



PHILIPS



Horticulture
LED Solutions

Case study
De Vreede Holland

Bleiswijk, The Netherlands

Philips GreenPower LED toplighting

Eco-friendly and orchid-friendly

More control over heat and light will help improve our services
to customers



“

LEDs should give us more precise climate control during each growing phase for better results”

Herman de Vreede, Co-owner De Vreede Holland



Background

Founded in 1948 as a vegetable farm by Herman De Vreede, three generations later De Vreede Holland in Bleiswijk, The Netherlands, is a leading supplier of 9-centimeter Phalaenopsis orchids. Today sons Herman and John de Vreede run a high-tech eco-friendly operation that produces nine million plants a year with the ambition to grow even further. It has 12,5 hectares of growth surface spread over 4 locations.

The company specializes in on-demand bulk deliveries of up to 500,000 pieces in 8 different varieties per week to large retail companies. Its greenhouse is highly automated, enabling De Vreede Holland to cultivate efficiently and innovatively. The company has a passion for its work – but also with a view towards quality and the environment. De Vreede Holland invests in sustainable production and social entrepreneurship, and has received MPS Global GAP (Good Agricultural Practice) and SQ (Socially Qualified) certificates, confirming its commitment to the environment.

The challenge

As part of its drive for sustainability, De Vreede actively explores more efficient and eco-friendly cultivation technologies. In 2016, the company had added a second growing layer in an existing greenhouse to be more flexible in delivering on demand and explore LED grow light options. At that time all of their greenhouses were equipped with HPS (high pressure sodium) grow lights which generate a great deal of heat which is not ‘wanted’ in the second growth layer. Orchids are extremely sensitive to temperature, and the low radiant heat produced by LEDs would allow De Vreede to control temperature and lighting more independently for each orchid growing phase.

Before making the switch to LEDs, De Vreede had lighting research done to identify the optimal spectra for their crops. Their requirements for an LED fixture were: even light distribution at 1,5 meters, reduced energy usage and less radiant heat output.

The solution

As a result of its lighting research, De Vreede had found a light spectrum that would be most effective for its orchids and was eager to find the best LED match. De Vreede ships about 250,000 plants a week, so they did not want to waste any time. They came in contact with Philips lighting specialists who looked for the best match with existing light recipes.

A Philips GreenPower LED toplighting solution was found that gave De Vreede the best lighting and climate control to stimulate the best possible results during each growing phase of the orchids. Philips worked with LED Horti Partner Stolze on the installation in 1 hectare of the greenhouse.

Benefits

The new LED installation has only been in place for a short time. Herman de Vreede is happy with the choice for LEDs in the growth layer. 'Our company stands for reliability and professionalism. We grow Phalaenopsis in a sustainable and environmentally conscious way. The choice for a Philips LED solution is an excellent example of this.

Besides the possibility of designing a light combination, something which is not possible with another light source, it gives over 40% energy savings compared to traditional HPS lamps. De Vreede will have more control over the greenhouse temperature because less venting is required with the "cooler" LED fixtures, which will allow him to manage consistent CO₂ levels. De Vreede also expects to maintain high uniformity in crops thanks to the even light distribution across growing areas.

“

LEDs are a more eco-friendly and orchid-friendly alternative than HPS”

John de Vreede, Co-owner De Vreede Holland

Facts

Horticulturalist / grower

De Vreede Holland

Segment

Floriculture

Crop

9 centimeter Phalaenopsis orchids

Location

Bleiswijk, The Netherlands

Solution

Philips GreenPower LED toplighting

Philips LED Horti Partner

Stolze

Objective

LEDs are more efficient and sustainable compared to HPS grow lights. They reduce energy costs, distribute light evenly over crops and allow precise control of light and temperature.





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