

The Guelph Seed Library is officially open!

We are located in the Guelph Tool Library, 131 Ontario St. (Entrance off Toronto St). <http://guelphtoolibrary.org/>

<http://www.transitionguelph.org/project-list/the-guelph-seed-library/>

We have had a lot of questions about how to save seeds so here some information to get you started. There are also a lot of resources on the internet and books about seed saving.

1. Before you save seed you need to know what the latin names of your crops are. You can easily look it up online if the seed packet doesn't tell you. There can be many varieties within a species that can cross and often we think of crops being different enough to have their own species but they don't. Example: Zucchini and pumpkins are in the same species (*Cucurbita pepo*) so they will easily cross.
2. There are several ways to make sure your crops do not cross:
 - a. Isolation by distance: Only planting one crop per species or making sure they are far enough away from each other (but some crops need a very big isolation distance so this may not be enough). See link for isolation distances for various crops. https://www.seedsavers.org/site/pdf/Seed%20Saving%20Guide_2017.pdf
 - b. Timing, grow short season crops in succession so that they are not blooming at the same time. Example: You want to save seed from 2 types of lettuce. Plant one early, wait 3 weeks then plant the other. They should not be flowering/setting seed at the same time).
 - c. Caging. You can put small mesh bags around flowers to stop cross pollination of self fertile crops, or large cages around a group of one crop to avoid cross pollination. If you are caging you need to know which crops require insects to pollinate. In these cases you may have to remove the cages on opposite days so that insects can visit those flowers. Or in the case of squash, hand pollination is the best method to ensure fertilization without cross pollination.

3. When saving seeds we also want to maintain genetic diversity. In this case it is good to have a large number of plants from the same crop flowering at the same time. The following link gives the number of plants required to maintain genetic diversity for various crops. You do not need to save seed from the whole crop, just the healthiest couple of plants that display the best characteristics (colour, flavour, shape).
https://www.seedsavers.org/site/pdf/Seed%20Saving%20Guide_2017.pdf
4. Before you harvest your seeds you want to make sure the seeds are pretty dry. (Unless you are saving seeds in a fruit like a tomato/pepper/melo/squash...) Usually the plant looks like it is dying/drying out and getting brown. Cutting the plant at the soil line and then laying the plant on a tarp in a dry place for a week or two will help the seeds dry out and capture any remaining energy in the plant. If you are saving seeds from a fruit like a tomato, pick the fruit when it is perfectly ripe, scoope the seeds out and clean them, then lay them out on paper towel to dry for a couple of weeks.
5. Once the seeds are dry you can separate it from the rest of the plant. There are many ways to do this depending on what kind of seeds you are saving. Walking on the pods laying out on a tarp, hand picking, shaking in a paper bag...
6. Remember to label your seed storage container with the seed name and date they were saved.
7. Seeds should be kept in a cool dry place but the most important factor is stable temperature and low humidity.
8. Some seeds will last longer than others. Onion seeds do not last longer than a year or two. Tomato seeds can last for many years.

Examples:

Tomato- If you are only growing one variety of tomato you do not have to worry about cross pollination (also if varieties are different in growth such as cherry vs brandywine they probably won't cross). In this case choose good specimens from healthy plants.

If you have multiple varieties and you cannot maintain the isolation distance (see link above) then you can choose a healthy plant before the flowers open, place a small mesh bag around a few of the flowers and wait until the flowers open. The flowers are self fertile so do not require insect pollination. Once you see a fruit forming you can

remove the bag but make sure you label the stem of the fruit so you know which one to harvest for seeds.

There are 2 methods for tomato seed saving. The first is super easy. You just cut open your ripe tomato and squeeze out the seeds onto a paper towel. Remember to label the paper towel with the variety. Let the seeds dry for a week then scrape them off into a labeled envelop or bag.

The second method is more time consuming but can give a higher germination rate. You squeeze the seeds into a jar with water and let them soak for about a week. Then you pour off as much water (and floating seeds) as possible, add more water, let the seeds settle, pour off water, add more water...until the water is pretty clean. Then scoop the seeds out onto paper towel, let them dry for a week or two, then scrape them off into a labeled envelope or bag.

Kale/arugula- Not all kale will produce seeds. I have had good success with Red Russian kale. Plant the kale early in the spring and allow a few plants to mature and go to flower. Kale can cross with mustards, broccoli, cauliflower, collards...so don't let those other crops go to flower (at the same time).

Once the seed pods are dry but have not opened cut the stalks and place them in a large plastic bag or lay them on a tarp in a dry place out of direct sunlight. You will notice seeds starting to fall into the bottom of the plastic bag/onto the tarp. Use your hands to scrunch the seed pods inside the plastic bags to get all the seed to fall out or walk along the tarp to crush seed pods. If you are using a plastic bag you can push all the seed to one corner, cut a hole and let the seed slide out without getting too much chaff.

If you use a tarp you can remove the large chaff by hand then set up a fan in front of a bin so that when you pour the seeds and chaff into the bin the fan blows the chaff away. If you need to remove more chaff you can use different sizes sieves or a homemade seed winnower. Remember to label a jar/envelope/plastic bag with the crop and date.

Note: Always collect dried seed on a dry day to avoid excess moisture.

Cross pollination:

Cross pollination occurs when pollinators (bees, flies, wind...) move pollen from one plant to another. If you are only growing one variety of a crop then you

probably don't have to worry about cross pollination (although your neighbours could be growing a crop that will cross pollinate). If cross pollination occurs the seeds you save may not grow into the plants you expect. Squash and pumpkins are particularly susceptible to cross pollination. If you are wanting to save squash or pumpkin seeds and you really want them to be true to the parent you have a few choices: If you know the latin name of the squash you are growing do not grow any other squash that have a similar latin name. *Example if you are growing a squash from the Cucurbita pepo family, only grow one from that family. You could also grow one from Cucurbita maxima without worrying about cross pollination. Although again think about what your neighbours might be growing:)*



If you do not know the latin name of your squash and/or you want to grow a number of varieties the best way to save seed without cross pollination is to find a female flower (the flower with a mini fruit already started in the picture) before it has opened. Put a tag on this flower, find a male flower (the one with a straight stalk in the picture) that has not opened yet, cut it from the plant and bring it over to the female flower. Gently open the male flower, you will see pollen on the anthers inside. Gently open the female flower, you can either wipe the

pollen from the male flower onto the stigma of the female flower or use a paint brush to gently transfer the pollen. Once this is done gently enclose the female flower in a fine mesh bag. You can remove the mesh bag once the fruit starts to grow but make sure you have labeled the stem so you know that's the fruit you hand pollinated. You may want to do a few of these incase fruit set doesn't occur or something happens to the fruit before you can harvest the seed. To harvest seed from a squash you must wait until it is ripe. Then you can cut it open, scoop out the seeds and rinse them before laying them out to dry. Place dried seeds in a labeled bag.

If you are unsure if your seed is viable (old seed, first time saving seed) you can perform a germination test.

Germination test:

1. Moisten paper towel
2. Place a couple of seeds to be tested on paper towel
3. Place paper towel in a labeled plastic bag
4. Leave the plastic bag open for a bit of air circulation
5. Check seeds everyday, make sure paper towel is moist but not too wet as seeds will rot. Look for small white roots/shoots coming out of the seeds. Some seeds will take longer to germinate than others. Look up germination times on the internet/in a book so you know how long to wait. Some seeds need warmth to germinate.

The Seed Library accepts all attempts at seed saving. Please label your seeds with the crop, year saved, and whether you took precautions to avoid cross pollination. If you didn't we will be putting those seeds in a "grow at your own surprise" box since we can't guarantee they will get.