

# Growing Cannabis

**It is the responsibility of the grower to follow all relevant municipal, provincial and federal government laws and requirements. The grower must ensure that plants and products are secure and not accessible to children.**

**In the BC Provincial Legislation:**

- Minimum age to purchase or consume cannabis is 19 years.
- Adults (over age of 19) may grow up to four cannabis plants per household (not per adult in the household).
- Cannabis plants must not be visible from public spaces.
- A fence and strong locked gate are recommended.
- Cannot transport flowering plants

Get seeds through [BC Cannabis Stores](#) website. These meet government regulations and are feminized. Cost is about >\$50 for 4 seeds.



**ABOUT CANNABIS:**

- *Cannabis indica* has CBD for medicinal relief of pain and inflammation, is a shorter, bushier plant that is easier to grow.
- *Cannabis sativa* has THC for psychological effects, is taller and takes longer to flower.

Cannabis is an annual flowering plant. Cannabis is dioecious (separate male and female plants). Only unpollinated female plants produce the buds which are harvested as the source of the active ingredient.

If you want to collect your own seeds for next year's crop, you will need one male and one female plant. Keep these in a separate area to avoid pollination of the main crop. Once pollinated, the female plant will produce seeds, half of which will be female and half male. The gender of seedlings becomes evident at about 6 weeks old, at which point male seedlings can be discarded.

**GROWING CANNABIS:**

To grow cannabis, there are a few considerations to think about before you buy your materials.

First, do you want to grow indoors or outdoors (or in a greenhouse). Determine how much space is available in your grow area. Choose a cultivar/strain of cannabis that will fit in your grow area without being cramped. Indoors, a strain that remains under 100 cm is often desired.

If growing indoors, it will cost some money to get set up. Growing outside is much cheaper but much slower and there are many environmental constraints as well as more of a risk of theft.

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Here are some materials that you will need:

## **Growing Indoors:**

- Grow tent or mylar foil for walls (2' X 2' size is good for 2 plants)
- LED (light emitting diode) grow light, 400w 1200w (cover all wave lengths); attachment for lights; timer switch for lights
- air circulation fans
- air extractor fan (can attach carbon filter for smell control)
- growing medium: soil, soilless, aquaponics, other...
- vegetative and bloom nutrients/fertilizers (these are critical)
- dehumidifier or humidifier (if needed)
- relative humidity (RH) and temperature meter (digital is best)
- pH testing kit; pruners
- 2-quart pots; watering can; mixing tank/ bucket for nutrients

## **Growing Outdoors:**

- tomato cage, wood or metal stakes
- 5-gallon pots, watering can
- pruners
- nutrients/fertilizer
- metal mesh/ chicken wire (pest protection)
- burlap or shade cloth (if too much sun)
- crushed eggshells (around base, for slug control)
- cut human hair (from barber shop for squirrel control, in soil around base of plant)

## **Growing Stages:**

### **1. GERMINATION STAGE**

- Soak a paper towel and place on dinner plate. Place seeds on wet paper towel and place another same sized or smaller plate on top to block all light and leave in warm spot for 3-7 days. Check daily and make sure paper towel is still moist.
- Once the seeds have their first root you can place them in your grow medium and let them grow to seedlings.
- Fertilize at half strength until the rooted seed has grown 2-4 true leaves, then gradually increase the nutrient solution to regular strength. During the germination to seedling stage, keep nitrogen levels twice phosphorus levels, and equal to potassium levels. e.g. NPK of 2-1-2.

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## **2. SEEDLING STAGE**

- Seedling stage is once the plant has 2 true leaves. From seed to seedling should take 2-3 weeks on average but can vary based on seed vigor and growing conditions.
- Cannabis prefers a slightly acidic soil (pH 5.5-6.5). Ideal temperatures for growing are 20-28 °C.
- Seedling stage needs the light on for 18 - 20 hours in a 24-hour period, mimicking the summer days for vegetative growth.
- Water seedlings every 2<sup>nd</sup> or 3<sup>rd</sup> day.
- Fertilize every 2<sup>nd</sup> watering.
- Transplant 6” plants to outdoors after last frost.

## **3. VEGETATIVE STAGE**

- The vegetative stage can last as long as you want indoors, since you can govern the “season” length. Outdoors is governed by the local seasons, so planting time is critical for outdoor growing.
- The general rule for indoor growth is to grow in the vegetative state until the plant is at a third or half the height of the grow tent or artificial lights. Then you can switch the light timer to shorter days to mimic the short winter days with long nights.
- They are tall and require support: cage or trellis.
- Cannabis is a strong-smelling plant both indoors and outdoors.
- During the vegetative stage, plants need more, different nutrients. e.g. 4-2-3 early vegetative; 10-5-7 mid vegetative to 7-7-7 just before flowering. They need frequent watering as they are heavy feeders.

## **4. BLOOM STAGE**

- The Bloom stage is dependent on the strain of cannabis. It can be as short as 5-6 weeks or as long as 12-15 weeks for indoor growing. Outdoors can be up to 24 weeks.
- During the bloom period, the nutrient mix should be changed to reflect the plants increased need for phosphorus, e.g. 5-10-7 budding; 6-15-10 flowering; 4-10-7 late flowering. Depending on the cannabis strain, the nutrient needs vary.
- With indoor growing, it is critical to control the pH (5.5 to 6.5). If the pH of your medium is too high (alkaline) or too low (acidic), it can restrict the uptake of nutrients through the roots of your plants and cause nutrient lockout or other plant health issues.
- While in the Vegetative and Bloom stages, it is important to flush out excess salt buildup from the nutrients. Flush the plant with clean water at least once during the bloom stage (if not 3-4 times over the bloom period as it will make the end product healthier). The most critical time to flush the plant is the final 1-2 weeks of the bloom stage. Give a heavy flush of all plants 1-4 times in the final week to clear the nutrients out of the growing medium. The flush is working when the fan leaves start to turn yellow and die.

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## 5. HARVEST STAGE

- Once the trichomes (hairs) are turning from clear/milky to brown/amber (use a 10x jeweler's loupe to see this), buds are ready for harvest. Remove all large fan leaves while the plant is still intact and upright. Either leave the smaller trichome leaves around the cannabis blooms and trim them off once dry or continue to trim all leaves off and then cut and hang the cannabis blooms.
- The most important part of drying is the relative humidity (RH) of the drying area and having moving air in the room, but not on the cannabis blooms themselves. Ideally have a 1 - 2 week drying time. When you attempt to snap a stem and it cracks and snaps off, that is perfect. Once all dry, you can put your cannabis into your preferred storage option and begin curing.



## 6. CURING STAGE

Curing is the final stage. It increases potency and if properly done, allows storing cannabis for years without mold or degradation in quality. Proper curing improves both the quality and potency of many strains. Here are two proven methods:

- Place fresh harvested cannabis in a jar and open it 1-3 times daily for about a week, then once every 2-3 days for a week and then only once a week for 1-2 weeks. Then the harvested cannabis should be at a good RH (relative humidity) level to keep in a dark cool place for as long as you like.
- Place fresh harvested cannabis loosely in however many needed brown paper lunch bags and loosely close, leave for a week, open and shake to stir air around in bag(s), close and repeat for 2-3 weeks and then place into a suitable long-term storage container.

## CANNABIS GROWING TIPS AND COMMON MISTAKES

1. The two most common mistakes are lack of air circulation in the growing area and too tight plant spacing. These mistakes almost always result in a failed crop due to either a pest infestation or mold. If either happen, the crop should be destroyed. You will need to clean your grow space with disinfectant, to destroy all traces of pests or mold.
2. A common mistake is having a dirty grow space. During the growing period, some cannabis leaves will naturally die off and this is completely normal. Gather up and

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dispose of dead leaves daily, as this can be a spot where mold or pests grow and spread to your healthy plants.

3. Soil pH is a commonly overlooked aspect for novice indoor growers and can quickly cause problems with plant health. The ideal pH is anywhere from 5.5-6.5 with a pH of 7 being neutral. In outdoor growing, pH is not normally an issue as the soil has a buffer and generally is fine as is for most cannabis plants.
4. Heat can be a problem for cannabis at times. If growing indoors and using an HPS (High Pressure Sodium) bulb, light temperature can climb to 35 degrees or higher and this will stress a cannabis plant or even just burn it. The ideal growing temperature is from 20-28 C degrees. Past 30 degrees, the plant begins to shut down and no growth occurs, as the plant is just trying to stay alive vs. grow.
5. Always keep in mind when growing indoors the hanging height of your light in relation to final plant size. It is common to forget the light height and select a strain that grows too tall. The plants will end up growing into the light array, possibly burning or even causing a fire. When choosing a strain to grow, measure the distance from the bottom of the light to the floor of the grow space and not the entire room height.
6. If growing outdoors, there are some good old gardening tricks to help with pest control:
  - Bury bunches of human hair (you can pick it up from your barber or hairdresser for free) and bury it in the soil around your plants. It will help prevent squirrels from digging up the fleshy roots.
  - Save eggshells, crush and sprinkle them on top of the soil around the base of the plants to deter slugs.
7. Pests: if spider mites appear on the underside of leaves or buds, raise the humidity. If fungus gnats appear, use sticky traps and water from the bottom of the pot. Thrips, powdery mildew, botrytis/bud rot can result from poor air circulation – prune out and dispose.

## References:

1. How to Grow Cannabis, Information Sheet, Master Gardeners of Ontario, Mar 2018. Growing information for this factsheet prepared by John Karl Schilder
2. Growing Cannabis for the Okanagan Home Gardener, Fact Sheet, Okanagan Master Gardeners
3. “A Cannabis Primer - the basics of growing cannabis in the home environment”, presentation by Nicole Oddson to Victoria Master Gardeners, May 15, 2019
4. [cannabis.gov.bc.ca](http://cannabis.gov.bc.ca)

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