

# GROWING CANNABIS

## 101

### **Beginner's Guide to Growing Cannabis Indoors**

**Starting your own indoor cultivation can be overwhelming in the beginning. The first step and the most important is to get started. I mean you only learn from mistakes so go. In all honesty here's a short simple beginners guide.**

by

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# GENETICS

## SEED SOURCING

**Make sure you choose a reputable breeder or seed source. Do not waste your time growing a seed you found in your weed while cleaning your cannabis. Buy genetics from reputable sources. Either a local reputable breeder or buy seeds online from a breeder. It isn't worth the time and money on indoor cultivation to grow poor genetics. I have listed a few reputable seed companies below. After you have germinated seeds and have healthy vegetative plants you can clone more nursery plants to keep your indoor grow going without spending more money on genetics. Cloning can be done by taking small healthy clipping of the cannabis plant. These clippings are then soaked in root stimulating solution and planted in small grow cubes or a cloning system. These clippings like steady warm temperatures and high humidity promote root growth. We recommend the following:**

**Grey Beard Seeds**

**Nirvana**

**Attitude Seed Bank**

**Barney's Seeds**

**Local trusted breeders**

**Californiahempseed.com**

**LBCco.com**

**Neptuneseedbank.com**

## CHOOSING SEED TYPE

**Regular seeds - By week 6 you can sex male & female cannabis plants. Males produce large round pollen sacs at the node junctions where females do not. Females are the only plant wanted for producing flowers. Males produce seeds. SEE PICTURE ON THE FOLLOWING PAGE TO COMPARE MALE VS. FEMALE.**

**Feminized seeds - These seeds do not need to be sexed. More than 99% of the time you are guaranteed a female plant.**

**Auto-flower - Automatically switch from vegetative growth to flowering based on age at about 12-14 weeks. Auto-flowering plants are smaller and quicker to harvest than regular seeds. They are also great for first time growers.**

# SEXING CANNABIS PLANTS



**MALE**

**notice the the male pollen sacs  
formed at the node**



**FEMALE**

# SEEDLINGS & CLONING

## SEEDLINGS

- Seedlings should be potted in 2-6" pots.
- Seedlings can be placed in seedling tray with dome lid to retain humidity. Lid can be vented as well.
- Small seedlings can be watered with a spray mister to prevent damage or saturation to delicate seedlings.
- Pay attention to the temperature of the water & soil. Happy seedlings will grow vastly within a week's time.
- Seedlings love moisture. Keeping an environment between 70-85 degrees with humidity 60-70%
- After 3 weeks first seedling feeding is necessary to promote growth.

## CLONES

- Clones are small plant clippings taken from mature vegetative plants.
- The clipping's bottom fresh cut stem is covered with root stimulator and then placed in soil or other medium to root the clipping.
- These small clippings are cared for just like other seedlings, and roots should form within a week.
- Clone seedlings may also be purchased at local reputable dispensaries.
- Make sure all clones are free from visual pests. Check under leaves for any small pests & do not purchase any plants with active problems
- IPM (integrated pest management) is key to preventing pest and should be introduced immediately if clones are purchased.



## **Monitoring Environment is Key to Indoor Cultivation**

**So most people starting out growing start with a tent in a garage or a closet. Both are suitable but must have appropriate environment controls to maintain and sustain. Does the garage have air conditioning and a heater? Does the closet have ventilation? The small area you are growing in should maintain temperatures of approximately 68-74 degrees and humidity not exceeding 60%. Humidifiers, air conditioners, dehumidifiers, and heaters should all have controls to monitor and maintain these parameters. Plant growth, light times, and irrigation can affect the inside temperatures and humidity of your grow.**

**Monitoring is important.**

## **Choose your medium.**

**Soil, Coco Coir, hydroton, or Grodan cubes, let's talk mediums. I don't like Grodan cubes because they take 100 years to decompose and that's not cool. I have no experience with growing cannabis with these. Coco Coir is great but should be soaked in a light fertilizer before transplanting plants into this medium. This process is called charging your medium. Super Soil is also a great option that is environmentally sound because you can use the soil over and over year after year. This type of soil nutrients are built into the soil and nutrients are added to the top of the soil as needed to fertilize the soil with watering. Hydroton is commonly used in the ebb and flow hydroponic systems. This medium can be cleaned, sterilized and reused. Depending on what type of medium will depend on what type of container or table you will use. My favorite way to grow is using coco coir or super soil in a plastic reusable container you can plant up in as needed. I use nursery cups all the way up to 7 gallon pots. To reuse these containers just sterilize them in between grows.**

# MAINTAINING THE ENVIRONMENT

**Water.** Automating water is important. If you are first starting out and would like to hand water to connect with the plants so be it, but automation is key to a healthy steady garden. Life always happens and it is very difficult to stay consistent without automation for water. Water will pH balanced water at the same time(s) daily. Certain types of irrigation require watering more than one time daily, like hydroponic growing. I tend to grow in Coco or soil and water once daily. I use a drip irrigation system with drip emitters. A small controller manages the submersible pump in my fertigation tank. We do use RO water for our fertigation. Fertigation is when your nutrients are added to your watering system to provide both nutrients and waters at the same time. A gravity irrigation system would be perfect for a small grow or a 30 gallon tank that is dedicated to your grow. Water temperature should remain above 50 degrees and below 75 F. Water should be pH balanced and free from contaminants. RO water may be recommended for your nutrient line as well.

**Nutrients.** There are hundreds of different nutrient line brands available. I would stick with something on the organic side to prevent heavy metals although organic lines can cause this as well. Make sure you read the proper recommended nutrient application for your medium and type of growth. Follow the instructions. Fertigation is when water diluted nutrients are used to feed and water the plant. This nutrient rich solution should be applied daily and be monitored for pH and ppm to ensure quality of the solution. Emitters can be used to feed this solution to the medium of the plants. I think super soil is the easiest way to get started indoors. If you choose to grow in a super soil you can amend the soil with compost tea or a mixture of organic matter that feeds the plant. I like to use the craft blend to build a soil. It contains kelp meal, flax seed meal, alfalfa meal, crustacean meal, fish and fish bone meal, oyster flour, gypsum, K-mag and other nutrients that can be sprinkled on the top of the soil. Every time the soil is watered the nutrients will drip into soil feeding the roots.

**Lights.** Of course the purpose of indoor lighting is to mimic the sun. In order to do this efficiently, it is important to invest in lights that are effective and efficient. I would recommend budgeting around 1K per light for a good LED light. You measure the intensity of the light with a watt meter to ensure it's intensity. Cheaper lights will commonly be way lower wattage then advertising leading to small crop yields. Veg light runs 16-24 hours daily. In indoor cultivation I recommend 16-18 hours of light time to decrease the amount of energy used daily. Flowering room is of course 12 hours on and 12 off. Light timers are a must to control these correct parameters. Ensuring these light guidelines is the only chance of mimicking the sun's work. If you do not maintain light times you risk causing a plant to hermaphrodite or stress.

# VEGETATIVE STAGE

- Vegetative plants are ready to be potted up into 1 gallon pots.
- LED lights should be full-spectrum with both veg and bloom lights on, hung 12-16" above top of the plant. Lights should remain on for 16-20 hours.
- Promote root growth by adding microbes (Gro-Kashi) & root stimulator around root bed area during the transfer of the pots.
- Be mindful that larger plants may require more water.
- Be careful to check for male plants during this time. Pull and remove any male plants immediately.
- Be careful to look for pests on leaves & under leaves. See potential pest and mildew problems below.



SPIDER MITES



APHIDS



POWDERY MILDEW

## **HOW TO PREVENT AND TREAT DISEASE OR PEST INFESTATION**

**Keep healthy happy plants by feeding & watering properly. Healthy happy plants are way more likely to fight disease and pest then unhealthy plants.**

**Use beneficial insects such as lacewings, ladybugs, rove beetles, & nematodes.**

**Foliar spray IPM several times weekly until the last 4-6 weeks of flowering. IPM solutions are imperative to prevent and treating pests.**

**Spray plants with with Neem oil spray. To mix neem oil, take 1 tablespoon of neem oil mix into 1 teaspoon peppermint castile soap. Once thoroughly mixed dilute with warm water into spray bottle. Spray mixture on plants to rid pests. Neem oil must be mixed with soap and warm water to emulsify properly. Spray in the dark to prevent leaf damage. May repeat weekly.**



# FLOWERING STAGE

- Before the end stage begins, we want to pot up into 3-5 gallon pot to inoculate the root system.
- We will again use microbes in the root bed area during the transfer to promote root growth.
- We will also now stake or trellis the plant for needed support during the flowering phase.
- Plant environment is virtually the same. Humidity levels are best to stay under 60% during this time to prevent mold & mildew.
- Lights will be cut back to only 12 hours on daily to promote flowering but will remain 12-16" above the plant top.
- Continue to pH water and water routinely.
- Continue to top feed and compost tea feed soil.
- Continue to keep pests at bay



# HARVESTING & CURING

- Okay so your plants are ready to be cut down, YAY. Sterilize sheers and chop plants down at the main stalk.
- Plants are now ready to be hung upside down for drying. Hemp string is perfect to use to hang the plants.
- Plants will remain in an environmentally controlled room during this time. Temperature should range from 68-75 degrees with humidity 45-60%.
- Drying plants too fast effects the taste & quality of the plant.
- Plants will hang upside down for 2-4 days before being trimmed and jarred.
- Trim buds away from the stems removing any sugar leaves. This sugar leaf trim may be saved and used to make edible or topical products.
- Once the cannabis is trimmed it will be jarred and labeled with date and strain information.
- The jarred cannabis should be checked on daily for moisture. The jar atmosphere should remain at room temperature with 60% humidity within the jar. A hygrometer may be placed inside the jar to measure humidity. If the humidity runs high open the jar to promote a decrease in humidity. If the cannabis jar is dry, try adding moisture packs to the jar.
- The curing process takes 6-8 weeks to take place. This will ensure quality cannabis.



# BEGINNER GROW SUPPLIES

- Hygrometer
- Soil
- Compost
- Aeration (3/8" lava rock or perlite)
- Plant nutrients (amendments such as neem meal or kelp meal)
- Containers (approximately 10 - 2-6" pots, 4 - 1 gallon, and 4 - 3-5 gallon)
- RV water hose water filter
- Lights (1 light for seedlings & 1-2 lights for veg & flowering)
- Seeds or clones
- Grow tent or closet (must be able to hold humidity and temperature)
- pH up and down
- Worms and worm castings
- Thermostat (indoor)
- Humidistat (indoor)
- Controls and Timers
- Microbes
- Air conditioner
- Humidifier
- Containers and/or tables

# NOTES