

A man with dark hair, wearing a black polo shirt and khaki pants, is smiling and holding a basket of vibrant red begonias. He is standing in a greenhouse filled with various plants, including hanging baskets of white and red flowers. The background shows the structural elements of the greenhouse, including metal frames and hanging plants.

PHILIPS

Horticulture
LED Solutions

Case study
Valley View
Greenhouses

South Salem, NY, USA



Philips GreenPower LED flowering lamps

The new lightspectrum
was a success **on all our**
Begonias

“Light is an extremely crucial aspect of plant development,
affecting maturity, bloom time as well as uniformity in size.”



“

Philips LED lights managed to save us time and money **while improving our plant quality.**”

Frank Amodio, owner, Valley View Greenhouses



Background

Frank Amodio has been the owner of Valley View Greenhouses located in South Salem, NY since 1978. Frank graduated from Cornell University with a degree in ornamental horticulture, and has established a reputation for being a premier grower in Westchester County. Recently Frank's son Kevin joined the Valley View team, making four generations of Amodios in the greenhouse industry, two at the current location. Clearly growing runs in Amodio blood! Valley View sells high quality finished products to local retailers and landscapers. Beginning in early spring with crops like Hydrangea, moving into mid-season with annuals, perennials and nursery stock, then on to the fall production of Chrysanthemums and other late season crops, and finishing up with Poinsettias, Valley View runs a year-round operation. Additionally, Valley View is a rooting station supplying the Northeast region with rooted cuttings for the Winter months.

Challenge

Light is an extremely crucial aspect of plant development, affecting maturity, bloom time as well as uniformity in size.

A recent challenge at Valley View was finding a way to grow tuberous Begonias in a more compact, heavily branched habit during the short days of Winter. The goal was to have these plants 'market ready' for prime selling time, blooming when Frank wanted them to bloom while staying compact. In other words: not blooming too early or stretching.

Solution

Valley View installed Philips LED flowering lamps in certain areas of the greenhouses. Portions of the crops of non-stop Begonias (95%), Dragon Wing Begonias (25%) and New-Guinea Impatiens (20%) were placed under the new lights to run a comparison of growth against the same types of plants not placed under the flowering lamps. The lights were a combination of Deep Red and White which were chosen specifically for the crops being grown. The lights were turned on automatically at 7 PM and shut off automatically at midnight during the growing phase of the crops. There were no other changes made in terms of substrate, fertilization, or irrigation during this trial. The begonia baskets and larger pots were lit until March

18th, the 4.5” pots were lit until March 25th. Frank planned the lighting schedule around their ‘market ready’ date, which for Valley View is early/mid May.

Benefits

The new spectrum lighting was a success across the board on all the Begonias. All benches were consistent across the top. Frank was able to achieve the desired result he strove to accomplish with his tuberous begonias in the first year of production using the Philips LED flowering lamps. Specifically, the high shrinkage rate of 12% experienced in the past at Valley View with the growth of tuberous Begonias was reduced to 1% - a truly phenomenal improvement. The tuberous Begonias grown under the lights all bloomed at the same time and were able to remain pot tight for a longer length of time. Very little stretching was found and the plants displayed strong stems to support the flowers. The comparison crop, grown under regular incandescent lighting, achieved the same disappointing results as in years past, flowering too early with weak stems. Another significant savings was using 1 application of Cycocel on their hanging basket crop as opposed to 2 applications on the unlit crop grown under regular incandescent lights. The dragon wing begonias also tested under the Philips LED flowering lamps experienced the same results as the

tuberous Begonias. The real benefit with the Dragon Wing Begonia hanging baskets was that they did not bloom too early! Botrytis did not form on the bench crops below them, since the blooms did not form and fall off the hanging baskets early as in previous year’s production. The unlit comparison crop of Dragon Wing Begonias flowered earlier and needed more maintenance and cleaning, costing more labor hours on the crops growing underneath them. The final test of New Guinea Impatiens rendered dream results with the use of the Philips LED flowering lamps. The crop was uniform and remained pot tight until market date. In short, the crop was perfect! However, Valley View did notice a variable change on the New Guinea Impatiens bench during the propagation in that the heat was turned up higher this year on the trial bench. They will have to try it again next year with the heat at the normal temperature to confirm that the lights, not the heat created the uniformity. They will also use the LED lights on the New Guinea Impatiens to see if they can speed up flowering for a few weeks. The overall results for all of the trials were a resounding success. The elimination of shrinkage, the reduction of labor for cleaning and spacing, and the high quality plants produced were significant improvements over past growing seasons. The resulting increase in profit margin offset any initial startup investment!

“

The goal was ‘market ready’ for prime selling time, blooming when wanted, while staying compact.”



Facts

Grower

Frank Amodio

Sector

Potted, bedding plants and perennials

Crop

Tuberous Begonia, Dragon Wing Begonia, New Guinea Impatiens

Location

South Salem, NY, USA

Solution

Philips GreenPower LED flowering lamp

Philips LED Horti Partner

Fred C. Gloeckner & Company Inc.

Results

Uniformity, consistency, and early bloom time on all crops



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