



**PHILIPS**

Horticulture  
LED Solutions

Case study  
Bordine's Farm

Grand Blanc, MI



**ADD COLOR!**  
*Bordine's Message -  
The Next Step*

Philips GreenPower LED toplighting module

Accelerate rooting of  
bedding plants with the  
**right LED light solution**

“Experience growth like never before.”



“

Compared to HID, plants under Philips LEDs showed much **better rooting and all around more compact growth.**”

**Dave Redoutey**, Propagation Grower



### Background

Bordine's is the largest family-owned grower and retail garden center operation in Michigan. The original Bordine's location, which opened in 1939 in Rochester Hills, is one of the nation's busiest garden centers. In the company's 75-year history, Bordine's has expanded to four locations including the 100-acre Bordine's Farm in Grand Blanc, which was purchased in 1999.

Every year, 10 million seedlings are propagated on Bordine's Farm. With more than one million square feet of greenhouse growing space, Bordine's Farm grows 95% of their own annuals and perennials, and the farm alone employs more than 250 people during their peak season.

### The challenge

Like other growers located in northern climates, propagation at Bordine's takes place during the winter months when sunlight is at its lowest levels. Because the farm propagates the majority of their own annuals and perennials, Bordine's is always striving to improve transplant rates and reduce rooting time to ensure plants are ready for scheduled openings in early April of Bordine's garden centers.

Recognizing and understanding the importance of spectrum in greenhouses, Dave Redoutey, the Propagation Grower at Bordine's Farm, expressed an interest in testing the propagation of Bordine's most popular annuals and perennials including Begonias, Petunias, Geranium, Vinca, Dianthus, and Lavender under Philips LED toplighting. Redoutey planned to compare trial results to historical data of growing under their current lighting situation—high pressure sodium fixtures and natural sunlight.

### The solution

The first step in Bordine's LED toplighting trial installation involved a visit to their greenhouse operations by a Philips Plant Specialist. Dr. Abhay Thosar conducted a detailed analysis of the existing light levels within the greenhouse where the trial was to be conducted. Based on Dr. Thosar's light measurements and calculations and incorporating his knowledge of the annuals being propagated, Thosar set up the toplighting trial with a light spectrum of DR/B MB.



“

**The Begonias rooted one week faster—it was amazing.”**

Dave Redoutey, Propagation Grower

### Benefits

With rooting being the slowest part of the process, the results of the four-week trial were as, Redoutey said, “amazing when compared to growing under our HID (high intensity discharge) lights.” Comparing the results of the trial, Redoutey noted the following with the LED lit plants:

- **More compact growth** when examining and measuring to the height of the apical point
- **Increased basal, vegetative bud development** without the use of PGRs
- **Faster root development** allowing for earlier transplanting
- **Prominent pigmentation** particularly in geranium leaves
- **Leaves were sturdier and tougher** to the touch indicating healthier growth

Redoutey is more than satisfied with the results of the trial and he also added, “I also feel like I'm doing something good for the environment because the Philips LEDs use significantly less energy.”

The success experienced by Bordine's Farm with the Phillips LED toplighting module demonstrates the benefits that the right light solution can offer greenhouse growers in their propagation and production phases. Redoutey said, “Just about everything about the results surprised me. I'm now a big believer in the Philips LEDs.”



Geranium – prominent leaf coloration



Dianthus – compact growth



Begonia – faster rooting

## Facts

### Grower

Bordine's Farm

### Location

Grand Blanc, Michigan USA

### Sector

Ornamental, perennial, potted, bedding, and holiday plants

### Crop

Winter plug production of popular annuals and perennials

### Solution

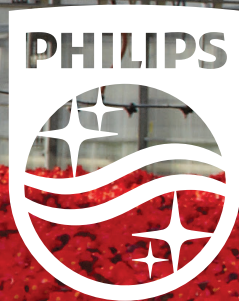
Philips GreenPower LED toplighting module

### Philips LED Horti Partner

Fred C. Gloeckner

### Results

- 7-10 day faster rooting time
- Better rooting, sturdier leaves, compact growth



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