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Case Study Harmony Roots

DOUBLING YIELD WITH BIOS LIGHTING

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Harmony Roots Continual Grow Site: A Blueprint for Success

Harmony Roots

Jennifer Speer-Harvey, CEO of *Harmony Roots*, has differentiated her brand in the Oregon cannabis market by consistently producing remarkably high-quality flower and she prides herself on each and every harvest batch.

She knew her passion was paying off when she found the opportunity to scale, but scaling a craft operation is not a simple task. She approached expansion with the same attention to detail she does her flower — including her choice to use **BIOS LED Lighting**.

Scaling Production

In order to stay competitive during the expansion, *Harmony Roots* moved their operation into a larger building. The new facility required a new approach to lighting — it was “severely under-lit” with only 75 High-Pressure Sodium (HPS) lights and adding more HPS was not an option due to power constraints.

The *Harmony Roots* team carefully considered alternatives to the traditional HPS lights they had been using with their perpetual grow cycle.



The BIOS Difference

DOUBLED
YIELD



LOWERED
LABOR COSTS



INCREASED
EFFICIENCY



*“The entire room is
blanketed in light now”*

— Jennifer Speer-Harvey, CEO Harmony Roots

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Energy, Heat, and Yield

While researching lighting systems, *Harmony Roots* quickly realized that one big challenge in their new larger facility was finding a lighting solution that was energy efficient and provided minimal heat gain.

"We couldn't add more lights and more AC and more [dehumidifiers], and all of these things that we needed to [hit current production standards]...If we get to that point, we're not going to produce enough [weight] to make this worth it. So, we had to figure out what is the most efficient way for us to get where we needed to be"



With BIOS "We were able to see that we could save all this energy and all of this heat...while also becoming more efficient and getting what we need out of a light."

Platinum Level Support

After extensive research into grow lighting systems, *Harmony Roots* reached out to BIOS to find out more about their LED grow solutions.

"First and foremost, we were able to call them and have someone come out. [BIOS] was out at our facility within two days of calling...and showed us all of their lights [and] walked us through it all. Everything about the light, how it would work, what the footprint would look like, [they] showed us the PAR measurements. We couldn't make a big decision like that without looking at that light first and putting our hands on it. That was one of the biggest things, giving us the knowledge and walking us through and showing us that this is going to work within our facility and helping us narrow down which light was right for the way that we grow."

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Transition Challenges SOLVED!

Harmony Roots is a **perpetual grow site**, meaning they harvest every other week. Because of the frequency of harvest, it was imperative their plants receive enough light during the transition from HPS to LED.

*"WE DIDN'T LOSE A DAY
TRANSITIONING OVER TO
bios LED LIGHTS"*



Reducing Infrastructure + Installation Time

With the help of the BIOS team, *Harmony Roots* implemented creative infrastructure solutions that helped reduce installation time.

"We were able to daisy chain multiple BIOS lights together so that we were able to [use] one plug to run five lights... We needed to be able to have something that was put together and ready to go so that we could take those HPS lights out, put the BIOS LED lights up, and never miss a day with harvest. We didn't lose a day transitioning over to BIOS LED lights."

"We received the lights on a Friday...By Monday, we were up and running...our lights were on and we were able to successfully move plants in."

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Better Power, Better Flower

The new BIOS Icarus™ Li2 LED fixtures didn't disappoint! During installation of the BIOS lights, *Harmony Roots* already noticed a major improvement in light quality and distribution.

"We were able to light up half of the building with [BIOS Icarus Li2] LEDs and then look at the other half under the HPS lights. The room was just glowing on my BIOS side. Every wall was lit up. Every table top was lit up... It was not until then that we realized the impact that [BIOS LEDs] would have on our flower... The entire room is blanketed in light now."

In addition, the *Harmony Roots* Team has seen a significant improvement in the quality of their crop.



Under BIOS LEDs, we have seen "much denser buds [and] much more beautiful colors and terpene profiles... Our buds are so much more frosty and beautiful than they were before."



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Harmony Roots Continual Grow Site: A Blueprint for Success

Doubling Yield, Decreasing Maintenance + Lower Labor Costs

BIOS LED lighting enabled *Harmony Roots* to **double** their yield of Grade A Flower, and save time and money on maintenance, too.

"Being able to maintain the lights is a piece of cake. We go through a heavy sanitation protocol after we pull down plants... We're able to get up there [and] wipe down lights. It's not hot. We don't have to turn it off, let it cool down or do anything. We can get up there with a rag and cleaning solutions and wipe every part of the light down to make sure that there's nothing that transfers over from one harvest to the other. So cleaning and maintenance is very minimal with these lights. We don't have to change bulbs every year. We don't have to deal with disposing of bulbs every year. It's really maintenance-free... [BIOS lights can] handle being banged around a little bit... and not fall apart"

"Being able to maintain the lights is a piece of cake... Cleaning and maintenance is very minimal with these lights"



The BIOS Difference

Harmony Roots knows the BIOS difference. With BIOS LED lights, they were able to scale their production, while quickly and seamlessly transitioning from High Pressure Sodium lights to BIOS LEDs. BIOS has allowed Harmony Roots to reduce maintenance, decrease labor, as well as double their Grade A Flower Yield without losing a single day in their demanding perpetual grow cycle.

BIOS Plant Lighting

CANNABIS LIGHTING SOLUTIONS

The legal cannabis industry has exploded in recent years, and BIOS is leading the way with lighting solutions designed to help the industry evolve from small, private grows into large-scale industrial operations. The only grow lights engineered with plant biology and the grower in mind. Our cannabis lighting solutions will maximize yield and improve flower quality across cultivation stages.



Make The Switch To LEDs

OUT WITH THE OLD AND IN WITH THE NEW

With conventional high-pressure sodium (HPS) grow lights, plants are deprived of biologically optimized spectrum of light to flourish. In addition, growing facilities will incur additional operational expenses such as replacement fixtures every 6 months, hazardous disposal expenses, and purchasing a HVAC system.

Limitations of HPS include:

- Poor light uniformity and fixture efficacy
- Requires additional hardware purchases - ballast and reflectors
- High heat generation
- Substandard plant monitoring conditions

BIOS provides energy-efficient and optimized broad-spectrum white lighting—along with industry-leading Photosynthetically Active Radiation (PAR) photon efficacy—that naturally leads to better flowering and more yield than traditional HPS lighting systems or unsightly purple LEDs.



@bios_plant



/biosgrowlights