



Seeds



The importance of local and sustainable seeds

We encourage **sourcing regionally adapted, locally and sustainably grown open-pollinated seeds** from small businesses !

Ottawa and its surrounding areas are in plant hardiness zones 4a, 4b and 5a. Plant hardiness zones (also known as Growing Zones) are determined by calculating a region's minimum winter temperatures, the length of frost-free period, the amount of rainfall, maximum temperatures, snow cover, as well as wind speed. A region's growing zone can often determine which plants will thrive in its climate. What's more, by exploring the Canadian Government's [growing zone map](#) (provided by Natural Resources Canada), you can determine the zone you are in, and source seeds adapted to a similar growing zone, even though it may be far away. By sourcing *regionally adapted* seeds, we are buying seeds that thrive in our climate, or that have been acclimatised. We are also supporting our local farmers and businesses.

Buying *locally grown* seeds can help reduce our environmental footprint, whilst supporting our local farmers. See the resources section at the end of this guide for a list of local seed growers. Most seed companies operate online and can send seeds right to your doorstep. Some seed farmers even have farm stands, which are always a delight. Next to growing your own seeds or knowing a seed keeper personally, Seedy Saturday events are a wonderful way of finding local seeds.

Sustainably grown means that the gardening and farming practices positively enliven the environment. Sustainable agriculture aims to revive the health of the land, and sustain a biodiverse and rich environment by feeding the soil. Sustainable farmers are stewards of the land, and a healthy, living soil is the life-giving source of plants. By feeding and sustaining healthy soil, we feed and sustain all that grows in it, and upon it.

Seed types

Seed saving is an important craft, art, tradition, way of life, and knowledge base. There are many types of seed offered for purchase, and the distinctions can become quite political. We will briefly introduce a few of these types:

Heirlooms and Open-Pollinated

Hybrids

Genetically Modified Organisms (GMO)

Heirloom and Open-Pollinated Seeds

Heirloom and Open-Pollinated Seeds can be grouped into the same section since they share basic similarities, although they are nominally different. All heirlooms are open-pollinated seeds, but not all open-pollinated seeds are heirlooms! Open-pollinated refers to the plant's natural and free reproductive methods. These plants are stabilized (they exhibit particular and expected characteristics year after year) and freely pollinate one another, without the needed assistance of a gardener. By purchasing an open-pollinated seed, you know that you are permitted to save the seed, and that, given you know the proper seed growing techniques, the saved seed will be stable. Heirloom seeds are open-pollinated, stable varieties. Much like family heirlooms, their cultural-heredity lines can be traced for generations. These are varieties that have been stable for a long time (a few decades, usually more), and often steeped in cultural histories. Given that their origins are older, heirloom seeds have greater genetic diversity than more modern seeds.



Hybrid Seeds

Hybrid Seeds, known and identified as F1s on seed packets, are produced by crossing two unrelated varieties of plants that exhibit different qualities. The parent plants are highly inbred (for many plant generations!), so that they strongly exhibit one specific characteristic. Hybrid plants are produced by human manipulation, but created by natural crossbreeding of varieties. Therefore, they are not genetically modified organisms, and can be organic.

Hybrid plant crossing is done by hand pollination in highly controlled environments, and the resulting offspring (F1) exhibit strongly the specific traits of both parent plants in uniform fashion. This is referred to as *hybrid vigour*, since these offspring produce very well. This said, what hybrid seeds boast invigor, they lack entirely in genetic diversity due to their inbred parents. Genetic diversity is incredibly important for the sustained health of any living community. Also, for seed saving purposes, the problem with hybrid plants, beyond their poor genetic diversity, is that although the first generation of offspring is uniform and *very productive*, the second generation (F2) does not yield similar results. If you wish to save seeds from the hybrid plants you grew, you will notice that the following year, your plants might not look like they did before. Hybrid seeds are stable varieties in their first year of growth, but not in the following years. A 'stabilized seed' means a seed that exhibits particular and expected characteristics year after year.

GMO Seeds

GMO Seeds are seeds whose germ plasms have been genetically modified in a laboratory by use of genetic engineering techniques involving the recombination of DNA molecules. GMO seeds are modified to be resistant to certain viruses and diseases. Most GMOs have also been modified to be resistant to glyphosate (i.e. RoundUp®), a commonly used herbicide used in many parts of the world for weed control. The glyphosate applied to the fields of GMO plants kills most plants, weeds, and insects, significantly reducing biodiversity on these tracts of farmland.

The agricultural practices associated with the use of GMO seeds are not sustainable and have a number of negative long term implications. Instead of feeding the soil to better support healthy plants, industrial monoculture agriculture relies on the use of synthetic fertilizers to feed the plants. Over the years, the soil erodes and is depleted, and most of the liquid fertilizer seeps into aquifers, creating nitrogen imbalances and algal blooms.

Legal stipulations have actually made the act of saving GMO seeds illegal. If farmers (or anyone) save GMO seeds, they are legally bound to pay large royalty fees to the seed producers. The consequences therein are that farmers become dependent on repurchasing seed from these companies annually. The practice of seed saving has thus diminished, and older varieties of local cultural plants run the risk of being lost and replaced altogether. As seed culture diversity diminishes, the risk of diseases potentially wiping out certain seed varieties increases. Many common agricultural crops in Canada are now almost exclusively grown from GMO seed; these include canola, sugar beets, soybeans, and corn.

What is a variety?



The common bean is known scientifically as *Phaseolus vulgaris*. It is part of the greater family Fabaceae (peas are also part of the Fabaceae family). *Phaseolus* is the genus, whilst the species is *vulgaris*.

In my pantry, I have many distinct varieties of beans that are different shapes, colours, sizes, textures and flavours! I have iroquois cornbread beans, amish nuttle beans and cranberry beans. These beans are all varieties of *Phaseolus vulgaris*.

Family: Fabaceae
Genus: *Phaseolus*
Species: *vulgaris*
Variety: Iroquois cornbread