Upper Midwest SEED GUIDE

Seed Saving Basics Through the Seasons

INDIGENOUS SEED KEEPERS NETWORK

ISKN

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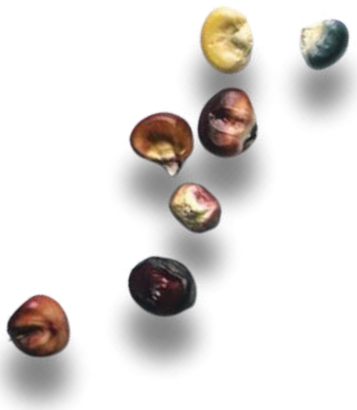

INDIGENOUS SEED KEEPERS NETWORK

The mission of the Indigenous Seed Keepers Network (ISKN) is to nourish and assist the growing Seed Sovereignty Movement across Turtle Island (North America). As a national network, we leverage resources and cultivate solidarity and communication within the matrix of regional grass-roots tribal seed sovereignty projects. ISKN is a program of national Native-led nonprofit Native American Food Sovereignty Alliance (NAFSA).

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SEED GUIDE

This guide is a **resource of the Upper Midwest Indigenous Seed Keepers Network (ISKN).** Intended for broader public use. Designed to support beginner Indigenous seed keepers and advance tribal seed sovereignty.

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INTRODUCTION

Seeds remind us of our responsibility—to each other, the land, those who came before us, and our descendants.

SEED REMATRIATION

While some communities have held onto the very seeds of their ancestors, many Native people are working to bring their seeds home. The process of reclaiming ancestral seeds is called “seed rematriation.” When our seeds return home, so do our lifeways, ceremonies, songs, crafts, culinary traditions.

OUR RESPONSIBILITY

Seedkeeping is a collective responsibility. Every person and every generation has a role in the life cycle of a seed and in reclaiming seed-related lifeways. Children plant seeds in the soil. Elders share knowledge as we all braid up corn, snap beans, winnow, cook. Everyone eats. Together we maintain our relationship with the seeds. Our seeds live and adapt alongside us. It is our responsibility to take care of our seeds so the seeds can fulfill their responsibility to take care of the people.

SEED PLEDGE

Please care for these seeds in a respectful way. They are a gift of Life. By accepting this packet, you pledge that these seeds or their derivatives will not be given or sold to a party that is interested in patenting, licensing, or restricting others' use of these seeds.

SPRING

It is spring. The days are longer, sunshine warms the soil. The **seeds are asking to be planted.** Each community and family may start seeds in different ways—with songs, ceremony, soaking seeds in medicines, holding seeds in our mouths before tucking them into the soil. We plant with offerings, starting with tobacco, care and intention. We **remember our responsibility to the seeds** and our original agreements to each other. If we take care of the seeds, they take care of us.

CORN TEACHINGS

Remember to grow enough to save about a third for seed, a third to eat, and a third for feeding the spirits. We have heard this teaching explained in different ways, sometimes taken literally cob to cob, and sometimes taken as an overall guide.

PLAN YOUR GARDEN

When selecting your grow site and who to plant where, consider how much sunlight and water your plants need. Remember **each seed has different needs and reproduces in their own way.** Review each seed packet, keep a seed book around for daily reference, and talk to experienced seedkeepers and gardeners in your community to learn about different crops and varieties.

GROUNDING YOURSELF

Before you dig, especially if you are in an urban area, contact the digger's hotline to take care around gas and electrical lines.

Consider the growing season ahead of you. Plan out what you need for seasons to come for planting, eating, sharing, and storing.

Take your time, work within your immediate capacity while dreaming long-term. The work of healing our relationship with the seeds takes years, lifetimes, generations.

QUESTIONS TO ASK WHEN PLANNING YOUR GARDEN

Reflections: Gauge your knowledge of what region you or your garden is located in.

1. *What is the average rainfall per year?*
2. *How long does the growing season last?*
3. *How much sunlight will your garden receive as the seasons progress?*
4. *Do you need irrigation or are you dry farming?*
5. *What types of pests, diseases, rodents or animals should you consider that may be a non-beneficial factor?*
6. *What techniques can you utilize to mitigate climate change?*
7. *How can ancestral teachings support your garden goals?*
8. *Lastly, how will you establish a relationship with the land you are growing on?*

CROSS POLLINATION

Ancestral seeds are open-pollinated, heirloom varieties, passed down directly and/or with known ties to our communities. Consider cross-pollination and what each plant needs to stay "true to type." This means that generally **the seed produced matches the characteristics of their parents**. Characteristics such as colors, shapes, or drought or flood tolerance, are maintained/selected for over generations, often varying family to family and tribe to tribe.

Isolation means other varieties have been kept away through distance, time, physical barriers, or hand-pollination techniques. Hybrid/first-generation crossed seeds ("F1" label) are relied upon in contexts such as commercial farming and won't be covered in detail here.

Corn pollen travels far. Each corn seed is created by a single piece of pollen entering into each corn silk. **Preventing cross-pollination is very important with corn.** At the same time, corn needs pollen (and therefore genetics) from many plants within the same variety to stay healthy.

Another way to maintain genetic diversity is to periodically trade and mix in corn seed of the same variety from other responsible corn growers. **Relationships with other growers are as important as stewarding your own seed bundle.**

IMPORTANT NOTE

You will hear of folks **crossing two varieties** on purpose. This **can create the start of a new variety or introduce favorable characteristics to an existing variety**. *Since we often work with maintaining ancestral varieties and breeding projects take advanced skills, knowledge, and cultural awareness, we won't cover this in detail here.* Each family, tribe, individual, etc., may select for characteristics they enjoy from a particular variety. Differences within a variety are common and can depend on where and by whom the seed is tended.

CROSS-POLLINATION: SQUASH & BEANS

Squash can be a little complicated for beginners. **Look at the Latin name to find out if the varieties you plant will cross-pollinate.** F*or example: Cucurbita moschata will cross with other moschatas, cucurbita pepo with other pepos and cucurbita maxima with other maximas*. You can rotate which squash you grow out if they have different genuses (pepo can be planted by maxima, maxima by moschata, for example). **Consult your favorite seed book** for more details.

Beans tend to be easier to save, so we often **encourage beginners to start with beans**. Beans are self-pollinating, so they don't require as much separation as corn or squash. It's unlikely they will cross-pollinate and they require fewer plants to maintain genetic diversity.

CROP ROTATION

When gardening, it is good to rotate crops yearly to help diversify the microbials in the soil. You can do this by recordkeeping each year.

THREE SISTERS

Let's look at Three Sisters companion planting:

- ***Corn*** *needs nitrogen in the soil and provides structure for pole beans to climb. (Take care with which varieties you pair together. Some runner beans will overtake corn.)*
- ***Bean*** *plants deposit nitrogen in the soil for the corn.*
- ***Squash*** *leaves shade the ground to contain moisture, suppress weeds, support microbial life, and can help keep away animals. (Be mindful of spacing between plants, as squash can overtake corn plants.)*

This is an Indigenous method of Companion Planting, when all the plants play a beneficial role for each other in the garden space.

1) CORN

Plant corn first *(May full moon—or earlier if in high tunnel, warmer climates)*

2) BEANS

Plant beans second *(once corn is more than a foot tall)*

3) SQUASH

Plant squash last *(a week or so after planting beans)*

Adapt your plan to your climate, your community's teachings, and the needs of particular seed varieties.

A NOTE ON DIRECT SEEDING

- Corn and beans generally want to be direct seeded (planted right in the soil)
- Squash and tobacco can be direct seeded or started in trays indoors and transplanted out into the field/garden.

Familiarize yourself with each crop and the particular varieties you grow.
Remember, **seeds adapt to where they are.**

COVER CROP & SOIL HEALTH

In the season where the plants are harvested for fruits and seeds, the fields are put to rest; the microbial community still thrives. It is time to throw down some cover crop. You can find mixes for each season:

Winter mix may contain: *Winter Rye, Daikon Radish, Hairy Vetch*
Spring mix may contain: *Sunflower, Soybean, Sorghum, Horse Radish*

COMPOST & MANURE

Soil amendments such as **compost and manure can help improve nutrients available to plants, influence pH, and affect soil structure**. Be intentional, you can overdo it. Timing matters so that amendments are incorporated and don't introduce pathogens. Source soil amendments such as compost and manure from reputable, local vendors if you can to **avoid introducing an invasive species** that could harm the local ecosystem.

OTHER SOIL AMENDMENTS

- Vermicompost (worms)
- Worm Juice (worm castings)
- Fish Emulsion
- Mushroom Compost

**Consider at-home compost bins*

SOIL TYPE & SOIL TESTING

When planning your garden space, consider the quality of the soil.

- *What does soil health look like?*
- *What texture is the soil; Is it sandy, clay, a bit of both?*
- *How much sunlight does the area get?*
- *Do I need to build up the soil with raised beds or Hugelkultur?*
- *Do I have the means and access to conduct a soil test?*

Another way to check the soil health is to look for worms in the soil, or identify plants who grow in soil with high pH levels. Avoid high pH for annual plants.

BEST PRACTICES

SEED SHARING ETIQUETTE

Many of us are relearning knowledge disrupted by removal and colonization, so **approaching seed keepers with humility and gratitude is essential**.

- Always ask before taking seeds
- Bring your own seeds to trade when possible
- Avoid taking more than you can grow within a season or two, so seeds do not sit unused on a shelf.

Some families choose not to sell or even share seeds for cultural reasons, and individuals may take years to build enough seed stock to share. **Patience, understanding, and reciprocity are central to proper etiquette.**

RECORDKEEPING

Monitor the first year's growth, in either a journal or calendar:

- *When are the plants more established?*
- *Are you dry farming or irrigating?*
- **Record**: *Soil deficiencies, crop rotation plan, volunteer plants*

This information can help you learn about soil health and make a plan.

SUMMER

It is summer. The garden is in bloom, the days are long. The corn grazes our knees. The squash and beans are growing quickly behind to feed the soil and protect the garden.

Songs, prayers, and daily visits go into our relationship with the plants. We maintain good farming practices and deep care for the seeds.

SCOUTING FOR SEEDS, A DAILY PRACTICE

Seedsaving begins long before harvest. It starts with watching plants throughout the season and **choosing the strongest, healthiest plants**. Look for traits like vigorous growth, well-formed pods, cobs, or fruit, consistent coloration, and growth patterns that are true to type.

*For **corn**, this includes choosing cobs with straight rows and kernels that are full and well-developed, while removing any that show signs of cross-pollination, like more rows than anticipated or different colors or shapes of the seeds.*

*For **squash and beans**, we harvest seeds from plump, healthy fruits that best represent the variety's traits. Abnormalities can signal pests, diseases, or inbreeding or other issues that you would want to rogue out. This can be addressed by not saving seeds from those plants and trading seeds of the same variety with other growers.*

PESTS & DISEASES

With climate change comes new pests and diseases. Familiarize yourself with common issues in your region and monitor for early signs so you can intervene right away. Some diseases are difficult to diagnose and may require you to send in a sample of the plant to a lab to identify and address it.

PREVENTION METHODS

To help your plants weather some insect damage or an issue such as powdery mildew and still reach maturity, while preventing the spread of the issue:

- Weed!
- Water properly
- Clean your tools
- Pull & burn diseased plants
- Change clothes and shoes travelling between different fields
- Maintain good soil health for healthier plants and disease prevention
- Practice good gardening/horticulture techniques
- Don't seed-save from plants susceptible to damage. Select from the healthiest plants possible, including those resistant to pests and diseases.

REAL-LIFE EXAMPLE

"In 2019, our farm in Hugo, Minnesota, had grown over 600 pounds of winter squash varieties. They were distributed out to the communities. That next year, we grew the same winter squash only to be hit with a late spring frost. This led us to sow another succession of winter squash. When the winter squash was planted in our garden, they were able to establish themselves. Suddenly, they began to wilt and die. We watered them, and monitored their growth. It is unusual for the winter squash to die off as such. We assumed it was a disease. We uprooted the squash and took the plant directly to the fire, without further assessment of the plant. My frustration led me to examine the base of the plant. It was then I saw a huge grub the size of my pinky, burrowed in the base of the squash plant. I took pictures and searched online. ***Squash Vine Borer, was the squash killing grub.*** *Since 2019 we have not grown squash due to the Vine Borer infestation that happens in late July. Up until recently, together as a collective team, we found a solution to combat the Squash Vine Borer. In the 2025 season, we were successfully able to distribute over 600 pounds of winter squash out into the community again. Through this, I've learned it is good to be persistent and find ways you and the Seed Relatives can work together to ensure food goes out into the community by staying up to date on pest diseases and how climate change affects the ecosystem."*

— Shamira Caddo (Dream of Wild Health)

WEED OR MEDICINE?

Take note of volunteer plants in your garden (ones you didn't plant) and work to identify them. **Some are food, some medicine, some may outcompete Native or annual plants** and need to be weeded out. In Minnesota, a common volunteer plant is the Black-Eyed Susan.

Black-Eyed Susans attract beneficial pollinators, such as dragonflies, which naturally prey on mosquitoes. The root of the plant is harvested for its medicinal properties.

COVER CROP & SUMMER SOIL HEALTH

Make sure the ground is covered. Utilize clovers, hay, burlap sacks, wood chip mulch, even wild rice hulls, to suppress the weeds and deter heat from the direct sunlight. Doing this will also benefit the soil microbial community.

'WEEDS' AS FOOD & MEDICINE

Many of the "weeds" in the garden are "Volunteer Plants" and/or "Medicine." **It's our responsibility to get to know these plants and help steward them, in balance with our annual crops in the garden**.

Weeding is an opportunity to identify and build relationships with plants and distinguish their gifts. Some other plants to look out for who provide food or medicine are *dandelion, yarrow, plantain, clover, purslane, lambsquarters*, to name just a few.

Who shows up in the garden can depend on the existing weed seed bed in the soil, which plants you decide to weed out or keep in the garden, and which seeds travel by animal relatives such as birds, wind from neighboring lands, from shoes or clothing, and more.

INVASIVES & OUR ROLE AS NATURE

Some plants are more aggressive non-native plants (invasives) who may have medicinal and other value, but also may outcompete native plants or rapidly take over disturbed areas after burns or tilling where we might prefer to have traditional plants.

Even some native plants are so resilient that they may take over and require some tending to maintain biodiversity. **Our ecosystems depend on human relationships and interventions, such as prescribed burning, to stay healthy and support a wide variety of life.** Work with experts on how to handle these plants and be mindful and intentional with your land and plant stewardship.

TRADITIONAL CULTURAL FIRE

Traditional Fire Practices are utilized by tribes across Turtle Island and Mother Earth, and have been for eons. **Just like our seeds, many Indigenous peoples have maintained this practice and many are reclaiming fire to tend ecosystems, maintaining biodiversity and healthy landscapes.** Fire is part of our relationship and responsibility to the land. Burn tall annual grasses that may not degrade on their own, making nutrients available in the soil and clearing space for new growth. Use fire to manage blueberry patches or clean off your garden. Fire takes planning and expertise. **Seek out resources and have a plan before your burn.** Identify any local or tribal fire requirements, traditional cycles of burning (when to burn, how often), and which plants and landscapes depend on fire.

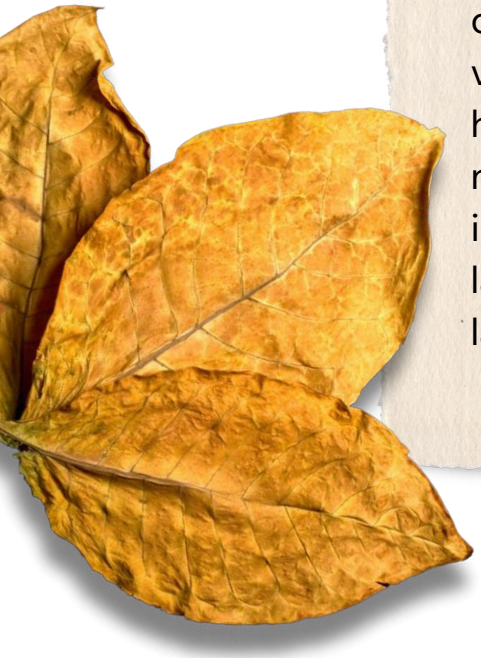
WILD RASPBERRIES LOVE FIRE!

FALL

It is fall. Together, we harvest food and seeds, braid up corn, snap beans, cure the squash. Process down tobacco seeds and leaves. Visit the drying harvest every day. Embody gratitude. Remember offerings, songs, ceremonies. Bring in all of the generations. Harvest season is another reminder of how we need each other as much as we need the seeds.

WHEN & HOW TO HARVEST

Knowing when to harvest seeds begins with understanding each plant's natural signals. With **corn**, cobs dry down in the field, and we select cobs at harvest that have straight rows, proper coloring, and consistent kernels. For **beans**, pods must dry on the vine until they feel papery and the seeds rattle inside; harvesting too early leads to immature seeds that will not germinate. Harvest **squash** seeds only after the fruit is fully mature and the vine starts to dry. Choose the largest and healthiest squash for seeds. Rinse off and lay the seeds out on a paper bag to dry thoroughly.



SEED PROCESSING

How to process down seed depends on the type of seed.

Corn gets braided and hung up for a few months before being shelled (removing dry seeds from the cob), winnowed (blowing away the chaff with fans, wind, winnowing machines, or winnowing baskets), and stored away when fully cleaned and dried.

Beans can be pulled pod by pod. Or pull and hang the plants. Then thresh and dry further once plants are dried down. Many of us shell beans by hand (snapping the dry pods and separating out the seeds). Try dancing on beans similar to how it's done with wild rice to thresh them. To prevent breaking the beans, lay down thick enough plant material to cushion the beans and wear soft shoes such as moccasins. This is a good job for children and an engaging activity at community events.

Squash can cure in the field or in a cool place, giving the seeds inside a bit more time to mature before removing, rinsing and drying the seeds well. Airflow is very important for squash's thick seeds.

WE'RE HERE TO HELP

Along with seed knowledge holders in your own community, there are online resources and videos on how to braid corn and process a wide variety of seeds. For real-time help, reach out to staff or peers in the Upper Midwest Indigenous Seed Keepers Network at **programs@nativefoodalliance.org**.

WET VS. DRY

Many of our traditional crops require dry processing methods (think crunching, snapping, winnowing). Wet processing ranges from rinsing well and drying with fans—to having to "ferment" seeds in water for a few days. Be sure to pull out your seed books to learn if your seeds require special steps. Tomato, for instance, is a wet-processed seed that requires fermentation to break down the goop protecting the seed.

REMINDER! COVER THE SOIL

As you harvest, remember to have a plan to replace what you've pulled. Leave healthy plants' roots in the soil, plant cover crop to become established before winter, and/or mulch, to protect and feed the soil over winter.

QUICK TIPS FOR DRYING SEEDS

Airflow is critical! Lay seeds out on screens, ideally with fans on them.

- *Shake and move the seeds around daily, especially early on, so moisture doesn't get trapped and cause mold.*
- *For thick, wet seeds such as squash, you can use a dehydrator with the heat turned off to speed up the process.* ***Note:*** *Heat will kill the seed and they won't germinate.*
- *Label your seeds at every step.*

WINTER

Winter is a time of rest and reflection. Our ancestral seeds and gardens are sleeping, fields soaking in the grief and gratitude of harvest season and awaiting the next season of growth.

Cook with loved ones, review your planting records, share your experiences through storytelling. Bring offerings and questions to knowledge keepers.

This can be a time to pay attention to dreams, and find ways to **slow down and deeply listen to our seed relatives** on what they may have in store for us. Finish putting away and packaging seed. Prepare for seed exchanges and share any abundance. Record and share the seeds stories.

PACKAGING SEEDS

Seeds must be completely dry before packaging to prevent mold or sprouting in storage. **Our teachings emphasize keeping seeds away from sunlight, heat, and moisture**, often storing them in glass jars in a cool, dry basement to protect their vitality over the winter.

Good labeling is essential. Mark the containers with their names, where they came from, when they were grown, and, when available, any special stories that go along with that seed. This information is especially important when sharing with others. Packaging seeds into small envelopes with this information also makes seed exchange smoother and helps prevent loss of vital knowledge about each seed's identity and history.

SEED STORAGE GUIDELINES

- *Ensure the percent humidity plus the temperature in Fahrenheit equals less than 100.*
- *Let seeds breathe occasionally if storing in jars/airtight containers. (Open the jars briefly and say hello).*
- *Some folks use paper bags to store seeds, especially the first year so that seeds can breathe and finish drying. Keep away from mice and other pests.*
- *Fridges and freezers can help extend the life of a seed (make sure seeds are dry enough and take extra care to store in airtight containers to keep moisture out. The moisture and cold temperatures will kill the seed).*
- *Just starting out, we recommend taking on seed you can grow out every few years instead of trying to store long-term. Seeds are meant to be planted, eaten, and shared, not hoarded or collected. This is central to rematriation efforts and why some say seed bundle, not collection.*

SEEDS CARRY STORIES

Our teachings remind us that **seeds are living relatives who carry histories, responsibilities, and ancestral knowledge.** When we share seeds, we must also share their names, growing habits, where they came from, and any stories they carry, so future growers understand what they are tending and why it matters.

Stories help keep lineages intact, prevent loss of identity, and remind people that caring for seeds reconnects us to our communities and to generations of growers before us. Passing on these stories ensures continuity across time and strengthens relationships among those who grow and steward these foods.

SEED SWAPS

Successful seed exchanges require preparation and respect for the cultural importance of seeds. Bringing true-to-type, non-hybrid, non-GMO seeds ensures that what you share is reliable and can be grown again in the next generation. Pre-packaging seeds with names, stories, and growing notes helps participants exchange seeds in an organized, meaningful way. Consider structuring swaps in rounds; first for those who bring seeds, then for others. This process honors the work of growers and ensures fair access.

CLOSING WORDS & GRATITUDE

One of the best things we can do to protect our seeds, according to our teachers: Make them a part of our everyday lives. Our seeds need to be grown out regularly, eaten or shared. Work within our communities and intertribally to preserve varieties and keep them genetically diverse.

We rely on seeds for food, culture, and connection. Consider storing seeds in multiple locations. Cooperate with your relatives, friends, and neighbors on grow-outs and secure seed storage. Seeds are an essential part of our lifeways and a cornerstone of tribal food sovereignty and Indigenous economies. We need each other to fulfill our responsibility to the seeds.

We want to thank our many elders, teachers, families, friends, students, everyone who has taught us along the way to inform this beginner's guide. While we put the work in to compile this overview, the teachings we carry come from the seeds themselves, our ancestors, the land and more-than-human relatives around us, and so many people and organizations that have guided us along the way. Just like the seeds, knowledge is held in community. We are still learning and only sharing the little bit we have learned so far. We encourage anyone reading this to seek out learning opportunities wherever you can. We're here to help and support you in building your own bundle of seeds and knowledge, as we all navigate the many lessons in the garden.

Thank you for taking care of the seeds and for taking care with how you interact with this guide.

— Indigenous Seed Keepers Network (ISKN)

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