



Autoflower Production Guide



A DAY BY DAY CULTIVATION
GUIDE BY:

Sage Howell

Technical Cultivation Director
Comanche Compost Co.

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YOUR EXPERT

Sage Howell studied biology and biochemistry at Stephen F. Austin State University and is a technical cultivation director for Comanche Compost Co., an education advocate for Hemp Cultivation Science, and has extensive experience in commercial greenhouse agriculture. With over a decade of experience with Good Agricultural Practices (GAP), scientific and technical writing of Standard Operating Procedures for TexSelect Farms, and Texas Hemp Cultivators he has paved the way for Texas farmers to cultivate hydroponic food at a commercial scale, and organic crops indoors and outdoors including cannabis.

He has successfully developed a seed to sale traceability program with commercial microgreen, herb, leafy green, and cannabis production on contract with companies like Syco, FreshPoint, HelloFresh, Purely CBD, and American Shaman.

His experience grew from agricultural third-party audits to compliance with the Texas Hemp Regulations allowing for standardized production of integrated pest management programs (IPM) and organic systems plans (OSP) that take into consideration every aspect of the commercial agricultural system being operated.

FROM CALYX TO CANNABINOIDS

You aren't afraid of getting your hands dirty and you understand how photoperiod plants are dependent on the day length and night cycle. This Autoflower Cannabis plant isn't any different besides its independence from the photoperiod. From patio to grow tent. From a backyard garden to commercial cultivation systems, all botanical principles of cultivation from other species of cannabis.

They are time sensitive plants. Like little aroma bombs that have a timer that ends faster than any other cannabis plant. They are not photoperiod driven specimens but rather they perform in ideal conditions without major transplants, light cycling, and photoperiod extension.

AUTOFLOWER 101

This species of cannabis, *Cannabis Ruderalis*, or the Autoflower variety is significantly different than the *Indica* and *Sativa* species because of their independence from the photoperiod. Autoflower cannabis does not require varying lengths of day and night light durations but rather they are indifferent to the variance seen in photo dependent varieties.

Commonly with a photoperiod driven species you would vegetatively grow for an extended light period during the spring and summer months outdoors and flower when the day length shortens or if you are indoors when you make the light switch to 12 hours on and 12 hours off to induce flowering.

Autoflower cannabis offers beginning and experienced cultivators a unique species to cultivate with a complete grow cycle finishing in approximately 75-90 days depending on the inputs utilized. They are a more compact species that allows for upwards of 2 plants per square foot in a 10,000 square foot space without increased transplanting cost.

AUTOFLOWER PHYSIOLOGY

The best way to understand how cultivate this curious cannabis plant is to better understand the physiological characteristics it has and to get yourself familiar with the species. Botanical facts allow for us to better understand the components that result in the cannabinoids that we know, love, and enjoy.

ROOTS

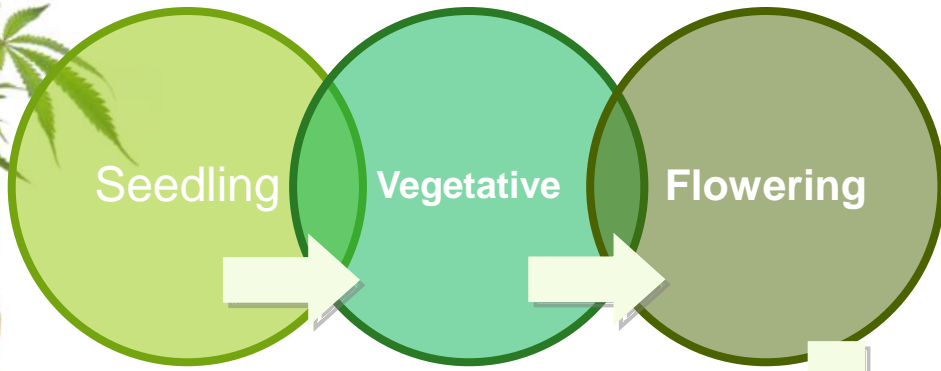
Roots are the anchor of any great Autoflower Cannabis plant. They are the portal from the soil horizon to the sky! (Or your expensive tent LED light system) Roots move nutrients from the soil throughout the plant through each stage of development and are home to primary and secondary roots that spread throughout the container the plant is grown. They branch and weave around the media growing towards gravity, searching for water, and extruding exudates for the beneficial bacteria and fungus in the area.

The roots of Autoflowering Cannabis develop very rapidly and if not managed properly these plants can become rootbound and stunted to the point of no return. The best way to avoid this situation is to place the plant into a container undisturbed for the duration of its life span.

MYCORRHIZAE

Exudates mentioned previously are chemical signals extruded by the Autoflower cannabis plant roots to attract beneficial bacteria and mycorrhizal fungus to the plants roots for a symbiotic relationship. This strategy is intended to help release more nutrients in the soil horizon and allow gradual feeding throughout the plants life from seed to harvest.

These fungus share macro and micro nutrients alike. The microscopic root hairs that resemble a mold certain non-mobile nutrients in exchange for carbon-laced exudates. It is crucial for organic soil development to have these biological elements available to ensure that your plant grows to it's maximum potential.



DAY BY DAY: AN AUTOFLOWER CANNABIS PRODUCTION GUIDE

The title you see tells all, this technical guide is a guideline for the production of autoflower cannabis indoors. Keep in mind that every growing zone, grower, and plant offers different circumstances so do not take it as commandments but rather a guideline to supplement the knowledge you should amass prior to growing this wonderful plant.

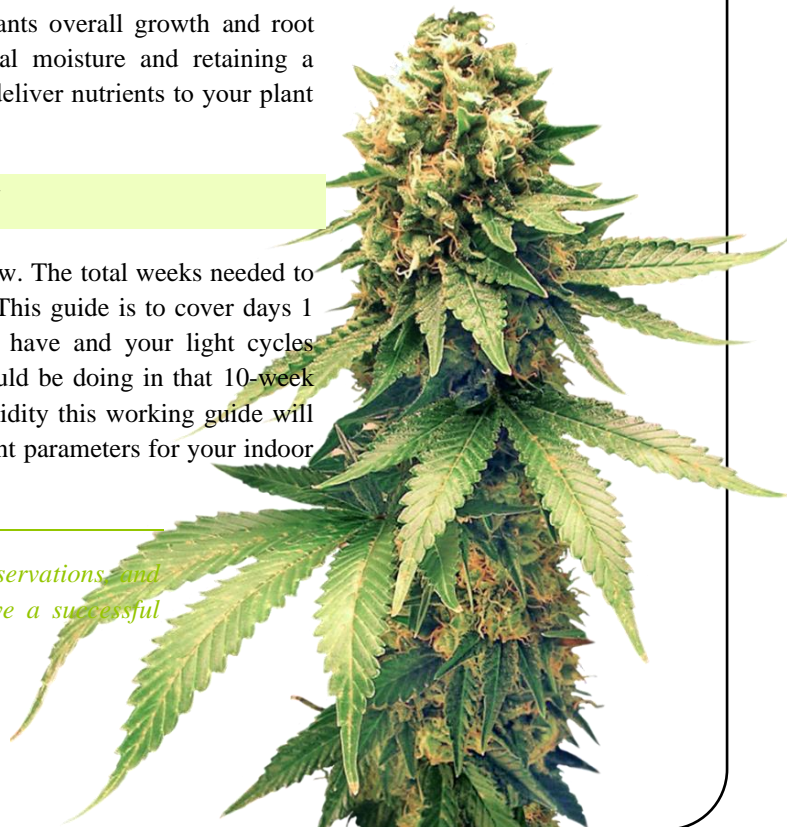
Every plant, environment, and experience can vary dramatically based on the genetics and growing conditions presented. Not all plants develop at the same pace. This day-to-day guide to plant development and progression is meant to be an informative log that you contribute and grow with. It is meant to be referred to and make changes accordingly while taking meticulous notes. **In this guide we are going to assume a summer schedule which is approximately 75 days or 10 weeks and 5 days of cultivation.**

Understanding your particular daily variances based on time of the year, temperatures, and light quality will directly affect your overall days to harvest and the overall fertigation program. Every detail of your growing operation must be understood, for example even the substrate you utilize can affect your plants overall growth and root development. It must be well balanced providing optimal moisture and retaining a healthy saturation level while being able to “breathe” and deliver nutrients to your plant and the soil biome effectively.

10.71 WEEKS OF GROWING INFORMATION

No the .71 is not a typo but rather the last 5 days of the grow. The total weeks needed to quickly turn an autoflower is approximately 10.71 weeks. This guide is to cover days 1 through 75 (relative to your plants and the genetics you have and your light cycles excluding setbacks or nutrient lockouts) and what you should be doing in that 10-week growing schedule. From pH positions to your relative humidity this working guide will help you optimize your grow and help you establish set point parameters for your indoor system.

Being meticulous with your daily notes, observations, and input measurements will allow you to have a successful season and maximize your genetics.



NOTES

WEEK 1 SEEDLING PHASE

- 2-4 days until Seed Emergence
- Temperature: 65-75°F
- Light: 18 hours on, 6 hours off
- Relative Humidity RH: 80%

All the energy needed to sprout and for your plant to begin its journey is within the seed you just need to present the ideal conditions to unlock that potential. Germination is followed by root establishment, and then seedling development. Maintain 18 hours of light and keep a day temperature of 75°F and a night temperature 65°F (24/18°C DT/NT). If you overheat the seedlings, they will die so manage your temperatures diligently. You want to maintain a relative humidity (RH) of 80%. The soil or media you chose must have a pH in the range of 6.0-6.2 with porosity.

SEEDLINGS DO NOT NEED NUTRIENTS DURING THIS STAGE. The EC must be a 0, rely exclusively on pre-charge. You can inoculate with rhizobacteria or mycorrhizal fungi at this time. The soil should be teeming with it. You need to meticulously monitor the seedling moisture levels to ensure the young roots do not dry out. You want to ensure adequate air turnover and provide optimal heating and cooling with proper exhaust and air fans to avoid scorching or blistering the young tender leaves. High Pressure Sodium (HPS) lights are a culprit of doing this in greenhouse or indoor systems.



DAY 1

Germination process is initiated and under normal conditions occurs within the 2-7 days.

DAY 3

Optimal benefits of photosynthesis occur at 74 – 80 °F (24-27 °C). Avoid temperatures below 65 °F (18.5 °C) or above 80 °F (29 °C). Too much heat can kill a seedling. Extreme changes in day and night temperatures can create moisture due to condensation on the leaves which is conducive to fungus and molds.

DAY 5

If germination has been successful and growing conditions have been good, a good percent of the seedlings are on their 3rd set of leaves.

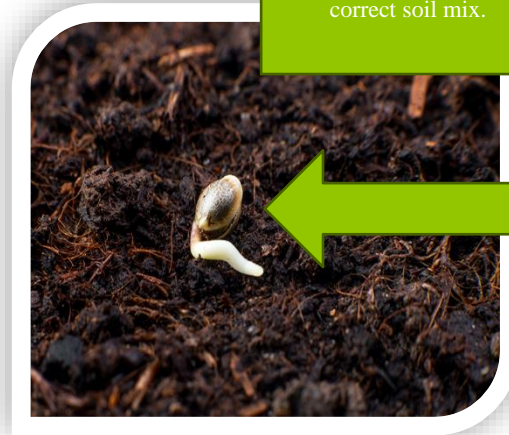
DAYS 6-7

Young seedlings are establishing roots. Testing run-off water is a good way to measure pH of root environment. At this point in time, a pH of 6.5 is good. The young plants need water every couple of days; do not let young fragile roots “dry out”. Water

OPTIMIZED SEED STARTING

Starting seeds can be as easy as soak prime, wrap in moisture, and position in the appropriate seedling soil/media after tails emerge. Follow these steps to ensure the maximum germination percentages for your seeds. This works for small scale hobby grows. For commercial grows please reach out to Comanche Compost for an optimized seedling tray soil mix.

- Soak seeds for 8-10 hours in RO water at room temperature.
- Wrap in damp (not dripping wet) paper towel until tail emerges at room temperature.
- Plant ¼” and cover in appropriate position and correct soil mix.



judiciously, media should be moist but not soggy or saturated.

WEEK 2 VEGETATIVE PHASE

- 7-14 days post Seed Emergence
- 65-75°F
- Light: 18 hours on, 6 hours off
- Relative Humidity RH: 80%

After the initial seedling phase all of the plant's energy is now going into leaf unfolding and leaf expansion, all while establishing continuous root development. During this early vegetative phase, if there is a need to feed, give higher ratio of N to encourage vigorous new green offshoots and growth and only modest amounts of P and K. Maintain the DT and NT of 75 and 65 °F, a RH of 80%, continuous CO2 fertigation anywhere from 1400-1600 ppm, air movement and HPS or CLF lamps. It is crucial to monitor soil moisture during this time and measure how much is going in at this early stage. The water used should be pH adjusted to prevent drift in your soil horizon.

DAY 8 & 9

Your young plants have survived initial germination and the seedling stage is transitioning into the vegetative stage. The initial cotyledon leaves are in the past and the first true leaves are emerging. The two to three sets of leaves that have unfolded during day four to five have been growing steadily and expanding their leaf surface under good light conditions.



DAY 10

Most of the young vegetative plants should have 5-6 nodes under a photoperiod of 18 hours of light, 6 hours of dark. You will step the lighting time down after you get through this stage to 16 hours of lighting during the vegetative stage and slow down the feeding. Maintain temperatures of 69 -75 °F. Keep the media moist but not wet; excess moisture around the stem can lead to stem rot at this young stage. You want to allow for the media to breathe and the roots to seek out water and nutrients in its container.

DAY 11-14

Visually observe plant at this early stage for any signs of stress and nutrient deficiencies. A healthy plant remains green through the early growth. The onset of early nutrient stress is often caused by pH levels that are falling outside the range that cannabis prefer, 5.8 - 6.5 Continue to maintain optimal temperatures of 70-80 °F, to encourage vigorous and healthy growth and reduce the risk of molds and mildew. Feed the soil first.

WEEK 3 FLOWERING PHASE

- 14-21 days post Seed Emergence
- 65-78°F
- Light: 18 hours on, 6 hours off to 12 and 12.
- Relative Humidity RH: 70%
- **Defoliation can occur at this stage – Low Stress Training (LST)***



Keep lamps as close as possible to plants without overheating and burning leaves. Still maintain higher dose of N since young plants still have to put on mass and size. Be prepared to water at least 2 liters of water if necessary. Duration of watering should allow 10-20% leaching out the bottom of the container to reduce the build-up of salts, especially if feeding additional nutrients. Maintain media pH of 6.0-6.2, E.C. of 1.2 mmhos/ cm, RH 70%, DT and NT of 78 and 65 °F. Continue CO2 at a 1600 ppm level, HPS or CFL supplemental lighting and promote air movement via fans to slightly move the plants and stimulate healthy stress on the plants.

DAY 14

Your plants should be dramatically growing at this point and by the end of day 13, the photoperiod now switches to 12 hours of uninterrupted blackout followed by 12 hours of daylight for the rest of the production cycle. You are going to turn switch from the 18 on to 12 on from this point until the end of the grow. Check for any light leakage during the blackout period. Any light leakage will result in poor bud formation. The number of nodes on a plant at the start of the flower bud initiation will reflect plant maturity at the onset of the reproductive stage. The young plants by day 13-14 should have an average of 5-8 primary nodes originating from the main leaf axils of the plant.



DAY 15

You will now observe a change in the growth pattern, each new set of fan shaped leaves will be larger than the previous set. Under optimal conditions, new growth should always be bigger. If new growth appears weak and smaller than the previous set, this can be an indicator that a problem may exist such as overwatering, improper media pH and or over feeding. Remember that this point in the plants lifecycle you are aiming for 1:3:3 of NPK during this early flowering stage. Enough nitrogen to help with new growth but stacking phosphorus for bud development later in the stage.



DAY 16-17

Your recirculating air fans should be on continuously because air movement through the plant as the leaf and foliage canopy gets thick is very beneficial. The growth rate is at its peak and plants will continue at this very rapid rate until the third or fourth week of flowering. During this rapid growth phase, water requirements, room temperature and airflow should be monitored closely. Leaves should be dark green, brown tips may be an expression of nutrient overdose or “Nute-burn”.

WEEK 3 FLOWERING PHASE CONTINUED

Keep in mind you are forcing a plant out of its natural light and lifecycle rhythm. Plants grow according to the amount of sunlight that they receive in each season. Summers have long days of intense sunlight while the fall solstice welcomes the shorter days and longer nights. This cycle is what you are simulating when you make the light switch and is crucial for a cost-effective turn of your cannabis system. You will need to do a full water rinse with buffered pH water to flush out N and prepare the plant for maximum P uptake.

DAY 18

The vegetative stage of autoflower cannabis production in a greenhouse and indoor facility is the costliest stage. Plants grow unruly, they require more labor, and they require increased input costs due to their rapid vegetative growth. Unlike cannabis plants grown under natural outdoor conditions it has a very short vegetative stage, 14 -16 days under long days (18-hour light exposure). By making the flowering switch early in the production cycle it helps to control excessive vegetative growth and produce a shorter open plant where light is able to penetrate beyond the top canopy. This increased light penetration increases bud density and exposes developing buds to quality light for heavier yields and allows for more turns of production during the fiscal year.

DAY 19-21

At this point of the 12 hours of light and 12 hours of darkness, your plants will quadruple in size relative to their environmental conditions. With the onset of the 12/12 regime your plants vertical growth will occur. As plants grow, adjustments of lights above the plant should be checked daily, raising them to ensure that the lights are at least 12-18” above the plant to avoid any unnecessary stress. The main objective is to keep light as close as to the plants without burning foliage. One has to remember that HPS lamps give off a great deal of heat while LED lighting does not but creates stress if the plants touch the lights.

DEFOLIATION

Defoliation of your autoflower cannabis plant at this stage before the end of week 3 can increase your final yields if done correctly on a plant that has not experienced stress at this point in the grow. Defoliation is the process of removing dying and useless leaves from a cannabis plant. This process frees up energy for bud growth and further development by



selectively removing the largest and oldest fan leaves during the both the vegetative and flowering photoperiod while not damaging any bud sites.

This process can be done during both photoperiod stages but should be done selectively. Defoliation is the process of removing dying and useless leaves from a cannabis plant. This process frees up energy for bud growth and further development by selectively removing the largest and oldest fan leaves during the both the vegetative and flowering photoperiod while not damaging any bud sites.

This process can be done during both photoperiod stages but should be done selectively. During vegetative growth it can

cause stress if done incorrectly or too frequently. Doing this during the vegetative stages could increase stress on the plant potentially stunting growth. To defoliate your plants, you are going to want to start at the bottom (oldest leaves first) and remove any yellowing and wilting leaf materials. Do not be too aggressive and remove healthy leaves because this will halt photosynthesis. Also consider removing leaves that don't receive as much light because they are utilizing more energy than they are creating.

Defoliation in theory frees up energy, allows for more light to access the bud sites, and potentially give you higher yields. The plant will have less appendages that divert energy from bud sites but rather harness energy and in turn give you faster growth. By removing fan leaves late during flowering you also decrease the chances of mold because you are removing the fan leaf that holds high moisture content.

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Defoliating your autoflower cannabis plant is the process of removing leaves to allow more light and airflow to reach bud sites through the canopy. When done correctly it can increase yields and help prevent diseases like powdery mildew due to excess moisture.



Prior to defoliation during vegetative growth.



Post defoliation after the 12/12 flowering shift.

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3 DEFOLIATION SESSIONS

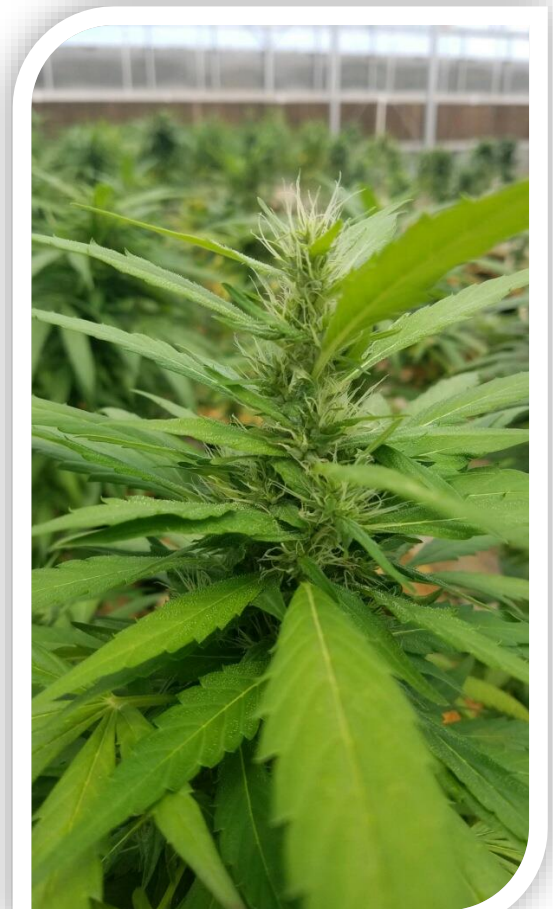
- Only considered during indoor growth due to restricted light, canopy space, and airflow.
- Use only sterilized and disinfected blades to minimize disease and infection risk of the plant.
- Do not take too much, start with the oldest part of the plant first (bottom fifth part of the plant) and remove only the largest leaves.
- Remove all the plants in the shadow of the light.
- Defoliate during vegetative growth only to free up light and make the plant less bushy
- Defoliate the week before the photoperiod shift to 12/12
- Defoliate 3 weeks into the flowering photoperiod
- Give the plant 14-20 days of recover in between defoliation sessions
- Do not take more than 20% of the plants fan leaves during a defoliation session.



WEEK 4 FLOWERING PHASE

- 21-28 days post Seed Emergence
- 65-78°F
- Light: 12 hours on, 12 hours off.
- Relative Humidity RH: 70%

Your target pH for soil needs to be up from 5.8 to a range of 6.0-6.2 (or leachate or runoff water from the soil media at the pH range with a 1.2-1.4 mmhos/cm EC). The RH needs to be turned down to 70% with an increased air flow and a DT of 78°F and a NT of 65°F. This increased, vigorous growth experienced after the flowering switch needs to be sustained by a high N feeding regime. Transpiration rates are going to be increasing and watering rates will increase during this time. If you have the ability to measure VPD you will want it to be in the 1.2-1.5kPa range. The CO₂ application should still be in the 1400-1600ppm range and air circulation should still put positive stress on the plants to cool them down during their growth spurt and from light stresses.



DAY 22-25

At this point of your plant's growth, you can start seeing some of the dominant and aggressive traits that your cultivars breeds are expressing. As early as week 3 or day 21 you can observe wider internode spacing or taller wispiest plants. This indicates a male in most cases. The male plants develop pollen sacs that resemble little round green nodules at the base of the nodes. Male plants pollinate female plants causing seed production and a loss in flower production. Diligent surveillance is required during these 4–5-day period is important since male plants usually show their sex before the female plants. Remove male plants as soon as they are identified to prevent future pollination of female flowers and either destroy them or harvest the pollen from the most vigorous plants for later cross breeding. The location of the lamps as close to the top of the plant canopy has now produced a short compact chassis with a head diameter of 16 inches, a plant that is totally receptive to light penetrating through and down to the bud supporting branches

DAY 25-28

As early as day 25, some cultivars of your plants may display white hairs (pistils) at the axis of new stems originating from the main stem of the plant indicating a female plant (look at the photo to the right for an example). Short stout growth is common among female plants and at this point all male plants should be removed from your flowering system. Collecting vegetative cuttings for cloning make be taken at this time. Target lower branches that do not get quality light since it will not greatly affect overall yield. Clones are exact duplicates therefore taking cuttings from a female plant ensures that the clones will be female. Taking clones from Autoflowering cultivars is not possible.

WEEK 5 FLOWERING PHASE

- 28-35 days post Seed Emergence
- 65-78°F
- Light: 12 hours on 12 hours off
- Relative Humidity RH: 70%

Your target pH for soil needs to be up from 5.8 to a range of 6.0-6.2 (or leachate or runoff water from the soil media at the pH range with a 1.2-1.4 mmhos/cm EC). The RH needs to be turned down to 70% with an increased air flow and a DT of 78°F and a NT of 65°F. This increased, vigorous growth experienced after the flowering switch needs to be sustained by a high N feeding regime. Transpiration rates are going to be increasing and watering rates will increase during this time. If you have the ability to measure VPD you will want it to be in the 1.2-1.5kPa range. The CO₂ application should still be in the 1400-1600ppm range and air circulation should still put positive stress on the plants to cool them down during their growth spurt and from light stresses.

DAY 29-31

By this stage of growth, water consumption is at least 1-1.5 gallons of pH adjusted water at 6.4-6.8. Stem thickness should be at least ½ & ¾ inches. Vertical growth literally stops three weeks after the 12/12 photoperiod switch was initiated so it is safe to say that the plant is done stretching. Your plants should be beginning to swell, tips of branches are

bunching together, and white pistils are abundant and quite visible to the eye. The future cola of the marijuana plant actually consists of different parts that now coming together to develop bud sites. Single female flowers are brought together to form buds. On the female flowers, stigmas are now formed in which pollination would occur if allowed to be fertilized by male plants. The white stigmas are now abundant and quite visible and producing a pungent odor. These minute stigmas are two hairs which originate in pistils cultivars breeds are expressing. As early as week 3 or day 21 you can observe wider internode spacing or taller wispy plants. This indicates a male in most cases. The male plants develop pollen sacs that resemble little round green nodules

DAY 32-35

The stems, branches, and top stems should be a rich pure green throughout all of your plants in your system at this stage. Each node should have vigorous and vibrant growth that will translate into healthy yields. The plants foliage will be stocky at the internode sites and produce a dense canopy that will obscure light penetration to lower stalks.

WEEK 6 FLOWERING PHASE

- 35-46 days post Seed Emergence
- 65-78°F
- Light: 12 hours on 12 hours off
- Relative Humidity RH: 50-65%

You are early into the flowering cycle for your system, and it is time to do a thorough crop walk and check for any visible signs of nutrient deficiencies and or leaf formation abnormalities. At this point you will either have to send a leaf tissue analysis or soil media analysis to ensure you are at target ranges prior to getting into the late weeks of flowering. Maintaining a soil pH between 5.9-6.2 is crucial and you want to ensure that your leachate (water runoff) is in between 1.3-1.5 mmhos/cm. The relative humidity needs to come down to 50% to ensure that any disease pressure from excess moisture is mitigated and the plants VPD increases. Your CO₂ needs to continue to be supplied and your phosphorus needs to be at target levels while your nitrogen and potassium needs to be tooled down. Your P levels need to be anywhere from 15-30 ppm and will end up being 50 ppm during the later stages of flowering.

DAY 36-42

Each plant will have a developing main cola with upwards of 20-30 pistils. This part of the plant will produce the first harvest and the largest buds. Any scalding or blistering across the leaf or bud surface could be due to excess heat from any lighting source, be mindful of that



and move the lights to the appropriate height (12-18") away from the plant canopy. Water uptake and "dry down" need to be monitored closely at this stage and each watering needs to have a pH between 6.5-6.8. Plant size and media will determine the frequency of the watering cycle and understanding the % by volume you water can help you determine the optimal watering. If temperatures rise above 80°F, then a plant may require twice the amount of watering then if it was at 65-70°F. Do not be alarmed at the lower leaves turning yellow and brown. The flowering plant is shedding those leaves as it flowers, and they will need to be discarded to ensure no disease pressure affects your plants from the decaying plant tissue on the topsoil.

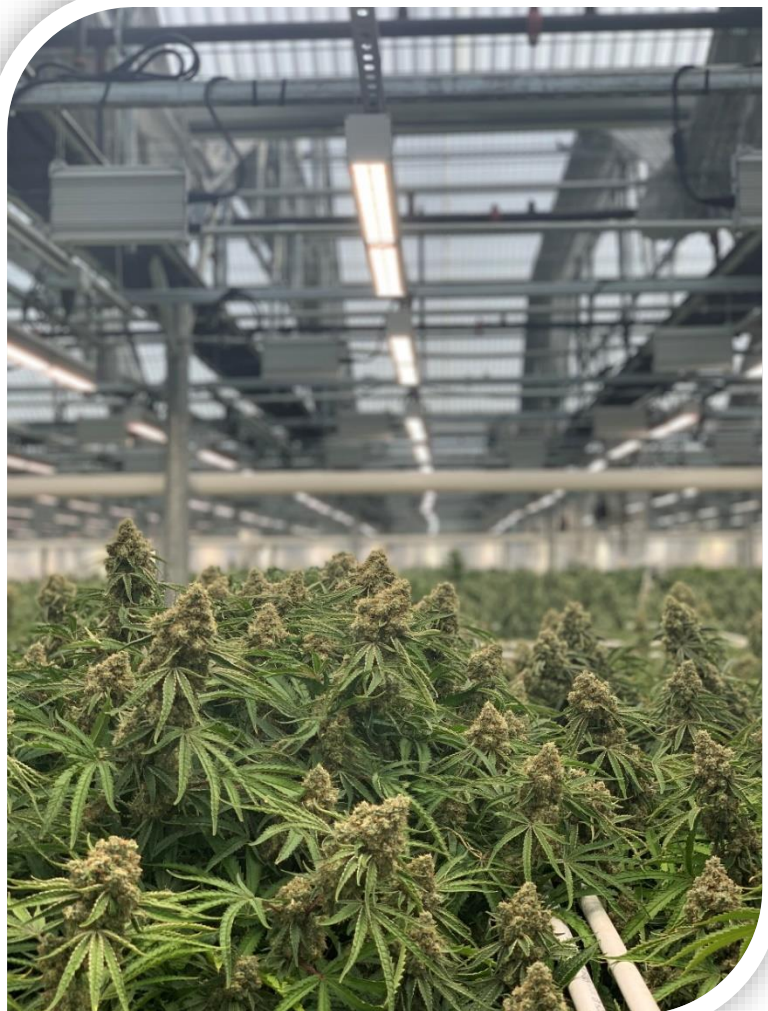
WEEK 7 FLOWERING PHASE

- 46-52 days post Seed Emergence
- 65-78°F
- Light: 12 hours on 12 hours off
- Relative Humidity RH: 50%

Production of leaves should be slowed down tremendously as the last of the nitrogen in your soil is utilized and your stacking of phosphorus should be enhancing the bud production. At this point your plants should have a strong aroma and are mid-way through their bud production. The plants soil should be maintaining a soil pH between 6.0-6.2, and the leachate (water runoff) is in between 1.4-1.6 mmhos/cm. The RH needs to remain 50% and your DT should be 80°F and your NT should be 65°F. The plant will need feedings of phosphorus from a 15ppm to 50ppm (depending on size) twice weekly at this point. You will need to have a good pulse on the "dry down" to ensure that the water levels remain optimal, and the demand is met. Plants will be drinking upwards of 1 to 1.25 gallons of water for each watering cycle.

DAY 43-49

The trichomes on your buds should be developing nicely at this point and by day 47-49 they will be abundant on your buds. Every day the buds will continue to swell to a larger size. The trichomes will contain anywhere from 25-30% THC of wet weight at harvest time. The plants will be giving out a very strong odor from the oil producing buds. The lights should continue to be as close as possible to the plant and 70-85% of the fan leaves should be showing signs of yellowing which is typical at this stage of flowering. Trichomes and sugar leaves should have crystals forming on top of each other as the buds continue to develop.



WEEK 8 FLOWERING PHASE

- 52-59 days post Seed Emergence
- 65-80°F
- Light: 12 hours on 12 hours off
- Relative Humidity RH: 50%

The plant will be expending a tremendous amount of energy under optimal growing conditions, and you will be feeding twice a week to keep up with this energy expenditure. The plants soil should be maintaining a soil pH between 6.0-6.2, and the leachate (water runoff) is in between 1.5-1.7 mmhos/cm. The RH needs to remain 50% and your DT should be 80°F with a NT of 65°F. The plant will still be requiring anywhere from 1 gallon to 1.25 gallons during the watering cycles.

DAY 50-52

The trichomes on your buds should be developing nicely at this point and by day 47-49 they will be abundant on your buds. Every day the buds will continue to swell to a larger size. The trichomes will contain anywhere from 25-30% THC of wet weight at harvest time. The plants will be giving out a very strong odor from the oil producing buds. The lights should continue to be as close as possible to the plant and 70-85% of the fan leaves should be showing signs of yellowing which is typical at this stage of flowering. Trichomes and sugar leaves should have crystals forming on top of each other as



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DAY 53-59

Massive colas will be a result if the cultural practices have been implemented. Dense buds and heavy colas would be formed on main and secondary stems. They should be close to full size. The most noticeable change in buds between this week and harvest week will be the reddish-brown change of color found on the pistils. It is normal and will be the conclusion of the pistil color change on the plant.

WEEK 9 FLOWERING PHASE

- 59-65 days post Seed Emergence
- 65-82°F
- Light: 12 hours on 12 hours off
- Relative Humidity RH: 40%

Potassium is crucial during the plants flowering phase now, N & P are still required at low levels, but K will help you finish your grow with dense buds and healthy oil production. You will need to test the media and or leachate for an EC of 1.6 prior to next week's flush before harvest. The RH needs to be turned down from 40% and your DT should be 82°F with a NT of 65°F. Keep the pH of the media between 6.0-6.2.

DAY 59-65

The trichomes on your buds should be almost fully developed and most of the pistils on your plants should be turning reddish brown. The increased temperature within the plants and in the growing environment can increase water consumption due to rapid water loss through VPD and could potentially cause a bud loss due to bud dehydration. Make sure that air in the environment through RAF is moving the air thoroughly through the canopy. This will cool the leaves surface and helps reduce bud damage. Removing unnecessary foliage and dead brown leaves helps open the plant canopy and allow for more light into the canopy for finishing. The temperature needs to be at 82°F with great air flow throughout the day.

WEEK 10 FLOWERING PHASE – LAST WEEK

- 65-72 days post Seed Emergence
- 65-80°F
- Light: 12 hours on 12 hours off
- Relative Humidity RH: 40%

At this point your grow cycle and flowering cycle should be finished. Any nutrients supplements to fix deficiencies will be too late at this point. The media needs to stay between a 6.0-6.2 pH with leachate at a range of 1.4-1.6 mmhos/cm. Continue with the RH of 40% and make sure that your day and night temperatures remain the same as the previous week.

DAY 65-72

The daylight hours require CO2 supplementation as the plants finish at a lower range of 1000-1300ppm depending on the cultivar. Almost 50% of the pistil and bud hairs have turned a red brown color and the colas are producing a very pungent identifiable odor that resembles their target terpene profile. The optimized growing conditions should have produced one main cola and upwards of 5 secondary colas.

DAY 72-75

It is now important to flush to reduce EC during the final irrigations, give the plants plain water. CO2 supplementation should be turned off and the plant will be weaned off of water day by day.

70% of hairs have changed color to reddish brown on every cola. Under magnification, glands called trichomes are standing erect, filled with resin that changes from clear to amber or milky white. It is these glands found on both leaves and buds that contain THC. The trichomes change from clear to milky white is a clear indication that harvest is going to be occurring within the week.

