

Mini Seed School 2022

Basic Seed Saving Principles

By Alex O'Hanlon

Seed Saving is the practice of collecting seeds from the garden every year and then storing them to be planted out the following year. The process that you use to save seeds for each plant is different, but there are some general principles that you can apply to every plant. Although, the way you apply these principles will be different for each plant. The way to know how to apply these principles to each type of plant is to look it up in the accompanying information packet. You can also look up seed saving information for specific plants online, or a good seed saving book. As you save seed each year, you will become more familiar with each plants' unique process and you won't have to look up as much information each year.

Basic Seed Saving Principles

Decide on your approach to seed saving

The approach you take to seed saving can change from year to year and plant to plant

- Preservation- This is a good place to start as a seed saver. The goal of preservation is to save seed that is **true to type**, that is seed that results in plants that resemble the plants that the seed came from. You will need to start with open-pollinated seed.
- Creation- This is where we become plant breeders. The goal of creating a variety is to select for certain traits that you want a plant to have, like color, taste, drought tolerance, or pest resistance (just to name a few). You can take this approach to some degree as you try to preserve a variety. For example, if you want to select for drought tolerance you might only save seeds from plants that display that trait. To create a variety takes observation, selection, and time.

Source your initial seed from a reputable source

Especially if you are trying to preserve a variety you need to start with **open-pollinated seed**. Open-pollinated seed is seed that is naturally pollinated by the wind or insects. Some good sources for open-pollinated seed are:

Omaha Public Library's Seed Library
Blazing Star Seed Cooperative
Seed Savers Exchange

Meadowlark Hearth

Fedco (check to make sure it is open-pollinated though!)

Plan out your space

When planning out your garden for successful seed saving you are going to want to figure out how many plants you need to grow and how far away you need to keep those plants from plants of different variety that they could cross-pollinate with.

- **Minimum population-** the amount of plants of a certain variety that you need to have in order to maintain genetic diversity (so that your plants remain healthy and can resist pests and disease)
- **Isolation distance-** the distance plants of a certain variety need to be from plants of another variety so that they don't cross. This is especially important if you are trying to preserve a variety because if two varieties cross you can not be sure of the results. However, if you are trying to create a variety you very well might intentionally place two varieties near each other so that they can cross. You will not know what the results of the cross-pollination are until the following season when you plant out the seed that resulted from the cross-pollination.

The minimum population and isolation distance is different for each plant. The way to know what the minimum population and isolation distance of different plants is is to look it up on the accompanying seed saving chart or to look it up online or in a good seed saving book.

Grow out your plants, care for them so that they are healthy

Harvest the seed at the appropriate time

When to harvest seed that is mature and ready to be saved is different for each plant. Use a seed saving guide to find out the appropriate time to harvest for different plants.

Process the seed using either wet seed saving techniques or dry seed saving techniques

For plants that have mature seed that is wet, like tomatoes and peppers a wet seed saving technique is best. For plants that have mature seed that is dry a dry seed saving technique is best. See the following page on dry and wet seed saving for more details.

Run a germination test

A germination test is when you try to sprout the seed to make sure that it is **viable** (ie that it will grow a plant). You can do this by planting the seed to see if it sprouts or you can run a germination test by using two damp paper towels. To run a germination test

place one damp paper towel on a table. Place 30 seeds evenly spaced from each other on the paper towel. Gently place the other damp paper towel on top of the seeds. Carefully place the paper towels containing the seeds inside a gallon plastic bag and seal the bag. After seven days hold the bag up to the light to see how many seeds have germinated. Check again after 14 days. You can figure out your germination rate by counting the amount of seeds that germinate. If you placed 30 seeds and 30 germinated, then your germination rate is 100%, if only 15 germinated then your germination rate is 50% etc. This is good information to have before you share seeds and to help you plan your garden for next year. Put this information on your seed label.

Store the seed

Seed is best stored in cool, dry, dark location that maintains a consistent temperature. You can store seeds in mason jars in a basement, or even better a freezer!

Share the seed

You can share seed at seed shares, through seed libraries and/or through Little Free Libraries or Little Free Pantries, or however else you want to share it. If you want to contribute to the Blazing Star Seed Cooperative you can use the Cooperative's Seed Processing Days to process your seed and get it packaged and labeled for easy sharing throughout the community.

Plant the seed and do it all over again. Plant out seed that you saved so that you can observe the plants that come out of the seed you saved. This is how you can check to see if you get the results you were hoping for.

A note on labeling.

It is a good idea to label seeds right after you harvest them and keep that label with the seeds throughout the process and storage of the seeds. Things to consider including on your seed label:

Plant type:

Variety name:

Year the seed was grown out:

Where it was saved:

Who it was saved by:

What is the population minimum:

Was it achieved:

What is the isolation distance:

Was it achieved:

How long did it take for the plant to become ready to eat:

How long did it take until the plant produced seed that was ready to harvest:

Anything else that is special about the plant (is it drought tolerant, does it have especially high yields, is it particularly good tasting or really good for canning):

Any other interesting facts or stories about the seed (did you originally get it from a neighbor or a family member?):

The way we create labels helps us to increase seed saving and create culture around the seeds we save. Have fun with the labels and make your own pictures. Or if you would like, you can contribute seed to the seed cooperative and help to create a label that the cooperative can use to help share out your seed.

Processing Seed

Wet Seed Processing

Wet seed processing refers to using water to separate the seed from plant material, often followed by a fermentation process to help remove barriers to germination and treat some seed borne diseases.

Plants that can be saved using the wet seed saving process include:

- Tomatoes, peppers, squash, cucumber, eggplant

Harvesting tips

- Tomatoes can be harvested when they are market ready
- Cukes, eggplants and zucchini you want to wait until they are past ripe
- Squashes and zucchini can 'cure' for up to 20 days before being processed

Tools needed

- Bowls and buckets
- Water
- Knives
- Cutting boards
- Gloves (if processing hot peppers)
- Sieve

Process

- Remove seeds from the fruit either by scooping or squeezing
- Pour water over seed
- Let ferment for 2-5 days
- Pour off the fermented water
- Add more water, let the seed sit and sink to the bottom, then pour off the water again. Repeat this step until the water is clear.
- Let seeds sit in clean water for 20-30 min, maybe even longer
- Pour or skim off any seeds that rise to the top (seeds that rise to the top are not viable)
- Pour the rest of the water and viable seed through a sieve. Drain seeds of water and lay out on a plate or cookie sheet until they are dry
- Germination test

Dry Seed Saving

Dry seed saving refers to seed saving processes that do not involve water to separate the seed from the plant material.

Plants that can be saved dry

Herbs, flowers, prairie plants, lettuce, arugula, grains, legumes, mustard, parsley, cilantro, dill, annual flower

Tools:

- Paper bags
- Box fan
- Totes, lots of totes
- Hand and feet
- Clippers
- Time :)
- Seed screens

Harvesting Tips:

Identify what part of the plant is the seed

Make sure you use clean tools when clipping off seed head

Only harvest seeds that are fully mature -brown and dried

Test the seeds to make sure they are dried fully, they should crack with your finger nail
Do not harvest from plants that have heavy disease or pest pressure

Process

- The first step to separate the seed from the rest of the plant material (**chaff**) is to break up the dried plant by using your hands or feet.
- After the seed and chaff are broken up they will be separate from each other, but still in the same container. At this point you need to “clean” the seed by separating the seed from the chaff. You can do this by:
 - Using your hands to pick the seeds out if they are very large.
 - Using a seed screen so that either the chaff falls through the screen and the seed stays on top, or so that the seed falls through the screen and the chaff stays on top
 - Winnowing the seed away from the chaff by using two bowls or totes and a fan. To winnow you will pour the plant material from one bowl to another next to the fan. The fan will blow the chaff out of the way and allow the heavier seed to drop into the bowl. It generally takes a few times to get the seed clean.
 - Most likely you will use a combination of these methods to clean the seed
 - Exactly what method works best for which type of seed will be a process of trial and error. You can record which process worked best for you to remember for following seasons and to share the information with other people. :)

What is the Blazing Star Seed Coop

Education and Infrastructure for a more robust seed saving culture in Omaha!

The Coop

The Blazing Star Seed Cooperative (BSSC) is a collection of urban farmers, home gardeners, and community organizations that work together to grow, save, and share as much locally produced seed as possible.

Education

BSSC hosts Seed School (almost) every year. Seed School is a day-long event that dives into the details of seed saving. This is where we discuss seed saving concepts, plant biology, and different planting and harvesting techniques to achieve different results with seed saving.

Infrastructure

Coordinated Growing

Members of BSSC get together in late December/early January to coordinate growing out of certain varieties of plants among members. For example, one person might choose to grow 8 Stupice tomato plants (the minimum population for tomatoes) at their home and another person may choose to grow 8 of a different variety of tomato (say, San Marzanos) at their home. At the end of the season, both members can bring seed from their plots to the Processing Days to be packaged, labeled, and distributed. Because of the coordinated growing the community as a whole will have a source of two different varieties of tomato seeds. Throughout the summer weekly Free Farm Stands create an opportunity for folks to swap produce so that nobody has to give up on variety in an effort to save seed. Anyone can access produce at the Free Farm Stands, and those with gardens can bring down produce that they have too much of from their garden to swap out for produce that they don't have enough of. In this way, folks who want to coordinate growing for seed saving still have access to a wide variety of vegetables for eating, so that nobody has to give anything up to contribute to the seed saving efforts.

You can also grow and contribute seed to the Coop without participating in the coordination efforts.

Seed Processing Days

In the fall BSSC hosts Seed Processing Days. These are held once a week over the span of a month. At the Seed Processing Days participants can bring seed from their gardens, or just help to process seed that others have brought. BSSC provides food, drinks and all the supplies needed for wet seed processing and dry seed processing. Seed processed at the processing days is

- Returned to the participant who contributed the seed (however much they want to have returned)
- Put into the seed bank (10%)
- Packaged, labeled and put into community distribution

Seed Bank

BSSC maintains a seed bank of all the varieties of seed that were locally grown and processed at the seed processing days. Each year a bank of seeds is held back for genetic diversity and emergencies. For the purposes of genetic diversity, seed is held back to mix in with other seed in the future. For the sake of the emergencies, seed from the seed bank (as well as the yearly distributions) can be shared with community members in the event that there is a shortage of seeds like there was in the Spring of 2020.

To learn more about the Blazing Star Seed Cooperative or to get involved email BSSC@gmail.com or follow us on Facebook or Instagram.

General Seed Saving Guide

Check out the chart on the next page for a general guide on how to save some common plants. This guide will tell you the minimum population and isolation distance for certain plants as well as indicate when plants are ready to harvest. If you want more information on how to process and save seed, consider attending seed processing days!