



**PHILIPS**

Horticulture  
LED Solutions

Case study  
Great Lakes  
Growers

Burton, OH



Philips GreenPower LED toplighting

Great Lakes Growers  
completes **conversion**  
**to 100% Philips LED**  
toplighting





“

The color is much deeper, darker, richer with LEDs. The taste is better with LEDs.”

**John Bonner,**

Owner



### Background

In just a matter of six years, John Bonner has expanded Great Lakes Growers, a lettuce-growing business he founded in 2011 into a greenhouse operation of more than 85,000 square feet. Located in Burton, Ohio, Great Lakes Growers specializes in growing fresh, tasty, pesticide-free lettuce and herbs for local grocers, markets and restaurants in Northeast Ohio and beyond.

Coming from a family of farmers and entrepreneurs, Bonner was raised in the horticulture industry—his family owned a greenhouse and garden center. Bonner graduated college with a degree in Business Administration and worked in the financial industry before returning to horticulture, which he did when he went to work at Eagle Creek Growers, a wholesale ornamental grow operation started by his sister. He left Eagle Creek to start Great Lakes Growers in 2011.

### The challenge

Recognizing an opportunity with increasing demand for locally grown, pesticide-free produce, Bonner combined his horticulture experience and finance and economics knowledge to start Great Lakes Growers. What started out as a 300 square foot growing area has expanded and grown significantly.—the company is currently producing approximately 1.4 million heads of lettuce per year and Bonner has put ambitious plans for growth in place.

Since the start of his business, Bonner relied on traditional HPS lighting to meet the company’s supplemental lighting needs. However, the promise of LEDs intrigued Bonner, and after spending a good amount of time learning and researching LEDs, Bonner decided to conduct his own in-house trial.

## Solution

An expansion in 2016 included an area that Bonner designated for trialing LEDs, enabling him to conduct his own on-site, real-world research. Bonner initiated a controlled trial in which he tracked and compared growing lettuce under 600 W HPS to growing under LED lighting. Through the collaboration and support of Philips horticulture partner, AgriNomix, and Philips Senior Plant Specialist, Dr. Abhay Thosar, Bonner installed LED toplighting with deep red / blue low blue (DR/B LB) spectrum over the lettuce trial area. Bonner explained his trial process in an interview with *Greenhouse Management*, “We took data three days out of the week on size, color, spacing and grow time and plugged it into a data sheet and evaluated it.”

“

I’ve been here for a number of years and **this is the best I’ve ever seen it.**”

**Brock Burzanko,**

Operations Manager

## Benefits

Under LEDs, Bonner noted many quantitative benefits with the lettuce crop—increase in production speed, and higher mass and increased dry weight—as well as qualitative benefits—better color and less susceptibility to tip burn. Bonner said, “the color is much deeper, darker, richer with LEDs. The taste is better with LEDs.” The positive results made it an easy decision for Bonner to proceed with installing Philips LED toplighting over Great Lakes Growers’ entire lettuce range.

Bonner then decided to examine the effect of LEDs with herbs. Even before competing an entire trial, because early results were strongly favorable, he moved forward with an installation of Philips LED toplighting DR/B LB over the entire herb range. Today, the greenhouses of Great Lakes Growers are powered 100% by Philips LED lighting.

With the new lighting, Bonner estimates that his operation has increased greenhouse production by approximately 30 percent. An improved product quality along with an increase in production, yields and revenue drove Bonner’s decision to make the complete switch to Philips LED toplighting. Methodical and smart business decisions and taking the lead with LED technology will undoubtedly support the ambitious growth plans that Bonner has for Great Lakes Growers.



## Facts

### Grower

Great Lakes Growers

### Location

Burton, Ohio USA

### Sector

Specialty food crops

### Crop

Lettuces and herbs

### Solution

Philips GreenPower LED toplighting

### Philips LED Horti Partner

AgriNomix

### Results

- 30% production increase
- Reduced tip burn
- Improved color





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