



*Native Seeds/SEARCH seeks to find, protect, and preserve the seeds of the people of the Greater Southwest so that these arid adapted crops may benefit all peoples and nourish a changing world.*

## **Native Seeds/SEARCH Seed Policy**

**Approved on 7/24/21**

**Updated on 1/28/23**

- I. **Introduction** – NS/S is dedicated to conserving the rich agro-biodiversity of the Southwest by preserving approximately 1,900 seed varieties that are adapted to the arid landscapes extending from southern Colorado to central Mexico, many of them rare or endangered. Our seed collection represents cultural heritage and farming knowledge from 50 Indigenous communities. The bulk of the seeds in the collection were collected in the 1980s and 1990s through donations from farmers and families of farmers, through seed collectors, seed traders, and purchased at markets. As a conservation organization, we believe the stewardship of the natural resource represented in seeds will be best fulfilled through supporting their conservation, continued dissemination, and successful harvest.
- II. **Purpose** – The purpose of the NS/S Seed Policy is to provide a guiding document for the organization on how to best steward the seeds in the seed collection for multiple purposes, including collections management, documentation, health concerns, relations with regional Indigenous communities, and research. This document should guide decision-making about the overall management of the seeds and shall only be modified by the Seed Policy Committee, and approved by the Board of Directors.
- III. **Stakeholders** – The stakeholders of our seed collection are defined in the following categories:
  - a. The seed seekers and the seed donors. Many of our original seed varieties were collected in response to the probable irreversible loss of numerous heirloom crops and agro-biodiversity in the Southwest. Seed donors have been individuals donating family heirlooms, to farmers sharing their own traditional seeds, to market vendors selling regional varieties. Seed seekers include recipients of seed through our access programs as well as seed purchasers from the Greater Southwestern region and beyond. The needs of seed seekers within our region are prioritized over those outside the region.
  - b. The Indigenous communities who developed these desert-adapted crops. Many of our seeds are the product of generations of farmers, most of them Indigenous, selecting, nurturing, and sharing seeds to best suit the land and people of their communities. As current stewards of these seeds, NS/S strives to respect their cultural histories and will prioritize our efforts to help return these seeds to cultivation on their ancestral lands.
  - c. Organizational supporters, customers, members and donors. The ongoing work of NS/S is shaped by the volunteers, staff, donors, members, and partners committed to seed stewardship. Our loyal customer base also supports our conservation efforts by purchasing, sharing, and saving seeds each season. These supporters are made up of both Indigenous and non-Indigenous people.



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- IV. **Seed Collection Management** - Management decisions about populations of seeds, growouts and distribution are based on the quantity, age of the seeds, and the status of the inventory. Conservation staff produce a growout list bi-annually to set goals for which and how many accessions (definition below) should be planted. The NS/S internal Operations Manual gives detailed guidance on determining growout needs based primarily on quantity and viability; as well as interests of Indigenous communities and public demand.

**Definitions:**

- a. An accession is a seed variety collected at a particular time and place.  
Active Accessions are accessions that have live seeds (not voucher samples alone). 254 accessions have no live seed.  
Voucher Samples are small quantities of seed or plant material that represent the original phenotype (physical appearance) of an accession.  
Core Accessions are accessions that represent as much of the genetic diversity in the collection as possible. They may include combined accessions, culturally important accessions, and particularly unique accessions from the region. These will be the accessions that receive the most attention and promotion as well as more frequent growouts.
- b. Regeneration Samples: The purpose of the “regen sample” is to maintain seed bank samples that are as close as possible to the original genetics of the accession. These small samples are for producing a healthy population grown only from original seed or earlier regens. Ideally regen samples should be regrown every ten years to take into consideration changes in climate and decrease in germination rates. Regen sample sizes are defined in the Operations Manual section 2.6. They vary by crop type from a half teaspoon to a half cup. A given accession should have a minimum of three regeneration populations kept in deep freeze, each representing the minimum viable genetic population, to serve as backups in cases where crop failure or other circumstances may deplete the larger “increase” and/or “distribution” lots. An accession’s seed supply should ideally never be allowed to deplete to only regen samples, and seeds with only regen samples are priorities for growouts to regenerate “increase” populations. NS/S also sends one sample from each recent regeneration growout to the USDA seedbank in Ft. Collins as an offsite backup. These seeds are in black box storage and only accessible to NS/S.
- c. Increase Seed: The purpose of “increase” is to set aside seed for larger growouts by partner farmers or by NS/S, and to have larger-than-packet quantities available for small-scale farmers. We will work toward having at least 5 lbs of increase seeds for corn, and 3-5 lbs for beans and squash for the core accessions We are working to identify target increase amounts for other crop types. When new seed lots are harvested, assessment should first be made of how much of the seed should be set aside as regeneration or increase. After that, any additional seeds that meet germination requirements, not needed for regen or increase, are available in distribution for the public.



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- d. Distribution Seed: The purpose of distribution seed is to make seed available through programs such as [Native American Seed Request](#), [Community Seeds Grants](#), and general distribution through our online store and annual seed listing. Making seeds available through distribution is a key part of our conservation mission as it encourages the use and appreciation of these varieties.
- e. Restricted Access Seed: For seed varieties that are affiliated with Native communities, when the quantity of seed available in distribution drops below a three year supply (at current rate of distribution), these varieties will be designated “Native Access” on our web page and seed listing and will be available only through the Native American Seed Request program, Community Seed Grants to Native organizations (or to partner farmers, Native and not, who agree to help increase seed stocks.)
- f. Collecting, Accessioning and Deaccessioning  
NS/S may add new accessions of agricultural crops, wild-harvested species, or crop wild relatives to the seed collection. These seeds must be of conservation concern or of significance to a regional Indigenous or non-Indigenous culture. New accessions should also be from the US Southwest and North Western Mexico unless they meet other criteria such as conservation risk or significance to a culture within the region. It is required that new accessions are accompanied by sufficient documentation, especially the collection location and donor. In some cases, NS/S staff or board members may attempt to gather additional information about a variety name, traditional uses, or history by contacting tribal governments, including Cultural Resources.

NS/S will not accept seed taken from tribal, state or federal land or protected sites, or if the location of the site is unclear. NS/S will never, under any circumstances, accept seed taken from a funerary site. NS/S will not accept seeds that came directly from Indigenous heritage sites (i.e. in cliff dwellings, caves, etc.), unless directly donated by and in coordination with the relevant tribal government.

In cases where a donor offers seeds that are said to have originated from a Native heritage site but have been subsequently grown and stewarded elsewhere for a significant amount of time, NS/S will conduct due diligence to verify and try to confirm the associated story or stories related to the seed. Due diligence involves contacting others with knowledge of the story and relevant stakeholders and experts, including affiliated tribes or tribal members. If seeds of this type are accessioned, NS/S will make seeds from these accessions available only to the affiliated tribes, or through Native Access, which is only available to Indigenous people with cultural or historical connections to the seeds.

New accessions may be created by splitting accessions that are deemed to be too mixed and may also be combined either because they are found to be essentially identical, or to salvage or improve the health of accessions that are endangered by low original



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population size. New combined accessions may be created while still maintaining the original accessions, or by deaccessioning some or all of the original accessions. Whenever possible, the donor family or tribe should be consulted before action is taken to deaccession.

## **V. Documentation**

- a. Accession sheets: These forms are completed when an accession is accepted into the collection. They document the donor and collector name, date, tribal affiliation (if any) and location of the collection, information about the seed name and classification, and ideally have plant descriptions, cultural and use information. The most recent (2015) version of this form also documents information pertinent to Indigenous seed donations such as whether the donor believes collected seeds are unique to his/or her tribal entity, if the collection happened on tribal land, and whether the collection was done with the knowledge of tribal or community leaders. If applicable, approving entities are stated and copies of agreements included with the accession sheets. All accession forms are kept in binders in paper copies and have also been scanned for digital record.
- b. Curate database: This database stores passport information from the accession sheets, as well as records on individual seed lot classification, quantities and locations, germination testing dates and rates, growout data and some characterization data,

shipment data for seed sent to distribution or to partner farmers or other growouts, and background and planting information that appears on the seed packets. Curate is also linked to photo records for each accession.

- c. ADAPTS portal: This online platform gives access to the public for much of the Curate data and photos on each accession, though donor names and inventory and germination data are not included. Individual seed donor information will not be provided to the public, except for in the case of repatriation requests.
- d. Voucher samples: When each accession is brought into the collection, a small voucher sample of the seed is made to document the size and appearance of the original seed. Most samples are seed only, though most of the corn vouchers are complete ears and some other crop types (sorghum, devil's claw, chiles) have some voucher samples of full seed heads or seedpods.

## **VI. Management for Health – The collection struggles with two main health concerns: inbreeding and pathogens.**

- a. Inbreeding: Low quantities of initial “mother plants” in the original collected seeds has resulted in poor genetic diversity among many accessions. This is of special concern in corn, squash, melons and gourds. We work to mitigate this problem by:
  - i. Ensuring that new growouts by NS/S or partners and any new collections meet minimum recommended population sizes for genetic preservation from [Seed Savers Exchange](#).



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- ii. Where possible (and with tribal permission where applicable) combining related accessions to improve genetic diversity and health. With corn, we will strive to reach a population of 100 mother plants (ears) with each combination.
- b. Pathogens: The two pathogens of concern are fusarium and mosaic bean virus. Currently we inspect new corn harvests for fusarium and remove kernels with visible infection. This is not possible with mosaic virus as it is not visible in seed. Bean Common Mosaic Virus (BCMV) is of most concern in the collection's tepary beans. By reducing inbreeding in the collection by combining accessions, susceptibility to pathogens should also decrease.

**VII. Tribal Relations** – NS/S will seek to represent voices through representation in the organization, especially on the Board of Directors (BOD) and staff and is committed to dialogue through engagement practices with tribal governments and stakeholders. This section outlines the specific ways NS/S interacts with regional tribes:

- a. Native Access: Native Access is a list of Indigenous affiliated seeds (seeds grown by Indigenous farmers in the Southwest and Mexico) that are prioritized for Native communities. It includes seeds that have limited quantities and are therefore withheld from general distribution until more is regenerated and there are enough to offer again to the general public.
- b. Tribal Engagement and consultation: NS/S is committed to continuous and meaningful engagement and dialogue with the Indigenous communities that have a connection to the seeds in the NS/S Seed Collection. The NS/S staff and Board have developed and accepted through a BOD vote, an official engagement process that defines the process NS/S staff should follow to have meaningful dialogue and cooperation with tribal governments and stakeholders.
- b. Cultural Sensitivity: An important part of the tribal engagement process is to increase trust with tribal partners and ensure that NS/S is a welcoming place that is open to visits, and should tribes be interested, ceremonies. NS/S's intent is to build relationships with tribes, respecting, acknowledging and, wherever possible, facilitating cultural relationships and protocols observed by tribes. These requests will be honored and facilitated by the appropriate NS/S representatives and NS/S will try to mitigate any inappropriate actions on behalf of NS/S before they arise or shortly thereafter. In the event an issue is raised regarding cultural sensitivity, including but not limited to the following: appropriation, appropriateness, lack of inclusion or inaccuracies (such as spelling or translations of a varieties' Indigenous name) NS/S will seek the guidance from Indigenous representatives of the BOD and staff to facilitate a culturally sensitive solution or approach that is fair and equitable to all affiliated and impacted tribal entities. When appropriate, Indigenous board members and staff will seek guidance from affiliated Indigenous communities to achieve culturally sensitive solutions to challenges that may arise.



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- c. Rematriation and Seed Restriction: NS/S's seed access programs are based on a conservation model that works to acknowledge Indigenous seed sovereignty while also prioritizing maximum and long-term seed access to Indigenous communities. Although NS/S has always and continues to distribute seeds in the seed collection to Indigenous people, including farmers, organizations, and communities, we have decided to highlight options for more significant seed returns and potential restrictions on the distribution of seeds.

As an organization that is dedicated to both the preservation of seeds, as well as their ongoing distribution and regeneration, we are committed to having the seeds in our collection abundantly grown in their communities of origin. Below are definitions of seed restrictions, donations, and rematriation – processes that fall outside of our established seed access programs.

i. Definitions:

1. NS/S defines *seed restrictions* as requests from tribes with relationships to specific seeds requesting limitations on distribution of certain seeds.
2. NS/S defines *seed donations* as seeds that are given to organizations that are not eligible for seed rematriation but are working to increase food and seed security in communities. When seed is available, NS/S may donate seed quantities to these organizations without the expectation of return. The organization may or may not have a direct connection to the seeds donated.
3. NS/S defines *rematriation* as the return of seed to a person or tribe with a direct relationship to those seeds based on seed collection information, and without the expectation to share or return seed to NS/S in the future.

ii. Seed restrictions and rematriation will be considered following formal, written requests from the following:

1. Donors or descendants of original donors
2. Official Tribal Executive Branch
3. Tribal Council
4. Official Cultural Resource Representatives, at the request of Tribal Government leadership
5. A grass-roots tribal organization with the backing and support of official tribal government representatives of the executive branch or council

iii. Rematriation process: In the case of a return of seed to an original donor or descendent, NS/S will return the original seed when available and a recommended population size so that the individual might grow and share the seed with others. This amount will depend on the available quantities of that particular accession. Approval for seed donor returns will be made by the NS/S



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Executive Director. Original seed donor information (including names) will only be shared with donors, descendants of donors, and tribal governments in official meetings about tribally affiliated seeds and/or rematriation.

A request from a tribe to restrict seed distribution or tribal (non-donor) rematriation will initiate a formal engagement process, that will begin by informing regional tribes of the request and inviting comments. NS/S will meet with the requesting party to share information about the requested seeds, including information about seed quantities, original donors and collection locations, germination rates, health concerns, and grow-out history. Additionally, and depending on the nature and size of the request, NS/S will have a dialogue with all interested tribes regarding the request to allow their voices to be heard, and to gather information needed to come to a resolution that is fair and equitable for all affected tribes. A determination or outcome will not be decided at any of the initial meetings. After engagement with the requesting tribe and other interested tribes has been completed, and information is gathered, the NS/S BOD will make the final decision at the following BOD meeting.

In the case of tribal (non-donor) rematriation, NS/S will return all “original,” “distribution” and/or “increase” quantities of seed to the receiving entity or entities at no cost and with no expectation of return. In line with the conservation mission and mandate of NS/S, including the intent of many original seed donors, NS/S will consult with the tribe to determine how NS/S may retain samples of seed for conservation, possible regeneration, back-up, and future requests.

- iv. Seed Donation process: NS/S invites requests from organizations ineligible for rematriation but focused on improving seed security and seed access within their own communities. When seed quantity is sufficient, NS/S may donate accessioned or unaccessioned seed to support seed increase and distribution within a community. NS/S may donate regardless of whether the requesting group has a direct cultural tie to the seeds requested, but priority will be given to organizations that are culturally related to the seed. Quantities donated will be at the discretion of NS/S staff and will depend on availability. NS/S may also work with stakeholders to increase seed for this purpose. Eligible organizations for donated seed include, but are not limited to, tribally affiliated seed banks, libraries, and farms, as well as food security and seed sovereignty initiatives. Approval for seed donations will be made by the NS/S Executive Director.

**VIII. Research** - The primary goal of research is to strengthen knowledge around arid land farming in support of NS/S stakeholders, including Indigenous communities of the US Southwest and northwest Mexico, small-scale farmers and regional seed savers. NS/S cooperation with a researcher involving seeds within the collection requires completing a research request form which describes the nature of the research. Research requests will be





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evaluated for acceptance by the Agronomic Outreach & Education Manager. If accepted, a Material Transfer Agreement with a Memorandum of Agreement will be signed by the Executive Director.

In the case of research with Indigenous affiliated seeds, the researcher should have an outreach plan to share results with affiliated communities and target stakeholders. All researchers should describe existing or past collaboration with Indigenous communities, support from relevant tribal organizations and/or proof of a tribally affiliated review process, such as an Institutional Review Board. NS/S will prioritize Indigenous-led research proposals.

**Research topics should:**

- a) Promote education and applied research that will benefit small farmers in arid-lands growing heirloom seeds and seed saving;
- b) Not have any commercial or proprietary outcome interests such as utility use patents and plant variety protections or trademarks;
- c) Areas of research might include but are not limited to:
  - i. Assessment of agronomic traits such as flavor, color, productivity and disease and heat/drought resistance
  - ii. Cover crop farm trials
  - iii. Best practices in seed production, germination and saving
  - iv. DNA analysis to map plant migrations and relationships
  - v. Trait comparisons to help identify archeological samples