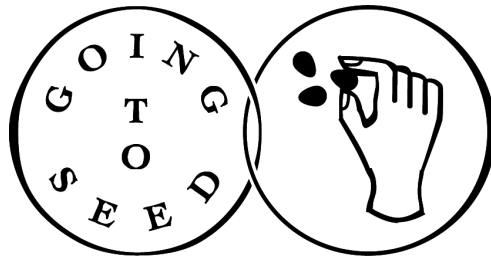


RESOURCE GUIDE

Cultivating Diversity:
Securing our Local Food Future
through Seed Saving



Shifting agriculture towards
adaptation, community and diversity

THE BENEFITS OF DIVERSITY

Saving seeds is often difficult for gardeners due to recommended isolation distances and minimum population sizes. Instead, gardeners buy seeds every year, avoiding any chances of cross pollination. These purchased seeds are often grown far away, in very different conditions, and are susceptible to local pests and other stressors. Gardeners then step in with row covers, sprays, and soil amendments, because the seeds aren't adapted to their conditions.

But it's possible to grow resilient, locally adapted plants that produce reliable and delicious harvests. In order to successfully do that, we need to start embracing natural genetic diversity and cross pollination instead of avoiding it. This guide will help you grow healthier, tastier crops while improving your food security.



FIVE GUIDELINES

1. **Celebrate diversity and encourage cross-pollination.** Genetic diversity allows a population to change as conditions change. Adaptation is faster, plant resilience and disease resistance improve.
2. **Encourage selection by the ecosystem.** Aphids, root maggots, blights, mildew, frosts, and drought teach your plants to be strong. Stresses give plants the opportunity to develop resistance to environmental pressures naturally over time.
3. **Select for traits that you value.** Flavor, color, nutrient density and early maturity are some things you might consider.
4. **Save seeds.** Plants can adapt to local conditions. Genetic changes occur through epigenetics, human selection for desired traits, and through the plants' inherited microbiome.
5. **Share seeds with your community and local seed libraries.** Local food and seed security involves the whole community. Swap seeds with your neighbors, share your successes and enjoy theirs.

GETTING STARTED

THE FIRST YEAR

- Choose one or more species to work with and obtain seeds. You don't have to be extreme: allowing cross pollination between 2 somewhat similar zucchinis will increase diversity and plant health.
- Plant different varieties together.
- Save seeds from any plant that produces seeds. Focus on increasing diversity and quantity.

THE SECOND YEAR

- Repeat the process from the first year. Yields will increase because the plants have already demonstrated their ability to produce seeds in your environment.
- Save seeds from plants with desirable traits and flavors.

THE THIRD YEAR AND BEYOND

- Taste everything and save seeds from plants with the traits you love.
- Maintain genetic diversity by selecting 50-80% of seeds from your favorite plants and 20-50% from the rest.
- Share seeds with your community.
- Occasionally add new varieties to maintain genetic diversity and add traits you love.

RECOMMENDED SEED SOURCES

Your local seed library is a great place to start. Going To Seed also offers mixes of seeds saved by member gardeners. The companies listed below have great quality seeds -- try searching for "mix", "grex", or "landrace." Those on the right sell diverse or landrace seeds.

Adaptive seeds

Cultivariable (potato and tuber seeds)

MASA Seed Foundation

Native Seeds/SEARCH

Nichols Garden Nursery

Peace Seedlings

Pinetree Garden Seeds (many varieties in a packet)

Seeds Trust

Siskiyou Seeds

Southern Exposure Seed Exchange

Wild Garden Seeds

The Buffalo Seed Company

Experimental Farm Network

Giving Ground Seeds

High Ground Gardens

Miss Penn's Mountain Seeds

Snake River Seed Cooperative

Wild Mountain Seeds

	Crop	Crossing Rate
Very Easy	Bean, Fava	~30%
	Bean, Runner	~35%
	Corn	High
	Cucumber	High
	Melons	High
	Spinach	High
	Squash	High
Easy	Asparagus	High
	Barley	~10%
	Cabbage, Kale, Broccoli	High
	Eggplant	~10%
	Okra	~10%
	Pepper	~10%
	Radish	High
	Sunflower	~50%
	Tomatillo	High
	Wheat	~10%
Hard	Beet	High
	Carrot	High
	Onion	High
	Parsnip	~30%
	Potato	
	Rutabaga	~20%
	Sweet Potato	High
	Tomato, Domestic 1*	~3%
	Turnip	100%
Very Hard	Bean, Common	0.5-5%
	Bean, Garbanzo	Low
	Garlic	
	Lettuce	~3%
	Pea	0.5%
	<u>Sunroot</u>	100%

For non-listed species, you can estimate the ease of conversion to landrace gardening by looking at the flowers. If they are annuals that attract lots of pollinators, or if they use wind dispersal of pollen, they are on the easier end of the scale.

1* Consider domestic tomatoes hard because of limited genetic diversity and low outcrossing rates.

ON MIXING VARIETIES

AVOID MALE STERILITY

Commercial hybrids are often made using cytoplasmic male sterility (CMS), a trait which causes plants not to produce viable seeds. Choose open-pollinated or heirloom varieties when buying commercial seeds. Seed companies don't need to disclose how they create hybrids, so avoid all F1 hybrids when buying seeds, unless you know that they weren't produced using CMS lines.

AVOID CROSSES YOU DON'T WANT IN YOUR KITCHEN

While increasing genetic diversity as much as possible will always make the plant healthier, it may not always make you happier! Here are some crosses to consider carefully or avoid altogether. (Parentheses indicate our recommended separation distances that will limit crossing to less than 5%).

- **Sweet corn is used differently from grain corn.** Corn pollen travels a long way, so choose to grow one or the other. (100 ft).
- **Hot peppers** can cross with sweet peppers making the offspring spicy. (30ft).
- **Pepo Squash:** Summer squash, pumpkins, and spaghetti squash will cross and may be undesirable. Decorative gourds are also in this family, and carry a gene that causes bitterness. (100 ft).
- **Wild plants.** You may occasionally have wild plants that grow near your garden. It's not a reason not to save seeds, but you'll have to be more mindful in looking for the wild crosses. (30 ft).
- **Kale, cabbage, brussels sprouts** and anything else in the **brassica family** will cross with each other, which you may not want. (30 ft).

There are other crosses that you might avoid, depending on what you like to grow and eat.



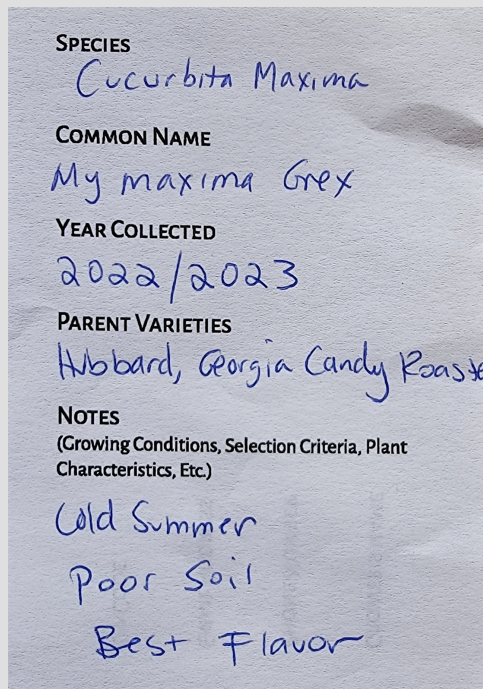
MIXING ISN'T FOR EVERYONE, EVERY SEED

Seeds and humans often have deep cultural connections. Certain cultivars or heirlooms may evoke memories of childhood, or be important for any number of reasons. Some people are stewarding traditional, culturally important seeds. Whatever the reason for an attachment to or appreciation of specific food crops, we want to recognize and give credit to the seed guardians all over the world. Individuals may want to keep particular varieties or populations genetically distinct, and such strategies can and should coexist alongside genetically diverse crops.

JOINING A COLLABORATIVE SEED PROJECT

Be sure to read about when to harvest the fruit or seed, and how to best clean and dry the seeds for those species. Your local seed library can recommend resources to get started.

Seeds contributed for the community seed project don't have to be cross pollinated. They can be any heirloom or open pollinated variety that did well in your garden. There is no minimum number of seeds required to participate, but if you are able to contribute generously, it is appreciated. Extra seed will be sent to Going To Seed, and will not be wasted.



SPECIES
Cucurbita Maxima

COMMON NAME
My maxima Grey

YEAR COLLECTED
2022/2023

PARENT VARIETIES
Hubbard, Georgia Candy Roaster

NOTES
(Growing Conditions, Selection Criteria, Plant Characteristics, Etc.)
Cold Summer
Poor Soil
Best Flavor

Once your seed is cleaned and dried, submit the information on the left with your seeds. If you don't know the answer, just indicate that.

Include your name, email and location info, and drop the seeds in the designated location.

Your seed library organizer will contact you about volunteering to create and package the mixes.

GETTING SEEDS BACK FROM THE PROJECT

After the first year, you will have access seeds which have already gone through an initial selection process, and are locally adapted to your area. These packets will be available to seed contributors first, and then to the community. Your local seed organizer will be in touch about how and where to access the seeds available to seed contributors.

ADVANCING SELECTION CRITERIA

In your second year and beyond, you can be more selective in your contributions by choosing seeds from only the tastiest, earliest and healthiest plants. This will ensure that every year the quality of the community seed pool increases.

CUCURBITA SPECIES

There are three common squash species grown in gardens: Maximas, Moschatas, and Pepos. Squash of different species don't cross with each other, so they can be planted next to each other without concern. For squash of the same species, maintain at least 30 feet between plants that you don't want to cross. A buffer of other flowering plants will also help minimize cross pollination.

CUCURBITA MAXIMA

- Fruits are usually large with thick, hard skins
- Seeds are larger than other species, can be white or brown
- Stems are larger and softer/spongy

Common varieties include Buttercup, Hubbard, Kabocha, Banana, Red Kuri, Turban, and Sweetmeat.

CUCURBITA MOSCHATA

- Fruits are generally tan colored, occasionally green or orange
- Smaller Seeds
- Hard narrow stems, usually ridged, five sided and flared

Common varieties include Butternut, Long Island Cheese, Dickenson, Seminole and Trombocino.

CUCURBITA PEPO

- Fruits are white, green, yellow, and orange and can weigh up to 30 pounds
- Seeds are large and flat
- Stem is five sided, star-like and very angular

The Pepo species is the most diverse squash species. Types include zucchinis, yellow summer squash, patty pan, hullless pumpkin, spaghetti squash, Jack-o-Lantern pumpkins, Acorn, and Delicata. Most decorative gourds are also in the Pepo species, and can be a source of bitterness in any potential crosses. Avoid saving seeds if decorative gourds are grown in the vicinity.

HARVESTING & SAVING SEED

Winter squash should be harvested when a fingernail can't dent the skin, then cured for several weeks at room temperature before tasting and removing skins. Save seeds from healthy plants that produce tasty squash. Squash normally grown as summer squash should be left on the vine until they are fully mature.

BRASSICA SPECIES

Several of the vegetables we commonly grow and eat are in the Brassica family. Wild ancestors have been bred for generations to bring out the characteristics that define each food crop. It's important to be aware of what species something is, and what it can cross with.

Brassica Oleracea

- Kale
- Broccoli
- Cabbage
- Cauliflower
- Brussels Sprouts
- Collard Greens

Brassica Rapa

- Mustard
- Bok Choy
- Napa Cabbage
- Rapini
- Tatsoi
- Turnip

CROSS POLLINATION

Brassicas are obligate out-crossers. This means that they must be pollinated by another plant. This also means that they readily cross with other brassicas nearby. If you're looking to maximize hybridization, plant one of each variety and watch them mix and match. If you don't want something to cross -- say your kale and your cabbage -- be sure to separate by at least 30 feet, or ensure that they aren't blooming at the same time.

HARVESTING & SAVING SEED

Brassicas are biennials, and generally flower after their first winter. This means you will likely be harvesting seed in the second summer after you plant. Plan on a different timeline than you would for annual crops.

FREE RESOURCES FROM GOING TO SEED

ONLINE COURSES

Courses are online and self-paced, featuring video lessons from knowledgeable instructors, readings, and resources.

COMMUNITY

Come connect, collaborate, inspire, and share seeds with others in the Going to Seed community. It's a place for your knowledge to be cross-pollinated, evolved, and applied. Gain insights, share ideas, troubleshoot your issues, and receive feedback at [LandraceGardening.Discourse.Group](https://landracegardening.discourse.group).

SEEDS

Seeds have been collected from growers across the United States & Canada, carefully mixed into collections designed to enable you to start breeding the landrace that is perfect for you, your location, and how you grow.



Visit GoingToSeed.org to learn more