minutes or until all is tender. Season with salt and pepper to taste. Squeeze a lime wedge into each bowl if desired. **Mayo Kama** *C. moschata.* Butternut-shaped fruit with orange- to salmon-colored flesh, good squash flavor, but not sweet. Productive even in the Phoenix heat. From Sonora, Mexico. **EM032 H L S B** 

**Moctezuma Cushaw** *C. argyrosperma.* Large, greenand white-striped fruits. Collected from an Opata farmer in Moctezuma, Sonora. Apricot flesh, stringy similar to spaghetti squash. Large, knobby peduncles or stems. **EA042 L S B** 

**Mt. Pima Calabaza Mayera** *C. pepo.* Collected near El Seis in Chihuahua, Mexico. Similar to an enlarged spaghetti squash in shape, with occasional green striping of the skin. **EP052 H S** 

**Navajo Hubbard** *C. maxima.* Large fruits with greenblue, gray, green, light pink, or orange skin and tasty orange flesh. Shapes are round with pointed ends and occasional elongated fruits. A common Hubbard across the Navajo Nation. **EX005 H S** 

**Navajo Pumpkin** *C. pepo.* Orange pumpkins dryfarmed in the Big Mountain area of the Navajo Reservation in northeast AZ. Produces medium sized fruits about 6-12 pounds. **EP048 H S** 

**Rancho Marques** *C. moschata.* A beautiful and varied accession from Sonora, Mexico, at around 3,200'. A good keeper with good flavor that gets sweeter with storage. **EM025 H L S B** 

**Rio Lucio** *C. maxima*. Medium to large hubbard-type fruits with extremely variable shapes and colors, orange



42

High Desert

Low Desert

Seed Bank

Non-Collection

## **More Squash**

flesh. From Rio Lucio, New Mexico at about 7500'. EX009 H S

**Silver Edged** *C. argyrosperma.* Grown for the tasty seeds, which are large and white with a silver edge. Seeds are roasted for pepitas or used in pipian sauce. The beautiful round, flattened fruits are white with prominent green mottled stripes. Flesh is unpalatable. **EA015 H L S B** 

**Southern New Mexico Calabaza** *C. argyrosperma.* From a market near Hatch, New Mexico, this largefruited vine requires lots of growing room. Late flowering but fruits are fast growing. Good resistance to squash bugs. **EA049 H S**  Tohono O'odham "Ha:I" C. argyrosperma. A very heat tolerant and rapidly maturing squash from the Tohono O'odham Nation. Prized for the immature fruits, "Ha:al mamat" ("children"), which resemble zucchini. Mature fruits have light orange flesh, mild flavor, starchy texture, and store well. EA014 L S F M

Wild Cushaw C. argyrosperma var. sororia. Called Coyote Breasts or Trickster Breasts. Produces a small, 5"-round, green-striped fruits. Will cross with domesticated cushaw squash (C. argyrosperma). EA040 L S

Yoeme (Yaqui) Kama *C. argyrosperma*. Round and pear-shaped medium sized fruits, some with warting on the skin. Flavorful yellow flesh. From Ures, Sonora, at about 1400' elevation. **EA008 L S** 

# Sunflower Helianthus spp.

\$3.25

**Plant:** Plant seeds in the spring or with the summer rains, 1" deep and 12" apart. Plants can grow 6–9' tall. Approx. 2–3g/25 seeds per packet. **Eat:** A Native American domesticate, the seeds can be eaten raw or roasted, or pressed for oil. Birds love to eat them too. **Save Seed:** Sunflowers are insect-pollinated annuals, and all varieties will cross. Protect maturing seed heads from the birds with paper sacks or cloth bags (pillow cases work great). Allow seeds to dry in the flower heads. Rub out seeds and winnow off chaff. Recommended minimum population for seedsaving: 5–25 plants.

**Conservation Farm Mix** An open-pollinated mix of NS/S varieties planted at the Conservation Farm to attract pollinators and beneficial insects as well as for windbreaks and shade. Heads reach up to 12" in diameter and 8' tall. Includes single flower heads as well as branched diversity with multiple small- to mediumsized heads. Grow for the wonderful, edible seeds! A mix of seed sizes will be black, white, or striped. **IO50** 

**Fort Apache** From the White Mountain Fort Apache Reservation in east-central AZ. 5-9" flower heads borne singly on 5-7' plants. Plump striped seeds with heavy hulls. **1016 H L** 

Havasupai Small-Seeded Collected at Havasupai, this sunflower has black seeds that are much smaller than

any of our other sunflowers. It is a branch variety that has numerous small heads per plant. It was originally collected in the mid-80s and sent to the USDA. We obtained a sample in 1983. **I014 H L S** 

**Hopi Mixed** Tall, single-headed plants, with massive flower heads, that reach 8' or more. The name refers to the seeds which are white/black striped, solid black and gray/black striped. An early collection from Kykotsmovi Village. **IO10 H L S** 

**Tarahumara White** This rare variety with solid gold flowers has all-white hulls. Medium to large heads, ca. 8" across. Plants 6–10'. Canadian Mennonite in origin but grown by the Tarahumara in Chihuahua for over 40 years after some Mennonites there shared seeds. Very beautiful. **1005 H L S M** 





## Tobacco Nicotiana rustica

**Plant:** Plant the tiny seeds in the spring, cover very lightly with sandy soil. Requires warm moist soil to germinate. Can be started indoors and transplanted. Plant seedlings 1' apart. Approx. 0.1g/125 seeds per packet. **Smoke:** Tobacco, used as a sacred and medicinal herb, is an important part of Native American

culture and folklore. Can be used as an organic insecticide (with appropriate caution). **Save Seed:** An insect-pollinated annual, varieties will cross. Remove mature seedheads and crush capsules in a bag or on a tray. Use a fan or light breeze to remove chaff. Recommended minimum population for seedsaving: 5–10 plants.

**Isleta Pueblo** From the pueblo south of Albuquerque, New Mexico. Plants grow to 4.5', including flowers. **N006 H S B** 

**Papante** Tall plants (over 5') with large deer-earshaped leaves and large seed capsules. From Piedras Verdes, Sonora. **N008 H L S** 

**Punche Mexicano** From northern New Mexico, this tobacco was used by early Spanish settlers until the 1930s. **N001 H L S B** 

# Tomatillo Physalis philadelphica

**Plant:** In the spring after all danger of frost, plant seeds directly in the garden 1/4" deep, or start indoors and transplant. Allow 15" between plants. Approx. 0.1g/25 seeds per packet. **Eat:** Tomatillos, "husk tomatoes," are used to make traditional and savory green salsas and stews. Related to ground cherries and Cape gooseberries. **Save Seed:** Flowers are both insect- and self-pollinated, and varieties can cross. Tomatillos begin to ripen when they turn from green to light yellow. When the husk is dry and begins to split open at the bottom, the fruit can be harvested for seed. To remove seeds, puree ripe fruit with water in blender. Pulp will rise and seeds will sink. Recommended minimum population for seedsaving: 2–10 plants.

**De Milpa** From a strain that grows wild in Mexican farm fields on big sprawling plants. The 3/4" husked fruits blush purple near or after harvest time. Stronger in flavor than store-bought, these are great for salsa. **TS351 H L N** 

**Mountain Pima** Husked fruit are small and plants are somewhat sprawling. Originally collected in Nabogame, Chihuahua, at 5,900' elevation. Commonly used in salsa. **TM011 H S B**  **Tepehuan** Small fruits on weedy plants. Collected in Nabogame, Chihuahua, a remote mountainous region. Our collectors were served these tasty fruits with their beans for breakfast. **TM002 H L S B** 

**Zuni** The small sweet fruit has been semi-cultivated by the Zuni for more than a century. Can be roasted in an oven, then blended with garlic, onion, chile, and cilantro as a hot sauce delicacy. **TM003 H L S F** 



Taranumara El Cu

in rain ceremonies. N003 H L S F B Tarahumara El Cuervo From a very isolated area of Batopilas Canyon, Chihuahua. Smoked traditionally by older Tarahumarans. N004 H L S B

San Juan Pueblo Traditionally grown by elders in

small secluded patches. Leaves are used ceremonially.

Plants have small, tubular yellow flowers. N005 H S B

Santo Domingo Ceremonial A cultivated annual

grown in irrigated gardens by various Puebloans. Used

\$3.25

# Tomato Solanum lycopersicum

**Plant:** Plant the tiny seeds in the spring, cover very lightly with sandy soil. Requires warm moist soil to germinate. Can be started indoors and transplanted. Plant seedlings 1' apart. In the low desert, they can also be started indoors in early June and transplanted out in mid July. Approx. 0.1g/125 seeds per packet. **Eat:** Originally domesticated in the Andean region of South America, the modern cultural and nutritional importance of tomatoes worldwide is difficult to exaggerate. **Save Seed:** Flowers are both insect- and self-pollinated, and varieties can cross. Bag flowers or separate by 10 feet (3 meters) to prevent crossing.Remove seeds from fruit and allow to ferment 3–5 days. Rinse repeatedly, clean seed will sink and pulp will float. Recommended minimum population for seedsaving: 1–10 plants.

**Chichiquelite** *S. melanocerasum*. Not actually a tomato but a solanum cousin. Collected from a Mayo community in Sonora, Mexico. Commonly called the garden huckleberry, the leaves are cooked and the shiny black berries are edible and delicious. Delicious for pies, jellies, and jams but do require more sweeteners than other berries. Do not eat unripe green berries or raw leaves. Originated in western Africa. Approx. 100 seeds per packet. **GR012 H L B** 

**Ciudad Victoria** *S. lycopersicum* var. *cerasiforme*. A weedy, semi-cultivated tomato from dooryard gardens in Ciudad Victoria, Tamaulipas. Tiny sweet fruit are latematuring and very prolific. **TM005 H L S B** 

**Flamenco** A cross between Silvery Fir Tree for earliness and feathery foliage and Floridade for heat and disease resistance. The result is a semi-determinate 4' bush loaded with highly flavored, red, 2"-round fruits. Nice acid/sweet balance and great flavor. Continues to produce in hot weather when others stop. Performed very well in our 2012 trials in both Tucson and Patagonia, Arizona. **TS340 H L N F** 

\$3.25

Nichols Heirloom These seeds were sent to us by the Nichols family in Tucson. Volunteer seeds that just kept coming up, they had been maintained by the family patriarch for about 50 years. It is well-adapted to the desert: heat-tolerant and prefers full sunlight. These "pink cherry" tomatoes are prolific producers. TM014 H L S F

**Prescott Heirloom** Given to us by a member of a family that had lived for many generations in Prescott, Arizona. The fruit are large, red, oval, and quite fleshy. The thick flesh suggests that they may be good for canning. **TM013 H S** 



Many more products are available at nativeseeds.org

#### **More Tomato**

**Punta Banda** Collected on the Punta Banda Peninsula in Baja California. Plants produce hundreds of red, meaty, thick-skinned fruits despite heat, water stress, and poor soil. Great paste tomato. Incredibly productive in a 2018 growout at Mission Garden of Tucson. Renowned for its early maturity. **TM007 H L S F M**  **Texas Wild Cherry** All that we really know is that seed of this tomato was collected from a patch of apparantly "wild" tomatoes in southern Texas. Sprawling plants produce tons of small, tasty, cherry-type tomatoes. Early-maturing and very productive! One of the stars of our 2012 tomato trials in Patagonia, Arizona (4,000'). **TM012 H L S F** 

# Watermelon Citrullus lanatus

**Plant:** In spring after soil warms or with summer rains, plant seeds 1/2–1" deep, 3 seeds per basin, allowing ample room for vines. Plants need a long growing season and rich soil with more compost added as they grow. Approx. 1.5g/15 seeds per packet. **Eat:** The sweet and refreshing taste of summer! Seeds can also be eaten or used for their oil, and the rind can be pickled. **Save Seed:** An insect-pollinated annual. Varieties will cross. Male and female flowers develop on each plant. Ripe fruits have a hollow sound when tapped and a yellowing patch on the bottom. Also look for dried tendrils next to the stem. Scoop out seeds of fully ripe fruit, wash thoroughly and dry. Recommended minimum population for seedsaving: 5–25 plants.

Acoma Believed to have been grown by the ancient ancestors of Acoma Pueblo. Rounded to slightly elon-gated fruit with sweet red flesh. G012 H S

**Crimson Sweet** Bright red color, fewer and smaller seeds, and an above-average sugar content. An oblong member of the "picnic" family of watermelons. Commonly weighs 20–30 lbs. Resistant to anthracnose and fusarium wilt. Highly adaptable. **TS263 H L N** 

**Hopi Red** From New Oraibi on Third Mesa. A varied accession, round to oblong fruit with solid or striped green skins and red to pink (and rarely yellow) flesh. **G001 H L S** 

**Hopi Yellow** "Sikyatko." The green-striped fruits have pale yellow/orange flesh (occasional plants produce red-fleshed fruit). Large fruit with crisp, sweet taste. **G002 H L S F B**  **Jemez** Striped green fruit may vary from pale to dark green. Red flesh. Considered a native watermelon, but introduced 400 years ago. **G014 H S** 

Jumanos Rare, collected from Redford, Texas. Round, smallish, "native-type" fruit, flesh is red or occasionally pale yellow. Known as "sandia tuliza" just over the border in Chihuahua. G013 H L S M

Manzano Sandia Dry-farmed in the Manzano mountains southeast of Albuquerque. Likely a type of the popular Charleston Grey watermelon released in the 1950s. 10–20" elongated fruits with sweet red flesh. G018 H S

Mayo Originally collected from Mayo farmers in Los Capomos, Sinaloa, Mexico. Prolific vines produce round and oblong melons of various rind colors all summer. Red flesh is sweet. **G005 H L S B** 



## \$3.25

\$3.25

High Desert Low Desert Seed Bank Non-Collection

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## **More Watermelon**

**Navajo Red Seeded** A good-tasting watermelon, sweet but not too sweet. Round fruits, light red to pink flesh, and red seeds. Produced well in Phoenix under the care of one of our partner farmers. **G009 H L S** 

**San Juan** Collected from an elder in San Juan Pueblo. The fruits are sweet and productive. Fruit vary from light to dark green with solid or striped skin, yellow to red flesh and white to black seeds. **G008 H S** 

**Santo Domingo Dark Green** A dark green-skinned watermelon with sweet red to pink flesh. The rind is very thick making this variety a good keeper throughout the winter months. Also a good choice if you like watermelon rind pickles! Fruits are between 7–12 lbs. A favorite at Pueblo feast days. **G019 H S B** 

**Tohono O'odham Yellow-Meated** A high yielder of green oval fruit with sweet and crisp yellow to orange flesh. Fruit can be up to 35 lbs. Originally collected at Queenswell, Arizona. Stunningly delicious. The best watermelon we've tasted, period. **G003 L S F** 

## Wheat Triticum aestivum

#### \$3.25

**Plant:** In the low desert, plant in December through January for harvest in dry months of May and June. Broadcast and rake in seed, then lightly pat soil. If birds are a problem, cover very thinly with straw and sticks. Keep moist until sprouted. Approx. 28g/700 seeds per packet. **Eat:** Traditionally, wheat was roasted and ground to make pinole or stretched to make thin wheat flour tortillas (chemait). Wheat berries are also cooked with teparies to make poshol. Whole grain flours from both Sonora and Pima wheats are very well suited to baked goods like tortillas, empañadas, scones, cakes, pancakes, crackers, and piecrusts. **Save Seed:** A self-pollinating annual. Birds love the ripe seeds, so protection may be necessary. Harvest when dry; strip stems or walk on seedheads to remove seeds and winnow off chaff. Recommended minimum population for seedsaving: 5–10 plants.

**Pima Club** At one time grown by the Pima on the Gila River Reservation. Seed heads are short, beardless, and club-shaped (flattened). White kernels are soft and produce flour used for cookies and pastry. **WH003 H L S B**  White Sonora A beardless soft spring wheat. Brought to the U.S. from Magdalena in northern Sonora, where it has been grown since around 1770. Common among the Pima and Yuma after 1820. Highly adaptable, nutritious, delicious, and versatile in the kitchen. WH001 H L S B

Arizona-grown wheat and flour products from BKW Farms, Hayden Flour Mills, Ramona Farms, and San Xavier Coop Farms, are available at the Native Seeds/SEARCH retail store and nativeseeds.org



# **Desert Wildflower Seeds**

Wildflowers are a wonderful addition to any garden. They provide splashes of color and are a food source for bees, butterflies, and other beneficial insects. Two sizes are available — the small size (A) is 1–1.5g and covers approximately 30 square feet; the large size (B) is 0.5oz and covers approximately 100–200 square feet. Note: Wildflowers are not part of the NS/S seedbank collection.

**Culture:** Most desert wildflowers are planted in fall/winter in the desert, early spring in cooler climates. Planting instructions are included on the packets of these lovely native Southwestern desert wildflowers.

**Seedsaving:** Allow flowers to fully mature, dry and drop their seeds in place. Or collect the dried pods by hand, crush the pods and winnow away chaff before storing.

**Colored Globemallow** Sphaeralcea ambigua. This multi-stemmed mallow is a good source of pollen and nectar for honey bees. Plants are usually 2–4' tall with blooms in shades of pink and lavender. Plant fall to early spring. \$2/pkt **WRA052** or \$12/oz **WRB052** 

**Desert Bluebells** *Phacelia campanularia.* Low growing, blue-violet flowers with yellow stamens look like little bells. Plant fall to early spring. \$3/pkt **WF019A** 

**Desert Lupine** *Lupinus sparsiflorus*. This is a showy purple lupine native to Nevada, Arizona, California, Sonora, and Baja California. The multiple purple blossoms on a tall spike contrast nicely with pale green palmate leaves. This desert wildflower prefers deep, well-draining sandy soils and lots of sun. Plant fall to early spring. \$3/pkt **WF004A** or \$12 (0.5oz) **WF004B** 

**Desert Marigold** *Baileya multiradiata*. Lemon-yellow flowers on long stems with gray-green foliage. Blooms mainly in the spring and after summer rains. Plant fall to early spring. \$3/pkt **WF016A** or \$12/oz **WF016B** 

**Firewheel** *Gaillardia pulchella.* Fire-wheel has 2" diameter daisy-like flowers that are deep red with yellow tips. Blooms March through September. Plant in fall. \$3/pkt **WF014A** or \$12/oz **WF014B**  **Mexican Evening Primrose** Oenothera speciosa. Low growing perennial with bright pink, cup-shaped flowers. Plant anytime. \$3/pkt **WF018A** or \$12/oz **WF018B** 

Mexican Gold Poppy Eschscholtzia mexicana. The most popular, most photographed, golden desert wildflower. Plant fall to early spring. An annual, this flower will readily reseed. \$3/pkt WF035A or \$12/oz WF035B

**Mexican Hats** *Ratibida columnifera forma pulcherrima.* The colorful 1.5" sombrero-shaped flowers generally appear April to November. Easily grown from seed. Plant fall to early spring. \$3/pkt **WF036A** 

**Palmer's Penstemon** Penstemon palmeri. Beautiful white flowers tinged with pink or lilac. Has a delicate, inviting fragrance. Grows in washes and along roadsides at 3,500–6,000'. Plant fall to early spring. \$3/pkt **WF013A** 

Parry's Penstemon Penstemon parryi. A favorite of hummingbirds, this tall perennial has rose-colored, bell-shaped flowers. Plant fall to early spring. \$3/pkt WF012A or \$12/oz WF012B

Sand Verbena Abronia villosa. A spreading plant with bright pink-purple flowers. A spring bloomer that is pol-





#### **Feed Desert Native Bees**

Desert native bees have existed in the Southwest for millions of years, coevolving with desert native plants to the advantage of both. The advent of native cultures created new conditions, to which the bees adapted. But recently the rich flowering habitats needed by desert native bees have been eroding in size and quality, at the same time that we need their pollination services more than ever. You can help support and nurture these extraordinary pollinators by planting as many flower food sources as possible and setting aside wild areas in gardens and elsewhere. **Desert Native Bee Spring Wildflower Mix** Spring is high season for desert native bees. This mix of adapted annuals is chosen for its early blooms and then continued Spring flowering, plus diverse colors and alternate heights. At least 12 wildflower types, including Goodings Verbena, Wild Buckwheat, and Yellow Bee Plant, are included. While observing the many desert native bees attracted, also watch for hummingbirds and butterflies. \$5/pkt (1.5g) **BN001** 

**Desert Native Bee Monsoon Wildflower Mix** This mix of arid adapted annuals addresses the special needs of late season desert native bees and will attract other pollinators in a period of often limited desert blooms. Plants included provide continued flowering through late Fall with a mix of colors and heights. At least 12 wildflower types, including Tansyleaf Aster, Arizona Poppy, and Yellow Mexican Hat, are included. The Fall wildflowers produced by this mix are also important as a food source for migrating monarch butterflies. \$5/pkt (1.5g) **BN002** 

linated by butterflies. Likes sandy soil; once established it will reseed and return. \$3/pkt **WF040A** 

**Summer Poppy** Kallstroemia grandiflora. This handsome summer wildflowers superficially resembles poppies but is not related. In Arizona it is most commonly found in desert grasslands below 5,000'. It is a handsome sprawling plant (up to 3' across) with showy, orange, five-petal flowers that sport a bright red center. Plant before humidity begins to rise in the summer. \$3/pkt **WF003A** or \$12 (0.5oz) **WF003B** 

# **Desert Wildflower Blends**

**Butterfly Garden Mix** A mix of colorful and fragrant flowers that will attract butterflies to your garden. This blend of spring and summer blooms contains 13 varieties including Desert Lupine, Marigold, Showy Penstemon, California Poppy, Cornflower, Coreopsis, Firewheel, and Maximillian Sunflower. \$3/pkt **WF029A** or \$12 (0.5oz) **WF029B** 

**Desert Colors Wildflower Mix** A blend of 23 varieties, some desert natives and some non-invasive garden favorites. Natives include Dyssodia, Owl's clover, Silverbells, Paperflower, and more. Non-natives include Coreopsis, Cosmos, Shirley Poppy, and others. \$2/pkt WRA034 or \$12 (0.5oz) WRB034

**Desert Tortoise Mix** A mix of Southwest native wildflowers favored as food by desert tortoises. Includes 10 species including Summer Poppy, Desert Marigold, Evening Primrose, and Globemallow. \$3/pkt **WF009A** or \$12 (0.5oz) **WF009B** 

Happy Hummingbirds Designed to draw hummingbirds to your garden. Includes 5 different colorful desert Penstemons, as well as Lemon Beebalm and Gooding's Verbena. \$2/pkt WRA008 or \$12 (0.5oz) WRB008

**Summertime Mix** A blend of southwest wildflowers that bloom in the late summer months. 6 blooms in hot colors, including Desert Marigold, Arizona Poppy, Yellow Mexican Hat, and Firewheel. \$3/pkt **WF010A** or \$12 (0.5oz) **WF010B** 

**Southwest Native Mix** This colorful annual and perennial mix contains 13 summer and spring blooming wildflowers native to the Southwest, including Desert Bluebells, Arroyo Lupine, Firewheel, Yellow Mexican Hat, California Poppy, and two Penstemons. \$3/pkt WF011A or \$12 (0.5oz) WF011B



More Desert Wildflower seeds are available at nativeseeds.org



NS/S supports local businesses who grow and or process foods from the southwest region by offering their products for sale. Check these out and many more at our retail store in Tucson and online at **nativeseeds.org**.

#### **Mini-Canvas Art**

A member of the Hopi tribe, artist Gerald Dawavendewa grew up in the Hopi village of Munqapi and in the Cherokee woods of Oklahoma. His art reflects the rich traditions of his Hopi & Cherokee culture. This is but a small sampling of Gerald's work.

#### MINICAN \$20 each

#### Earth Bundle

From an original painting that was sent aboard the Space Shuttle Endeavor in 1994. In the center is the Sun, *Taawa*. Above the sun are the symbols of the Earth, the Fourth World to the Hopi, and below, the Moon.

#### "Tootsa" Hummingbird

Tootsa, or Hummingbird, gathers nectar among blossoms.

#### Bean Maiden

Bean Maiden holds a bowl with germination symbols filled with bean sprouts as two bean plants stand beside her. Rain clouds gather behind her.

#### Squash Maiden

Squash Maiden reaches with vines outward to the fertile soil as rain clouds gather in the horizon below dragonflies announcing their coming.

#### **Corn Maiden**

Corn Maiden stands next to two plants offering prayers to the gathering rain clouds on the horizon. She symbolizes the blue corn.

Canvases are pictured in order, left to right. Please specify your choice OR to see more, please visit our store in Tucson or online at **nativeseeds.org**.







#### Chiles

**Pasilla de Oaxaca Whole Chiles** This is a smoky, dark red chile that has a wonderful aroma and pungent fruit flavor. Excellent when cooked with beans and posole. Staff favorite!

1.5oz. pkg FD088 \$7

**Negro Pasilla Whole Chiles** These chiles have a mild heat with pungent, tangy and long lasting deep rich flavor. Excellent addition to salsas, adobo sauces, and enchiladas.

1.5oz. pkg FD110 \$4

**Ancho Whole Chiles** This dark rich mahogany chile has a mild, fruity flavor with notes of plum, raisin, tobacco and a slight woodiness.

1.5oz. pkg FD092 \$4

**Chipotle Flakes** Move over old pedestrian chile flakes! This smoky mellow heat is wonderful in both sweet & savory dishes.

4oz. pkg **BSP130 \$6** 

8oz. pkg BSP130.8oz \$10

Hatch Red Chile Powders From the chile capitol of the world: Hatch, New Mexico!

Hatch Hot 4oz. pkg BSP180 \$6 Medium 4oz. pkg BSP185 \$6

Mild 4oz. pkg BSP190 \$6

**Green Chile Powders** Always worth the wait for this delicacy! Made from roasted, dried green chiles from Hatch, New Mexico.

Hot Powder 4oz. pkg BSP215 \$6 Mild Powder 4oz. pkg BSP210 \$10 Hot Flakes 2oz. pkg BSP150 \$6

#### **Bake Mixes**

Golden Mesquite Cookie Mix Makes about 4 dozen cookies. JM013 \$10

**Golden Mesquite Pancake Mix** Makes 6–10 pancakes. Directions for Golden Mesquite Crepes are included in the package. JM016 \$10

Mesquite Poppy Seed Scone Mix Makes 12–16 scones. JM006 \$10

Chile Chocolate Brownie Mix These enticing brownies are sweet with a light touch of chile and spice. Makes an 8" x 8" baking pan of brownies. JM004 \$10

**Spicy Chile Hot Chocolate** This delicious hot chocolate is both sweet and spicy with a mild chile kick! Makes 16–20 cups. **JM005 \$10** 

#### **More Traditional Foods**

**Ciolim (Chee-or-lim) Dry Cholla Buds** From San Xavier Co-op Farm.

1.6oz. jar **SXC005 \$10** 3.2oz. jar **SXC005 \$20** 

 Tepary Beans
 From Ramona Farms.

 White
 16oz. pkg
 FD261
 \$7.50

 Brown
 16oz. pkg
 FD061
 \$7.50

 Black
 16oz. pkg
 FD161
 \$7.50

Teas From Desert Decadence. Desert Mint White Sage FD311 \$5 Pomegranate Cranberry FD312 \$5 Prickly Pear Cactus FD320 \$5 Saguaro Blossom FD310 \$5







Many more products are available at nativeseeds.org

# **Important Ordering Information**

Please put item number, item name, and quantity ordered on your order form. Keep a copy of your order. If you have missing items or problems, it helps if you can identify your order. Please retain your *Seedlisting* for reference.

We accept checks or money orders drawn on U.S. Banks. For your own safety, please do not send cash. We accept credit cards (Visa, MasterCard, Discover) by mail, phone, our website, and in our store. Our toll-free number is 1.866.622.5561 x 113. Please note we are closed on weekends and major holidays. PayPal payments can be made on our website only.

# We are a nonprofit organization promoting seed conservation. Your dollars support our mission. We do not charge tax on any orders.

We have limited quantities of some seeds and therefore may need to limit your order. On occasion, it may be necessary to substitute seed varieties.

We typically ship via the United States Postal Service (USPS).

OKRA and COTTON seeds can ONLY be shipped to AZ, NM, OK, and TX addresses due to a quarantine by the USDA.

# **Shipping & Handling Charges**

We ship nationwide and to Canada — please call 1-866-622-5561 x 113 for shipping rates to Canada OR if you are unsure about your shipping charges.

# **Domestic Shipping Rates**

Shipping & handling charge for seed-only orders:

10 pkts or less \$3.95 10–30 pkts \$6.95

## Shipping & handling charge for food, books, or other items:

We will always choose the least expensive shipping option. Here are two common sizes and their prices:

Medium Flat Rate Box 11" x 8.5" x 5.5" **\$15** 

Large Flat Rate Box 12" x 12" x 5.5" **\$19** 

As USPS says, "If it fits, it ships!"

Are you sending a gift? Please feel free to write a note and we will include it in your package.

# **Catalog Order Form**

toll-free: 1.866.622.5561 x113 fax: 520.622.0829 online at our secure website: shop.nativeseeds.org

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Full Name				
Street Address	Full Name			
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#### Please read Important Ordering Information

SUBTOTAL \_\_\_\_\_

on page 52 for details about shipping as well as membership information on the back of	Are you a NS
this page (page 54).	]

S/S member? Don't forget your 10% discount!									
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Not yet a member? Join Today! (see page 54)

Total enclosed: \_\_\_\_\_

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Print name as shown on card: Security Code:								
Billing address (if different from above):								

# It takes many hands to seed the planet: Join the work, become a member today!

By supporting Native Seeds/SEARCH you are helping to conserve a diversity of crops that are uniquely adapted to the challenging growing conditions of the Greater Southwest. These crops represent an irreplaceable genetic resource for global food security concerns as well as a priceless collection of cultural heritage. Your membership supports regional small farmers working to grow and share arid-adapted crop diversity.

#### Your Membership Benefits:

- st Access to members-only seed varieties designated with f M throughout the catalog
- \* A 10% discount on all seed purchases
- \* Early access to NS/S plant sales
- \* Discounted tuition to educational workshops and courses
- \* Invitations to special events
- \* Our annual Seedlisting catalog
- \* The Seedhead News, our annual newsletter

#### Join, renew, or donate online at nativeseeds.org

or fill out this form and mail with payment to: NS/S, 3584 E. River Road, Tucson, AZ 85718

Name(s)	Membership Level (check one):		
	〇 Squash \$35		
Address	○ Gourd \$50		
	〇 <b>Bean</b> \$100		
City/State/Zip	○ <b>Chile</b> \$250		
	○ <b>Corn</b> \$500		
Email	○ Sunflower \$1,000		
	O Native American Free within Greater SW		
Phone	O Native American (Non-SW) \$20		

Your privacy is important to us. We will not sell or trade your name, email, or other information with anybody. Some portion of your membership may be tax-deductible. Please consult with your tax adviser.

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Print name	as shown on card	_ Security Code:			
Billing addr	ress (if different fron	n above):			

# **Seed Collections**

Overwhelmed by choices? Let us select for you! Each collection contains individually packaged varieties along with extra info and growing tips. Visit **nativeseeds.org** for complete lists of seeds included in each.

#### **NEW!** Low Desert New Gardener Collections

Whether you are new to the low desert, new to gardening, or both, these collections are your head start. Each includes easy to grow, well adapted varieties for low desert gardens, plus instructions.

Cool Season 5 pkts SC011 \$15.95 Warm Season 5 pkts SC010 \$15.95

Chile Garden 9 pkts SC001 \$29.95

Container Garden 9 pkts SC006 \$29.95

Herb Garden 9 pkts SC007 \$29.95

- Heritage Garden (all seed bank collection varieties). 9 pkts SC008 \$29.95
- Low Desert Wildflower Garden 8 pkts SC009 \$19.95

Monsoon Garden 9 pkts SC004 \$29.95

Southwest Warm Season Garden 12 pkts TS600 \$38.95

Southwest Cool Season Garden 12 pkts TS601 \$38.95



#### **Complete Garden Collection**

A diverse and tasty collection of **30 seed packets** in a waterproof metal can good for long-term storage. Includes vegetables, herbs, and wildflowers for warm and cool season growing in both low and high deserts of the Southwest. Suitable for other climates as well. **Includes a copy of** *Saving Seeds in the Southwest.* Seed packages are sized for an average-sized family garden. **TS604 \$98.95** 

# **Seed Saving Supplies**

Gardeners and farmers play an important role in conserving agricultural biodiversity by growing and saving seeds. These supplies provide the tools needed to save and store your seeds.

#### Seed Saver Packet Size see page 23

Seed Envelopes A key to successful seed saving is proper labeling and storage. Our preprinted self-sealing envelopes make it easy! 20 envelopes \$3.50 SSS001 or 50 envelopes \$8 SSS002

**Foil Packets** Great for long-term storage. Zipper closure and puncture resistant material will protect your seeds. These 6.5 x 5" envelopes will easily hold ½ lb of beans or corn or 10 packet envelopes. 5 envelopes **\$3 \$\$\$003** or 10 envelopes **\$5 \$\$\$004** 

**Blossom Bags** 3"x4" organza bags with drawstring ties, perfect for protecting your tomato and chile flowers from cross-pollination. Or, use to capture milkweed or other easily dispersed wildflower seeds. 10 bags **\$5 \$5006** 



#### Seed Saving Guide for the Southwest see page 35

**Corn Pollination Supplies** Shoot bags for protecting silks and weather-resistant paper bags for covering tassels and pollinated ears. Tassel bags are also useful for protecting sorghum and amaranth from birds. Handpollination instructions (see **nativeseeds.org**) are included with your order. 100 Ear Shoot Bags **\$6 SSS007** or 50 Tassel Bags **\$12 SSS008** 



Native Seeds/SEARCH 3584 E. River Road Tucson, Arizona 85718



# Come visit us, join our mission, and learn more!

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Retail Store: 3061 N Campbell Ave. in Tucson. Call us at 520.622.5561 for hours.

Conservation Center: 3584 E. River Rd. in Tucson. Administrative Offices, Mail and Web Orders, & Seed Bank. 520.622.0830

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