

HORTI-FACTS

INCREASING CUTTING PRODUCTION, REDUCING CUTTING PROPAGATION TIME WITH LEDS



Father-son team, Jerry and Jonathan Soukup

CASE FILE FACTS

COMPANY	Southwest Perennials Inc.
LOCATION	Dallas, Texas
CROPS	Propagation of over 300 varieties of heat- and drought-tolerant perennials and herbs
TECHNOLOGY	Philips GreenPower LED Deep Red/White Flowering Lamps and GreenPower LED Deep Red/White/Far Red Flowering Lamps



PHILIPS

LED Horti Partner

Background

Southwest Perennials Inc. began operating in 1995 in greenhouses that were leased from the city of Dallas. Twenty years later the company is still using the same facilities with some modifications including replacing fiberglass glazing with double polyethylene film and the installation of sprinklers and misting systems. The company operates 80,000 square feet of greenhouse space in two locations.

Southwest Perennials annually produces about 4 million plugs, primarily 72- and 128-cell trays. About 80 percent of the plugs are vegetatively propagated and 20 percent are produced from seed. The plugs, which are primarily sold through brokers and distributors, are shipped to customers in the 48 contiguous states.

Challenge

The father-son team of Jerry and Jonathan Soukup are constantly looking for ways to maximize production of their starter plants. They previously tried using incandescent bulbs to keep their stock plants growing vegetatively during the fall and winter, but were disappointed with the results.

After reading and hearing about the positive results that some growers were having with LED lights, the two decided to see if LEDs might be of benefit for their stock plants and propagated cuttings.

“For ceratostigma once its foliage starts to turn red in the fall it basically goes dormant and we aren’t able to propagate it,” Jerry Soukup said. “And if we were able to get any amount of growth in the fall so that we could take cuttings, it would take six to eight weeks to root the plugs.”

“There is nothing else that is currently on the market that could have as dramatic an effect on our production as these lights have had,” Jerry Soukup said. “This is for propagation. It may be a different situation for growers who are finishing the plants. What is ideal for us may not be ideal for another grower. For our situation, these bulbs delivered a response that we couldn’t have imagined.”



Photo courtesy of Southwest Perennials

Solution

Jerry and Jonathan initially started with 30 Philips LED Flowering Lamps.

"We had heard and read about the benefits of LEDs so we decided it was a relatively cheap investment to make to see if the lights had any effect on our plants," Jerry said. "We were on the skeptical side. I told Jonathan that we would invest a couple thousand dollars on the lights and we'd see if there is any difference with them."

Jerry said it didn't take long to see the benefits of the LEDs on the plants. The bulbs were installed in October 2013 and the plants started to show the effects of the supplemental light in three to four weeks.



Using Philips LED Flowering Lamps for the first time, Jerry and Jonathan Soukup did not experience any delays in propagation from low light levels and cold temperatures.

The Soukups were so pleased with the initial results that they purchased an additional 70 bulbs.

"When we started in October, we were using 30 bulbs in two houses," Jerry said. "By March we were using 100 bulbs in 10 houses."



Benefits

The Soukups maintain three different temperature regimes in their greenhouses. Some of the most significant results from the LEDs occurred when plants were grown under the lights and temperatures of 70°F-72°F.

"Ceratostigma, lantana and *Salvia greggi* showed some of the greatest growth," Jerry said. "Some plants grew so quickly that we had to move them out on the edge of the greenhouse so they didn't receive as much light. Some plants were actually growing too vigorously under the warmer temperatures with lights and we had to move them to cooler houses where the temperatures were in the 40s and 50s."

Jerry said this is the first time there weren't any delays in plug growth because of cold temperatures and cloudy weather.

"Previously there have been times in the propagation area where cutting production would lag by 10-14 days in January, February and March," Jerry said. "This is the time of year when we really need to be shipping the plugs, but they just aren't ready. Usually the plants don't have enough roots. This year we didn't see any kind of growth stall."

Jonathan said some of the plugs actually had to be cut back because they were growing so vigorously.

"We were actually able to take cuttings off of the cuttings," Jonathan said. "Cuttings that were taken off of stock plants that weren't under the lights and then were placed under the lights did not root as quickly as the cuttings taken from stock plants that were lit."

Cuttings taken from lit stock plants rooted in an average of four weeks compared to the cuttings from unlit stock plants that rooted in six weeks.

"We also had a much higher rooting rate for the cuttings propagated under the lights," Jerry said. "With the lights we have the opportunity to turn a crop of cuttings four to six times."

For more: Southwest Perennials Inc., (214) 670-0955; perennials@earthlink.net; <http://www.southwestperennials.com>.

