

How Greenstone Fire Increased Harvest Yield By 43% With Agrify™

OVERVIEW

Denver, Colorado-based cultivator Greenstone Fire has made its name researching, developing, and perfecting premium cultivars in one of America's most mature adult-use cannabis markets. Their flower is high quality, grown under tight conditions and with careful management. However, standing out in a mature cannabis market is not just a matter of consistent and reliable cultivar production: It means keeping up with demand while closely monitoring costs to preserve healthy margins.

Greenstone Fire's leadership connected with Agrify to understand how Model R LED grow lights could support their goal of producing more flower at a sustainable cost per pound. Under the right conditions – and with the right equipment – Greenstone Fire created the environment they desired within their existing setup, while also reducing energy use and costs.

STUDY

A Significant Yield Increase Under Model R Lights

To see firsthand how cannabis plants respond to Model R lights, Greenstone Fire conducted a small trial run that measured Agrify's lights against their current setup; a mix of high-pressure sodium (HPS) and LED lights from another brand. During the flowering stage, one set of plants was placed under seven Model R lights, and the other was placed under a mix of four HPS lights and three LED lights from another company. All other conditions were kept the same, including nutrients, soil, and the light spectrum. The difference at harvest was clear: **Cannabis grown under Agrify's Model R lights resulted in a yield 18% higher than Greenstone Fire's existing lighting setup.**

Following the success of their first run, Greenstone Fire expanded the trial to conduct the same experiment with three other cultivars grown in their facility. The results were stunning: **Each cultivar's yield clocked in at 43% higher, 36% higher, and 13% higher than its counterpart grown underneath a mix of HPS and LED lighting.**



Four Ways Model R Lights Improve Your Grow Operation

Light intensity, duration, and color spectrum are critical parts of the equation at each growth stage, but as Greenstone Fire's trial run demonstrated, the light source can't come from just any fixture. Agrify's Model R lights deliver the right amount of light at each growth stage in a cost-effective manner.

1.

More Photons Reach the Plant Canopy

What ultimately matters is the amount of light delivered to the cannabis plants. This figure, called photosynthetic photon flux density (PPFD), determines the actual number of photons reaching the plant canopy. Agrify's Model R lights are proven to deliver more photons to the plant canopy when compared to other grow lights on the market. The overall PPFD is around 60% higher than that of a typical 1000W HPS light fixture. This increased PPFD is one of the main reasons Agrify's technology leads to higher yields.

2.

Adjustable Spectrum

Under Model R lights, cannabis plants do not need to be relocated at each growing stage. For example, blue light helps boost chlorophyll production during the seedling and vegetative stages, while red light is crucial for proper development during the flowering stage. Without adjustable spectrum lights, the plants need to be physically moved under those specific fixtures at the right time.

Model R lights feature an adjustable spectrum, so cannabis plants can stay put. Less movement means less human interaction with plants that could introduce damaging pathogens into your grow environment, resulting in higher yields unaffected by contaminants. Furthermore, the adjustable spectrum allows growers to fine-tune the grow lights for each cultivar, which maximizes yield even more.

3.

Generates Less Heat

Grow room temperature must be carefully monitored and controlled for optimal results. HPS lighting can give off enough heat to influence room temperature and consequently impact growing conditions. LED lighting stays cool without compromising the light quality. This also reduces a facility's need to run the HVAC system to counteract those temperature spikes.

4.

Energy Efficient

Cannabis cultivation is energy intensive, which contributes to sky high energy bills and can prevent a company from running an environmentally sound operation. LED lights like our Model R lights consume significantly less energy than their HPS counterparts, leading to long-term energy savings. **For Greenstone Fire, the switch to Model R lights resulted in a 20%+ reduction in energy bills between lighting and HVAC use.**

Cultivators can also benefit from rebates and incentives offered by utilities to invest in energy efficient equipment like our Model R lights. These rebates can help cultivators recoup a significant percentage of their initial investment.



Choose Agrify for End-to-End Cultivation Support

When you choose Agrify, you get much more than just state-of-the-art LED lighting. You'll gain access to professional guidance and a full suite of tools that ensure you're set up for success from day one. Our cultivation experts work closely with you to outfit your grow with Agrify LED lights and planning PPFD maps to ensure your plants are getting the lighting they need to thrive. [Contact Agrify](#) today to jump-start your grow.



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