

About Seeds of Diversity

Seeds of Diversity is a national charitable organization of gardeners and farmers who preserve the rich biodiversity and heritage of Canada's food plants.

Are you a gardener?

Save an endangered plant

- Learn to save seeds from the plants in your garden.
- Grow an endangered variety and help us multiply seeds for our national Seed Library.

Not a seed saver?

You can still get involved

- Grow a rare heritage variety and help document it.
- Discover the amazing diversity and heritage of Canada's traditional plants.

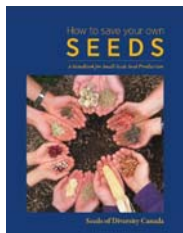
Not a gardener?

Support the volunteers who protect your seed heritage

Anyone can join, and everyone is welcome. Our members provide Seeds of Diversity with donations, assistance at local events, and a strong national voice for food biodiversity conservation and good seed policy.

Your membership includes a subscription to Seeds of Diversity magazine and our annual Member Seed Directory, and it helps hundreds of volunteer seed growers save the People's Seeds on your behalf.

**You can also save seeds by making a donation.
Adopt a variety into our permanent Seed Library.**



Learn more about Seeds of Diversity

www.seeds.ca

Buy our complete seed saving handbook
How to Save Your Own Seeds for \$15

Basic Seed Saving



Maintaining Genetic Diversity: Today we only grow about 10% of the food varieties that are actually available to us. Saving seeds will help diversify the food varieties in gardens and farms, improving nutrition, strengthening local food production, and reducing dependence on agricultural chemicals.

Conservation of Rare Cultivars: In recent years the global food system has focused on an ever-narrowing selection of food varieties. Many time-tested and reliable varieties have been neglected, and they are becoming harder to find. Rare varieties contain some of the most important traits for superior nutritional value, taste, beauty, and potential disease resistance. With constant changes in our climate, and rising food prices worldwide, sustainable crop diversity offers the best hope to adapt the food system to the challenges of the next century. It is crucial to conserve all of the varieties that we can.

Saving Traditional Seeds: Heritage plant varieties belong to all people, and they stand as one of the greatest inheritances of humankind. When you save and share an endangered heritage variety, you help pass a 10,000 year legacy to the next generation.



Seeds of Diversity

People Protecting the People's Seeds

Simple Tips for Saving Your Seeds

Where it all begins: In order to grow *Heirloom* plants, you need to collect seeds from *Heirloom* plants (instead of hybrids). Saving seeds is easier than you think because the plants do all the work. You just have to help them do what they do naturally.

Keep an eye on your plants: Watch your plants during their growth stages. Seeds should be collected from plants that have reached their maturity stage and that are free from disease.

Keep them dry: Moisture causes the little plant inside of a seed to eat its stored food at a quicker pace. Seeds need to be dried before being stored away to enable longevity. Dry your seeds by spreading them out in a dry area with good air circulation. You can also use silica gel to dry them well. Never let seeds heat up above 40 degrees Celsius, since that can kill them.

Don't forget to label: Separate and label your containers carefully. Use a water proof marker and remember to include the variety name, and the year that you harvested the seeds.

Storage Time: After drying and labelling the seeds, store them in a cool, dry, and dark place.



Biennials

Biennials are plants that produce seeds in their second year of growth. Hardy biennials can survive winter in the garden, but tender biennials must be dug up, stored where they won't be frozen, and replanted in spring.

Hardy Biennials - these include Parsnips, Leeks, Swiss Chard

- These roots can be kept in the ground during winter.
- Mulch the plants in autumn after the first few frosts to prevent repeated freezing and thawing.
- Dig the roots up in early spring as soon the ground has thawed. Immediately replant the best looking roots; eat the rest.
- Plants will produce many large flowers in late spring.
- The seeds are ready to harvest when the flowers turn brown, but they don't all ripen at once.

Non-hardy Biennials - these include Carrots, Celery, Beets, Cabbage and its relatives, Salsify, and Turnips

- In early autumn, dig up mature plants with roots intact, before risk of frost.
- Let the plants and roots sit in open air for about a week to dry slightly so they can resist mould.
- Store over winter in a cold, humid place or in a 1 meter deep hole under the garden.
- Replant the roots as early in spring as possible (as soon as the risk of frost is gone).

Storage

Most seeds can remain viable for a few years in paper envelopes in dry air at room temperature. You can extend their lifetime considerably by keeping them cold and dry.

To germinate seeds, they need moisture, warmth, and light. To store seeds, they need the opposite: **dry, cold, and dark**. Dry is the most important by far.

Inside every seed is a plant embryo that lives by "eating" a stored quantity of starch. When the food runs out, the embryo dies and the seed won't germinate. The lower the temperature and humidity, the slower the seed consumes its food, so it lives longer.

Never store seeds in a humid greenhouse, a damp basement or garage, or a growing area where there are plants evaporating water into the air. However, you can store well-dried seeds in air-tight jars in these places as long as the air inside the jars is dry.

Paper envelopes allow moisture to escape, preventing deadly condensation. Several dry envelopes can be stored in air-tight jars for good protection from outside humid air. Jars of seeds can be stored in a refrigerator or even in a freezer for extra longevity.

Here are a few simple methods for testing seed dryness.

- The hammer test: hit a large seed (bean, pea) with a hammer. If it shatters, it's well-dried. If it just mashes, it needs to be dried further (or rather, the others do!)
- The al dente test: a well-dried bean or pea should feel hard when you bite on it. If you can easily make tooth marks, it needs to be dried further.

If the air is too wet for effective drying, try creating a gentle airflow over the seeds with an electric fan. You can dry seeds in a warming oven or dehydrator, but avoid temperatures over 40°C.

Self-pollination and Cross-pollination

Self-pollinating flowers are tightly closed, so insects and wind-blown pollen can't get in easily. They are also **complete** with both male and female parts in every flower. They (almost) always pollinate themselves, making it easy to keep varieties pure. In fact, it's fairly difficult to make hybrids of self-pollinating species.

Self-pollinating plants include:

tomatoes
bush beans
lettuce
peas

In some rare cases, an insect can push its way into tightly-closed flowers, cross-pollinating them over short distances. We recommend that different varieties of self-pollinating plants should be separated by at least 10-15 feet in the garden, but the further the better to ensure that they remain pure.

Cross-pollinating flowers are wide open, allowing wind and insects to transfer pollen between plants for several hundred feet, or even up to a few miles. These plants need to be isolated, either by distance, a physical pollen barrier such as a row cover or cage, or by ensuring that different varieties flower at different times. More information about preventing cross pollination is available in seed saving books.

What's Best for a Beginner?

Start with the self-pollinating vegetables listed above. They're the easiest and most reliable. Enjoy your first seed saving season!

Ripe, True to Type, and Healthy

Seeds must ripen fully on the plant before you harvest them. Bean and pea pods, and most flower seed heads are only ripe when they turn brown and dry. Fleshy fruit such as tomatoes and peppers should be completely ripe, or even over-ripe before they are picked for seed saving.

Although green tomatoes turn red after they are picked, they do not truly grow and develop. Shelf-ripened tomatoes don't have true vine-ripened flavour and nutrition, or high-quality seeds.

If you aren't sure what your mature seeds will look like, keep a few seeds back in the spring. Then you can compare them to the ripening seeds. Compare size, colour and especially plumpness.

Collect seeds from the plants that are most similar to those that you want to grow in future years. If you are trying to preserve an heirloom variety, choose seeds from many plants to maintain the natural diversity of characteristics. For example, some varieties of beans have natural variations in colour within their population. Some of each colour must be saved to preserve the variety completely.

If you want to breed your own new variety, collect seeds from the plants that you like best. For example, if you collect seeds from the first ripe tomato each year you'll select early-ripening genes. Eventually all of the resulting tomato plants should bear fruit a little earlier. You could also collect seeds from your favourite colour of a mixed planting of annual flowers. Every year you should get a higher proportion of that colour in your own special mix.

Choose seeds from plants that are free from disease. Some disease organisms can survive on the seed surface and re-infect the whole planting next year. Seeds that are lumpy, mouldy or discoloured should not be kept for seed.

Cleaning

After you harvest seeds, they should be separated from the fruit, seed heads, and other plant parts before storage.

Dry Seeds - Most seeds are dry and brown when you harvest them. These include bean and pea pods, herbs, and ornamental flowers.

- Harvest the pods or seed heads when they have fully matured and dried out.
- Store pods / seed heads in a dry area before separating the seeds. They are dry enough when they crumble in your hands.
- Crumble the pods or seed heads in a large bowl or bin.
- Shake the bowl, allowing the seeds to fall to the bottom and excess chaff (leaves, stems, flower parts) to sit on top.
- Separate the remaining chaff from the seeds with a screen.

Wet Seeds With No Pulp - Some seeds are found inside moist fruit and vegetables. These include Peppers, Melons, & Pumpkins.

- Harvest fruit when they're fully ripe on the plant.
- Store long-keeping fruit such as squash and pumpkins for at least 3 weeks to allow the seeds to mature further. Skip this step for short-keeping melons, peppers, etc.
- Cut the fruit and scoop out the seeds; eat the rest.
- Rinse the seeds and place them on a plate or sheet of glass to dry (seeds will stick to all kinds of paper while drying).

Wet Seeds Surrounded by Pulp - Some seeds are surrounded with a jelly-like pulp. These include Tomatoes and Cucumbers.

- Harvest fruit when they're fully ripe on the plant.
- Cut each fruit in half, and squeeze seeds and pulp into a jar.
- Let sit for 3-4 days at room temperature. The pulp will get smelly so a lid is a good idea.
- When the pulp is fully rotten, pour water in the jar. Seeds will sink, mouldy pulp will rise. Pour off the pulp
- Strain seeds from water and let them dry on a plate.