

## Case Study - LED Replacement of 1,000W Metal Halide & T5 Fluorescent

### BACKGROUND

Terrapin Care Station, established in 2009, is a leading recreational and medical cannabis producer headquartered in Boulder, CO., with six separate facilities across Colorado, Oregon and Pennsylvania.

Terrapin installed Thrive Agritech's LED grow lights on seven projects to upgrade their T5 fluorescent and 1,000 Watt metal halide lighting fixtures.

### GOALS

- 1) **Optimize plant growth**  
Deliver uniform, full-spectrum light for better growth .
- 2) **Reduce Energy & Heat**  
Reduce electrical power consumption and heat.
- 3) **Increase profit**  
Minimize upfront expense, cut electricity costs and improve crop yields.

## Results

### INSTALLATION

2,000 fluorescent tubes were retrofitted with Thrive Agritech's LED T5 bulbs, reducing energy and heat by 45%. Next, each 1,000 Watt metal halide fixture was replaced with 348 Watts of Thrive Agritech's Infinity LED fixtures, resulting in a 65% energy savings.

### PLANT GROWTH

Plants grown under the LED light demonstrated stronger branches, tighter node stacking and faster root development.

### REBATES & FINANCING

Colorado utility, XCEL Energy, issued over \$25,000 in rebate checks to incentivize the conversion to LED. The rebate provided immediate cash for Terrapin. In addition, Thrive Agritech provided access to 3rd party financing that enabled all seven projects to be cash flow positive from day one.

### OPERATING PROFIT

The upgrade to LED lighting reduces Terrapin's annual energy bill by \$89,518. Over the 5-year warranty period of the LED lights, Terrapin will realize a return on investment (ROI) of \$205,110.



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## SUMMARY

Return on Investment (ROI), 5 Years	\$205,110
Annual Increase in Profit	\$89,518
Plant Growth	Better
Overall Energy Savings	Over 50%
Overall Heat Reduction	Over 50%



**“Thrive Agritech’s LED lighting products have been terrific at growing plants in our warehouse. We are seeing improved plant health and root mass, and a reduction in heat and energy costs. I couldn’t be happier.”**

- Matt Paul  
Director of Cultivation, Terrapin Care Station



1,162,980 lbs  
reduced/year

=



144 acres of forest  
added/year

=



101 cars removed  
from road/year