

## **CASE STUDY: Dutch Valley Farms Enhances Crop Quality, Significantly Shortens Growing Cycle with Vertically Racked LEDs**



### ***Grow operation delivers more craft cannabis in less time – and sees a 1.47% increase in THC***

Located at the base of Mt. Hood in Oregon, Dutch Valley Farms is a premium cannabis producer that entered the market in 2016 with a different approach than many other industry players at the time. A minority-owned institution, DVF prioritizes quality over quantity, seeking out the most viable, environmentally friendly methods to produce clean, high-quality craft cannabis.

This commitment to quality quickly gained a devoted following. So, the DVF challenge didn't lie in attracting the right customers. Instead, how could they harvest more cannabis in less time to meet increasing demand without sacrificing any potency? The DVF growers focused on:

- **Reducing growing time and increasing harvest weights** to accommodate influx of customers.
- **Improving cannabinoid content** in alignment with high quality, boutique strains.
- **Expanding the operation's focus on sustainability** while remaining cost effective and practical.

***"We don't take shortcuts, even if it would help our bottom line. We want to offer the cleanest cannabis in the Pacific Northwest, grown with sustainable methods."***

***– Anthony Palacio, COO, Dutch Valley Farms***

## THE SOLUTION

While the environmental benefits of LEDs were clear, the ability to reduce the growing cycle while still maintaining quality was in question. DVF put it to the test by comparing cannabis plants grown with HPS versus LED.

- Growers installed ProGrowTech's EV700 lights in two vertically racked grow rooms. DVF chose EV700 — one of ProGrowTech's most popular fixtures for commercial cannabis growers — for its superior uniformity, measured at 900  $\mu\text{mol}/\text{m}^2$  PPF, as well as its on-board dimming and spectral tuning capabilities.
- For comparison, DVF installed high pressure sodium (HPS) lights in two more grow rooms, for a total of 62-64 lights altogether.

By using the same growing methods in the HPS and LED rooms — watering schedule, nutrients and ventilation — DVF was able to share a comprehensive evaluation of LED and HPS results, both in terms of potency, yield and growth cycle speed.

## THE RESULTS

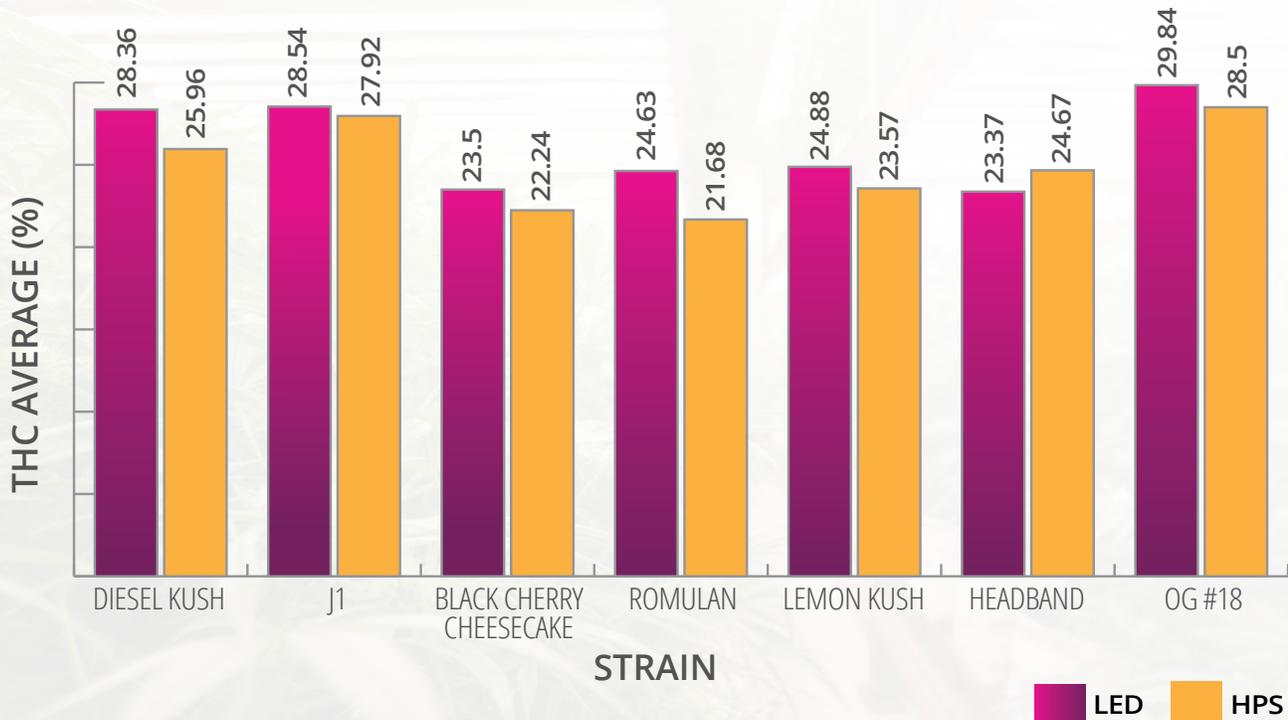
Impressively, plants under EV700 fixtures reached maturity **one full week earlier than expected**. This benefit was particularly advantageous: with a significantly shorter growing cycle, DVF was able to harvest more cannabis, more frequently. They could meet the growing consumer demand, boost profits and save time – all without sacrificing quality. DVF saw consistently better test results for product grown under LED lights.

## STUDY HIGHLIGHTS

- Growing time reduced by **one full week**.
- Average THC percentages increased by **1.47%** in LED rooms.
- Average cannabinoid content increased by **1.65%** in LED rooms.
- LED rooms saw **1.2x** higher yields than HPS rooms.



## INCREASE IN THC PERCENTAGE



### KEY FINDINGS



**Shorter Grow Cycle, Healthier Plants:** Plants reach maturity faster when shock can be avoided. Shock can often result from transitioning from the “veg” room to the “flower” room, where lights are much more intense. DVF noted less symptoms of stress in LED rooms. This resulted in a faster growth cycle and healthier, mature plants.



**Spectral Tuning:** The EV700’s spectral tuning capabilities allowed DVF growers to improve plant structure: tighten internodal spacing, reduce stretching and increase bud size. Further, DVF tailored the light spectrum to meet the needs of various cannabis strains, such as giving indica strains more intense, blue light.



**Vertical Racking:** DVF took full advantage of the EV700’s vertical racking capabilities. This allowed more plants to thrive in less space, without sacrificing light quality or uniformity.



**Potency:** Diesel Kush, a sativa-dominant hybrid strain, and Romulan, an indica strain, are favored among customers for their potency. These two strains responded most dramatically to LED lights, both increasing THC and cannabinoid content at least 2%.

*“We plan to add another EV700 room because we’ve found that customers want more of these high potency results.” – Anthony Palacio, COO, Dutch Valley Farms*

## Explore LED Options

Ready to learn how LEDs can benefit your grow?  
Talk to an expert.



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