

SEED COLLECTING



Seeds

- Inside every seed is a living plant in embryonic form. Seeds, no matter their size or form, are completely self-contained and possess enough food to carry them through dormancy and for the first few days as seedlings. They absorb oxygen and moisture and give off carbon dioxide. They must have enough moisture to maintain this spark of life until conditions are right for them to germinate and grow into new plants.

Considerations

- It is important to know your plants. Be aware that seeds from plants that are cultivars (indicated by “cv” or single quotation marks in the Latin name) and hybrids (indicated by an “x” in the name) will not necessarily produce a plant with the same characteristics as the parent or be viable. Some are trademarked and cannot be collected.
- Plants that are varieties (indicated by “var” in the name), plants that are considered heirlooms and self-pollinating plants will produce seeds that generally breed true.
- Some plants have been bred to be seedless (e.g. grapes), and some are reproduced vegetatively (i.e. from cuttings) because their seeds are sterile.
- Collecting seeds is a way of ensuring heirloom varieties are preserved, a way of saving money and a way of reproducing plants with characteristics we admire.
- The ability of a seed to produce a plant depends on the time of seed harvest and the conditions of storage.
- Choose healthy plants with no disease and which exhibit the characteristics you would like to propagate.
- Collect seeds when they are mature or ripened. It is best to research which seeds must be dry before they are collected and which will continue to mature without being supported by the plant. Collected seeds should be air-dried to ensure they do not develop mould.
- Be sure to obtain permission when collecting seeds on property not your own.

Seed Treatments

- To ensure successful germination, seed savers and collectors should research the germination requirements for the seeds they have acquired.
- Most seeds require a period of dormancy. This is nature’s way of ensuring conditions are favourable not only for germination, but survival of the plant. Plants have evolved to adapt to their particular environment of origin, so as a result there are a variety of methods to break dormancy:
 - Soaking – hydrating seeds is the most common method to break dormancy.
 - Scarification – by scratching the seed coat or treating the seed with a chemical (which mimic the actions of the digestive tract of an animal or bird in nature), moisture can penetrate a hard seed coat more easily.
 - Light exposure – some seeds require darkness or light and some require light of specific wavelengths, such as red or blue.
 - Stratification – some seeds require exposure to cold temperatures for a period of time.
 - Warmth – some seeds require varying temperatures to germinate, mimicking the conditions found in their place of origin.

Seed Storage

- A garden’s success depends in part on the quality of seeds planted. Ensure good quality seed by planting fresh seed from a reputable seed company. Often, there is seed left over after a crop is planted. If there is enough for the next year, save it. Generally:
 - Vegetable and flower seeds may be kept for one year without appreciable decrease in germination.
 - Storage may be extended to 10 or more years under proper conditions.
 - Seed moisture and storage temperature are the most important factors in determining how long seed can be stored.
 - The drier the seeds are, the longer they will store.
- When storing seeds for the future, be aware that different types of seeds should be stored under different conditions. Their ability to produce a plant depends on the time of seed harvest and the conditions of storage. Most seeds should be stored in a sealed, airtight container and kept in a cool, dark area such as the refrigerator (not the freezer). Mark the container with indelible ink including the plant, variety name and the date stored. A layer of powdered milk or uncooked rice at the bottom of the container will absorb excess moisture. Use a paper towel to separate the seed from the absorptive material..
- There are three categories of seed storage based on the lifespan of the seed.
 - Short-lived seeds are those that are viable for short periods, such as a few days or months under the right conditions.
 - Medium-lived seeds are viable for two or three years if stored at low humidity and low temperatures.
 - Long-lived seeds have hard seed coats. They are impermeable to water and can remain viable for up to 15 or 20 years.

Seed Viability

- A viable seed is one that remains alive and is able to produce a live plant.
- Most seeds when stored properly remain viable for several years. Sometimes you can see that the quality of a seed has deteriorated just by looking at it. If a seed should be plump and smooth, but looks wrinkled and dented, the quality of the seed has most likely deteriorated.
- To test the germination of seeds, spread the seeds carefully on several sheets of pre-moistened paper towel. Roll the paper towel carefully so the seeds don't touch each other, and place the rolled-up seeds into a plastic bag. Keep the seeds in a warm place (21-27°C) for incubation. If you are testing more than one variety, be sure to label the rolls. Check the seeds after two or three days and every day thereafter for signs of germination. If a root or cotyledon protrudes through the seed coat, it has germinated. If you test 10 or 20 seeds, you will have a rough idea of the percentage of germination (i.e.: 5 out of 20 = 25%). It is much easier to deal with 20 seeds rather than 100. Remember to take into account the normal germination time for each species. Refer to the chart below for the average viability of some common seeds.

Plant	Average	Plant	Average
Amaranth	Indefinite	Leek	2-3 years
Aruqula	4 years	Lettuce	1-6 years
Asparagus	3 years	Melon (muskmelons)	5-10 years
Barley	Indefinite	Melon (watermelons)	4-10 years
Basil	5 years	Mustard	4 years
Beans (bush and pole)	2-3 years	Oats	Indefinite
Beets	3-5 years	Okra	2 years
Brassica (broccoli)	3-5 years	Onion	1 year
Brassica (Brussels sprouts)	3-5 years	Parsley	1 year
Brassica (cabbage)	3-5 years	Parsnip	1 year
Brassica (cauliflower)	3-5 years	Pea	2-3 years
Brassica (Chinese cabbage)	3-5 years	Pepper	2 years
Brassica (collards)	3-5 years	Quinoa	Indefinite
Brassica (kale)	3-5 years	Radish	5 years
Brassica (kohlrabi)	3-5 years	Rice	Indefinite
Buckwheat	Indefinite	Rutabaga	4 years
Carrot	2-3 years	Rye	Indefinite
Celery	2-5 years	Salsify	1 year
Celeriac	3 years	Sorghum	4 years
Chard (Swiss)	3-5 years	Spinach	1-5 years
Chicory	4 years	Spinach (New Zealand)	3 years
Cilantro/Coriander	Indefinite	Squash/Courgette and Pumpkin	2-5 years
Corn (sweet)	1-2 years	Sunflower	5-7 years
Cress (watercress)	5 years	Tomatillo	3 years
Cucumber	5-10 years	Tomato	4-10 years
Eggplant/Aubergine	3-5 years	Triticale	Indefinite
Endive	5 years	Turnip	4 years
Lamb's Quarters	Indefinite	Wheat	Indefinite
Leek	2-3 years	"Flower Seed" (annual)	1-3 years
Lettuce	1-6 years	"Flower Seed" (perennial)	2-4 years