

10

DO'S &
DON'TS

FOR YOUR **GROW ROOM**



GROW
UP TO **5X**
MORE

PIPP
MOBILE ST...

LET'S GET STARTED

Are you new to the industry, looking for tips for your upcoming grow room, or considering converting your single-tier setup to a multi-tiered vertical farm?

We have put together a list of the **top do's and don'ts** to follow for your grow room, so you don't have to! We are here to help make sense of all of the available information and help you better understand the best practices to implement in your grow room.





1

CANOPY FOOTPRINT

DO: Know Your Canopy Footprint

When first considering starting your own grow room, you must understand how much space you have. Do you have enough veg space to feed your flowering rooms? Can you meet your production goals? Most of the equipment in your grow room is sized based on your canopy footprint per room, while cultivation KPI metrics are also based on the canopy footprint. You can **gain canopy square footage without sacrificing quality** using mobile vertical grow racking systems.

DON'T: Just Think About Plant Count

While plant count is essential, it can vary. The canopy footprint (or total bench area) **will never change**; it is constant. You can start thinking about canopy footprint instead of plant count or how many pounds per light.



2 UTILITIES

DO: *Ensure You Have the Proper Utility Infrastructure to Support Your Build-Out*

Ensuring you have the proper utility infrastructure to support your build-out will help **avoid delays** with adequate planning. If you need the appropriate utility infrastructure, engage with your local utility to **estimate the timeline and cost** of upgrading the utility services to your facility. You'll want to write this one down, as this can be one of the most common delays for a new build!

DON'T: *Assume*

Assuming your new property has enough power, gas, and water to run your multi-tier grow facility will only cause delays. Your building will likely need the appropriate utility services to support your new facility. **Run estimates!** Running estimates before purchasing a new property can help estimate your utility usage and begin the utility upgrade process earlier than later. Running calculations will ensure limited delays for your new grow room.



3 BUDGET

DO: Budget Appropriately

Cultivation facilities can be expensive, especially when new to the industry. Investing in the appropriate technologies (high CapEx) results in **lower operating costs** (OpEx). Lower production price means you will remain competitive as a cultivation business in market compression. Investing in vertical farming can also be a higher upfront cost. However, this higher upfront cost compared to single-level growing **sets you up for success** with a lower production cost for your facility's life.

DON'T: Cut Corners on Your Build-Out

Growers will forever be sacrificing yield, quality, consistency, and efficiency. To survive in today's indoor cannabis market, you must **invest in efficient technologies** and **reduce your cost** per pound. The right facility design and budget can ensure you remain competitive for years to come.



4

MULTI-TIER GROWING

DO: Consider Multi-Tier Growing

The time is now to convert to vertical farming, especially in a multi-tier facility setup. Multi-tier vertical farming can significantly **increase production capacity** and utilize square and cubic footage. It is an overall more efficient strategy for indoor cultivation and allows for fixed cost absorption.

DON'T: Assume Multi-Tier Growing is Cost-Prohibitive

Investing in multi-tier may be a higher upfront cost to get started. Still, the ability to produce more products in a smaller overall footprint is inherently **more efficient and cost-effective**.



5

WORKING WITH THE RIGHT TEAM

DO: Assemble the Right Team

Hire an experienced cultivator! Engage consultants, architects, engineers, and contractors with experience designing and building an indoor cultivation facility. Building an indoor plant environment requires unique considerations that even the most experienced professionals could overlook.

Connect with the Pipp Horticulture team when considering a team to help invest in vertical farming!

DON'T: Go the Cheaper Route When Hiring

“You get what you pay for” isn't a saying for just any reason. Don't assume you will automatically start making large amounts of money initially. Your return on investment will take time, and hiring the right team at the beginning will help make those profits faster. Investing in the right team will pay off in the long run!



6

ENVIRONMENTAL CONTROLS

DO: Invest in Your Mechanical System & Air Flow Design

Investing in your mechanical system and airflow design can often be the most significant limiting factor for success and profitability for indoor cultivation facilities. Practical and consistent air circulation is a must for any grow room, especially in the vertical farming setting. Knowing your watering rates and desired setpoints can help you decide which system and design you want to invest in. Long-term success is limited to good environmental controls. The patented **Vertical Air Solutions (VAS)** inner canopy air circulation system is designed to work with an HVAC system specified for your vertical farm size and growing methods. The VAS system lets you control environmental factors such as temperature, humidity, airflow velocity, and CO2 levels, optimizing plant health and finished product quality.

DON'T: Invest in Easily Upgradeable Systems

When just getting started, think about what systems are easier to retrofit once you start making money. If the budget is limited, try and figure out how to save money on these systems up front and then **set goals to upgrade** after specific revenue benchmarks.



7 LIGHTING

DO: Invest in LED Horticultural Fixtures

Since adopting Horticultural LED fixtures, the cost per fixture has dropped dramatically. Almost every facility built today uses LED lighting due to its efficiency per joule, spectrum, and form factor. Plus, you can often offset the cost of these fixtures with utility rebates from your local utility. LED lighting can help indoor cannabis operations by **optimizing plant growth** at every stage of the plant life cycle.

DON'T: Spend Time and Money with HPS Lighting

HPS technology can be inefficient at converting electrical energy into usable plant light. All the heat generated with HPS lighting requires more cooling capacity to remove. With vertical farming adding multiple tiers of grow space, investing in LED lights will be **crucial to maintain temperature**.



8

EMPLOYEE CONSIDERATIONS

DO: Train Employees on Your Systems

It's essential to train your employees to know precisely what they need to do daily. Especially with vertical farming systems. Vertical farming requires different training than single-tier systems. Limit the number of specialty tasks per employee, and have them master a job before training them on a new one. Labor is the highest cost of producing a pound; a good team who feels confident in their job and cares about the plant will result in a profitable and successful business. Make their day-to-day more comfortable; an employee who enjoys coming to work will do a better job. Pipp's **ELEVATE® Platform System** helps cultivators access the upper levels of their grow racks with ease and safety. One person can set up the system, and the ergonomic design reduces worker stress and risks of injury or fatigue.

DON'T: Assume Everyone Knows the Process, Even If They Say They Do

Employee errors cause injuries and failures due to a lack of training. Grow facilities should constantly update their SOPs and ensure their employees are up-to-date on the latest procedures. The cannabis industry is a fast-paced environment, and things can change overnight. Have a method to help **track employee performance** and mold that dedicated and professional team to achieve specific goals and success!



9

CLEANLINESS

DO: Keep Your Facility and Grow Rooms Clean

A clean facility means healthier plants, resulting in **greater yields**. Design an easier-to-clean facility, and plan out drains, sinks, and systems to allow for more efficient cleaning procedures. Reasonable environmental control and airflow **reduce your risk for pathogen proliferation**. The worst feeling a grower can experience is failing a lab test and not being able to sell a harvest batch that they just spent 3-4 months and tons of money growing. Pipp systems are designed for easy cleaning and sanitization. Grow Racks have an E-Coat base layer, providing complete coverage and negating the Faraday effect, while a powder coat top layer provides anti-microbial and anti-fungal properties. Pipp also made the inside duct work more accessible by removing the end caps.

DON'T: Be Lazy

Cutting corners results in poor yields, airflow, and unhappy plants. Dirty facilities without proper reset and sanitization protocols increase their **risk of failing lab tests and often reduce their yields**. Growing quality indoor cannabis is not guaranteed; the more work and care you put into your plants and facility, the more you will be rewarded.



10 BALANCE

DO: *Keep in Mind Every Parameter, Metric, & KPI in Your Grow Room Regarding Balance*

Balance is the key to successful grow room design and operation. Is your watering rate balanced with your dehumidification capacity? Do your lighting levels balance with your CO2 levels? **Energy in = energy out.** Growing indoors is all about energy balance; within every system and plant to ensure success.

DON'T: *Narrow Your Focus*

Every system and growth parameter within your grow room works harmoniously and synergistically. If you just think about your fertilizer solution or irrigation strategy, you need to consider how that affects every other parameter to avoid throwing things out of balance. Balance your plant process flow, labor needs and timing, genetics rotation through production, and growth parameters. **Balance is the key to success.**



ELEVATE YOUR CULTIVATION

Working with the Pipp Horticulture team saves time and money when considering a new grow room. Pipp Horticulture continues to grow and improve daily with **over 50 years of experience**. It has quickly become the industry-leading provider of Mobile Vertical Growing Solutions with installations in **over 2,500 grow rooms** worldwide. We have engineered various cost-effective solutions that can exponentially grow your production without increasing your square footprint, allowing cultivators to **grow up to 5x more** by maximizing their cubic grow space and creating more efficient workflows.

Moving forward with Pipp Horticulture means working closely with our in-house professional engineers, CAD designers, sales support, and experienced cannabis operators. Let us help you maximize your production capability, reduce operating costs, and increase your overall revenue per square foot!

READY TO **GROW UP?**


Pipp Horticulture offers everything you need to build the **ultimate grow room!**

- Vertical Grow Racks
- Mobile Carriages
- Grow Trays
- ELEVATE® Platform System
- VAS Air Circulation System
- Rolling Benches
- Facility & Post Harvest Solutions





Contact **Pipp Horticulture's** experienced team of indoor cannabis operators and designers to take the first step towards your vertical farming future!

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