

Miniature pot rose grower Leo van der Harg is dedicated to producing the highest quality pot roses possible. A hybrid lighting installation, using Philips GreenPower LED toplighting and GreenVision 1000 W (HPS) lamps, enables him to control lighting and temperature independently from one another. Not only is this a big step forward, it is also a step that cuts costs.

Controlling lighting and temperature independently of one another

Leo van der Harg BV produces five million miniature pot roses each year, around 10% of Europe's total. His nursery in Vierpolders, near Brielle, 25km west of Rotterdam, comprises a production area of 36,000m². In 2013, Van der Harg started using a new, 7,000m² greenhouse for finishing his pot roses.

Top quality roses only

Van der Harg aims to differentiate himself in the marketplace by delivering top quality plants only. In order to realize this ambition, it needs the growing conditions to be optimum and controllable at all times.

Prior to the construction of the new greenhouse the crop was lit exclusively by HPS, a lighting system that produces both light and heat of radiation.

With this kind of lighting system it is not possible to control the temperature and the lighting completely independently of one another. During the winter this is not normally a problem, but in the



spring and the autumn in particular it can be restricting. As well as wanting to have greater control over the growing conditions, Van der Harg was also looking for a way to save energy and to make production in the new greenhouse more cost-effective and more sustainable. Illumination of the new greenhouse using a system

based entirely on HPS would also have necessitated a costly expansion of the CHP system.

No radiant heat

The new greenhouse for finishing pot roses covers 7000m² and is illuminated using a hybrid lighting system based on a combination of 1000 W HPS and LED toplighting.



“Other projects have already proved that the installation of LED solutions facilitates management,” explained Leo van der Harg. He added, “This combination makes it easier to control the growing conditions. Because LEDs do not generate any radiant heat, it is possible to control the temperature and the lighting separately.” The system delivers a total lighting level of 120 µmol. The crop is illuminated for 5000 hours a year, during 1000 of which it is illuminated either by only LED or by only HPS. The type of lighting that is used during these 1000 hours depends on the temperature in the greenhouse. Lights Interaction Agro delivered the HPS and the LED lighting and supervised the installation of the LED's. As the main electrical contractor, PB Techniek took charge of the installation of the entire lighting system.

Benefits

Van der Harg chose to work in partnership with Philips because of the company's extensive know-how and the support and guidance it provides. A plant specialist from Philips was closely involved in the realization of the project in order to ensure the best possible lighting

design. Van der Harg plans to use the LEDs to grow sturdier plants of a better quality in order to achieve the company's aim, which is to be recognized for its quality. In van der Harg's case, the energy savings achieved by using a combination of LED and HPS amounts to more than 10% compared with illumination based solely on HPS. It is precisely because the plants are illuminated for so long that the pay-back time for the investment made by Van der Harg is relatively short and the savings on production costs are substantial. Another advantage is that, because LEDs are being used, the existing electricity connection is perfectly adequate and there is therefore no need for additional investment in the CHP system. In view of this, Leo van der Harg did not even need to even think twice about his decision. “The investment will pay for itself straight away, not just because of the energy savings but also because of the improvement in plant quality. I believe that LEDs are the future. That is why I am opting now for LED lighting. This will mean our business is ready for the future.” III

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Leo van der Harg BV at a glance

Grower: Leo van der Harg BV

Sector: ornamental horticulture

Crop: miniature pot roses, bred by Kordana

Location: Vierpolders, the Netherlands

Philips LED Horti Partner: Light Interaction Agro BV

Lighting solution: Philips GreenPower LED toplighting and

Philips GreenVision 1000 W (HPS)