

Cannabis

Liza Drozdov – Halton Master Gardener



In honour of April 20, the International Cannabis Holiday here's your guide to growing Cannabis plants for your own use this summer.

Ontario law allows each residence to grow up to four cannabis plants without a special license. If you'd like to grow more—and stay on the right side of the law—you'll need a prescription from your doctor, and a grow license from [Health Canada](#).

Modern cannabis is a hybrid of indica, sativa and ruderalis species. Some strains are high in THC, which has higher psychoactive elements, some in CBD—medicinal, used to counteract pain. Expert breeders have been crossing and back-crossing to improve plants' genetics: their potency, flavour, aroma, height, vigour, yield, and resistance to disease. It's fair to say that cannabis is stronger now than it was in the 60's and 70's—thanks to crosses and superior cultivation. Average THC in cannabis was 1% in the 70's; grew to 8.5% in 2008 and it's likely even higher today.

Cannabis is tough, tolerant and easy to grow—the nickname *weed* might give you a hint in that regard—and you can grow it outside during the summer, or under lights indoors. If you can successfully grow tomatoes or peppers in your vegetable garden, you can grow cannabis. The plants are tolerant of most situations, but they demand full sun—as much as you can provide. Ideally your garden will also be sheltered from the wind since

cannabis branches tend to be brittle and they can snap. The plants will get very large and will absolutely require staking and support, since the branches get very heavy when they are in bud.

Seeds

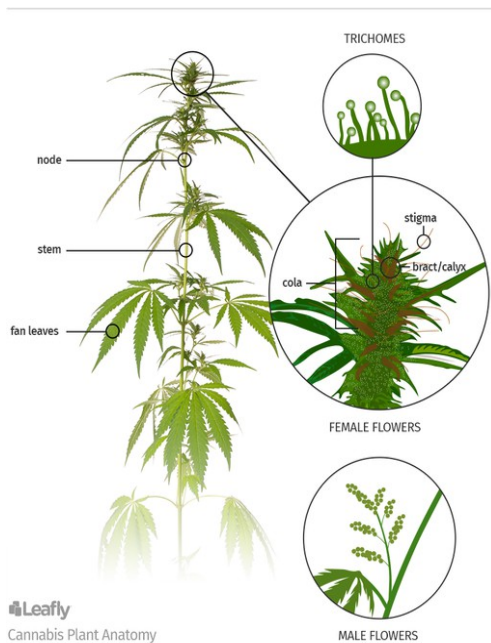
Cannabis grows easily from seed and thousands of strains are available for purchase online, with differing quantities of THC or CBD, depending on your preference. The average price is around \$10-\$20 **per seed**. Sowing cannabis is straightforward: simply press them into damp seed mix, cover lightly and keep the mix moist. Most seeds germinate in 2-5 days and once the seedlings have at least one pair of true leaves they can be potted on individually.

Cannabis is a dioecious annual plant—which means both male and female plants are required for pollination. ***It is important to buy only feminized seed.*** The highest concentration of [cannabinoids](#) is found in the female flowers. Most seed retailers only sell female seeds, but there is still always a small chance of a male plant germinating. If a male plant is found, the plant must be culled to prevent pollination. Some are hermaphrodites and will display intersex traits; they should also be removed. There are several reasons for this: 1)if a female plant is pollinated, energy goes into seed production, not [cannabinoids](#), which lowers THC/CBD; 2) male plants won't produce the large resin-filled flowers growers value; 3) if a male plant is allowed to pollinate the females, the resulting flower buds will be full of seeds and of poor quality.

There are two basic stages to your cannabis plant's life:

- **Vegetative Stage**
- **Flowering Stage**

Vegetative Stage



This stage is between two to eight weeks depending on cultivar, and your goal is to get the plant as large as possible before it flowers in order to increase the yield. During this stage, the plant is fed and watered and each plant has its branches heavily staked, to prevent the weight of the buds snapping off the branches. The lower and inner leaves are trimmed to allow air circulation, and the plant is pruned into open shape to let the sun into interior.

Cannabis loves heat and needs FULL sun. That means 6 to 8 hours direct sunlight through the middle of the day!)

It's best grown in rich, organic soil, so it'll be perfectly happy growing in your vegetable garden, if you have the space. Cannabis plants are vigorous growers and respond well to sunlight and nutrients; some plants can get up to 10' tall and wide—depending on the hybrid.

A general all-purpose fertilizer like seaweed, is ideal to use, but many growers don't bother to fertilize at all if the plant is growing in good organic soil. As the plants grow, monitor them for pests and disease—though there are very few that will attack cannabis plants grown outdoors. You will need to watch in case your plants turn out to be males or hermaphrodites; you won't know until they begin to flower, but you must destroy them or you'll ruin the rest of your crop.

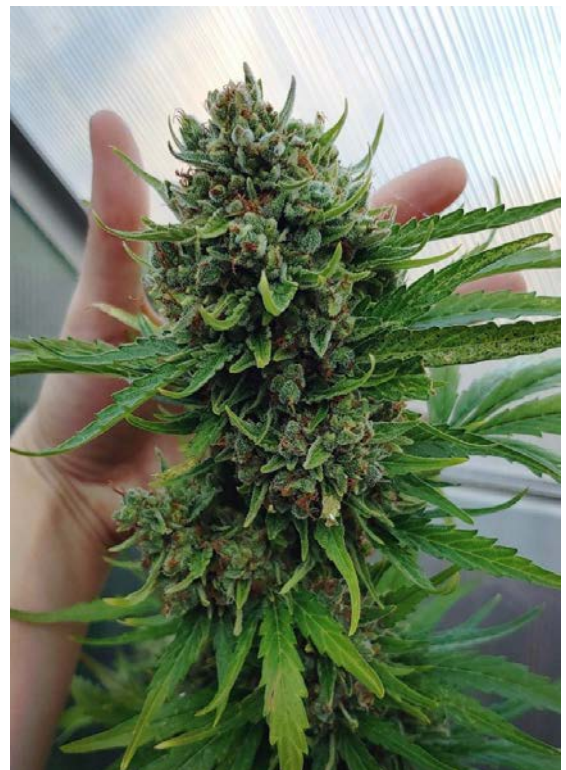
One serious concern is to monitor for mould and powdery mildew, especially if there is a lot of precipitation late in the growing season when your plants are in flower. It's a good idea to tent the plants with clear plastic to prevent moisture from getting to the flowers. Also, be sure to water only from the bottom to keep foliage dry.



Powdery Mildew can occur with precipitation late in the growing season.

Flowering Stage

Cannabis grown outside will go into flower when the hours of daylight and darkness are even. Getting to bloom stage is completely dependent on the strain of cannabis that you chose to grow. When the light levels are optimal, the plant will switch over from growth of leaves, to flower production, and the length of time the flowers take to



mature varies, depending on the plant's genetics. For example: auto-flowering strains will begin to bloom at 30 days, and sativas flower in 10 -14 weeks. Feed and water your plant while it's in flower, and remove the larger lowest leaves to direct more nutrients to bud formation.

Each flower is covered with translucent resin glands, concentrated on the buds. The goal of the grower is grow the largest *colas* or flower buds—not much different from growing the largest tomato. As cannabis buds develop, they become sticky with resin, which contains the trichomes that hold the medicinal elements. You should look closely at the flower buds daily—a small magnifying glass will help. You will know the flower is ready by visual clues: size, smell, trichomes, density of bud—and especially colour. The resin coating the pistils will become milky or amber in colour, rather than clear. When the resin is amber, the bud is mature and all the trichomes, flavonoids and cannabinoids are at maximum development. If harvest is delayed they will begin to lose quality, so don't wait too long.

Harvest

When your buds are mature, cut the branches and remove the large fan leaves then hang the branches upside down to dry. You can leave the smallest trichome leaves around the flowers and trim them off once the buds are dry.



Hang them for 1 -2 weeks, out of light and make sure there is enough air movement in your drying room. When the branches snap and break instead of bending, trim off the buds and cure them.

Curing

Curing is not critical but doing it improves the storage time of your cannabis, as well as its quality and potency. Place the trimmed buds into sealed glass jars **kept in a cool dark place.**



Heat and light will quickly degrade the essential oils containing the precious terpenes, cannabinoids and flavonoids. For 2 weeks, open the jars daily to “burp them” releasing the moist air and replacing it with fresh air. Then you can store the buds indefinitely in the jars, in a cool dark place.

Indoor Grow

If you prefer to grow indoors, you will need to give your plants as much artificial light as possible. Cannabis will not grow as a houseplant, or on a sunny windowsill. You will need to provide artificial light—either from LEDs or a HID (High Intensity Discharge), like High Pressure Sodium or Metal Halide. What type of lights you use is a matter of personal preference and budget. LEDs are costly to set up, but not to run over time. HID lights are less costly to buy initially, but electricity costs can get high. They also get very hot and need adequate ventilation, and carry a risk of fire or burns. In addition to lights, most domestic growers use a 4'x4' grow tent and use fans to ensure good air circulation and reflectors to maximize light. Setting up an indoor grow can be costly, but it can also provide you with 4 or 5 harvests a year, which may pay for itself quickly, depending on your cannabis needs. An indoor plant, grown with skill under lights, will produce around 10 ounces/plant of cured cannabis.

When you grow cannabis indoors, you are able to control the light, humidity and temperature. Most indoor growers have the lights on for 18 hours/day during the vegetative stage and when they are ready to bring them into flower they switch the timer to 12 hours/day of light and 12 of darkness.

Any plant grown indoors will rely on you entirely for nutrients and water. Typically they are grown in a sterile potting mix, so they'll starve if you don't feed them.



Bees and Cannabis

You may see 'Cannabis Honey' for sale. The CBD or THC will have been added to the honey by the producer—not by the bees.

Cannabis is wind pollinated, not insect pollinated—that means the plants have not evolved to not be attractive to bees or pollinators. They don't have nectar and their flowers aren't showy and, since male plants are rogued out, there is no pollen on offer either. Having said that, hemp—a relative of Cannabis—is very attractive to many pollinators and hemp pollen provides a source of proteins, fats and minerals that bees need to raise their young. Hemp farmers grow both male and female plants, since they don't have the same concerns as those who grow cannabis for medicinal or recreational use.