Case study
Themato

Location	Berkel en Rodenrijs, the Netherlands
Philips Lighting	Philips LED Greenpower interlighting

PHILIPS
sense and simplicity

"Our aim is to spread and increase our production with LEDs"

Background

Themato is one of the most progressive growers in the tomato world. The company is always looking for new ways to grow crops in a more efficient and environmentally friendly manner. In 2003, for example, Themato was the first grower in the world to have a closed glasshouse. Themato is hot on the heels of developments in all fields – and that includes lighting.

The challenge

Themato wants to modify its growth strategy for the Romanello tomato to give a higher production in the spring and to extend cropping later into the fall. In 2010 Themato already carried out tests together with Philips in a pilot with the Seline tomato. Themato partner Martien Duindam is one of the driving forces behind Themato's innovation drive. In view of the promising results obtained with interlighting, he says the pilot that was carried out shows sufficient potential for the company to try it out with the Romanello tomato this year. Duindam: 'Our aim is to spread and increase our production with LEDs. This would provide two extra advantages'. In addition to this, over the coming years many growers will find the electricity they produce will sell for less, thus providing 'cheap' electricity for growers who do not illuminate their crop. Interlighting can enable growers to achieve a lot without having to make drastic changes to their existing growth schedule.

The solution

Themato and Philips chose a light recipe based exclusively on GreenPower LED interlighting. A combination of LEDs and SON-T proved to be less than ideal because there was not enough distance between the top of the glasshouse and the plants. Using only LEDs as interlighting represents something of a revolution. If the tests produce favorable results, this will demonstrate the strength of LED lighting on its own. Using LEDs without top lighting makes it easier to control the climate in the glasshouse because there is no need to take account of the (radiant) heat which is generated when SON-T lighting is used. This growth method does, however, require a precise growth strategy. The temperature in the glasshouse is, after all, an important factor in plant development.

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Facts

Grower
Themato
Sector
Vegetable production greenhouse
Crop
Tomato (in 2011: Seline, and in 2012: Romanello)
Location
Berkel en Rodenrijs, South Holland, the Netherlands
Solution
Philips LED GreenPower interlighting
Results
Increased and better spread production

Benefits

Martien Duindam is pleased with the results of the pilot so far. 'Interlighting can be used effectively at Themato to compensate for the darker days in the spring and fall. The first harvest showed clearly that the quality of the trusses was better than it was in the control plants. The crop did not ripen earlier than normal. That means the lighting did not affect truss development. The truss reliability did improve, however. There were more fruits on each truss. That gives rise to a higher production.' Duindam has high expectations for the remainder of the season: 'I expect we will be able to harvest up to 10% more tomatoes in the initial period. In the summer we will probably be able to ease off a bit and then in the fall we will be able to count on higher production again.' Duindam: 'We have been very impressed with the possibilities of interlighting, as well as with the extra service provided by Philips, such as the financing via Philips Lighting Capital and the assistance we received when applying for subsidies. Together we have examined in depth the possibilities for rolling out the pilot, but due to performance over the past year we have unfortunately not yet been able to go ahead with this. We wish things could have been different, because we have every confidence in the calculations and the Philips financing plan that is available to us. We have also benefited enormously from the knowledge of the plant physiologists who work at Philips Lighting. It has been a pleasure to do business with Philips.'

"We are on schedule, the outcome of the pilot is favorable. There are enough points for us to improve on in the year ahead to enable us to create an even better light recipe"

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