

The Philips logo is displayed in a white rounded rectangle on a green background. The background of the entire page is a photograph of a man in a black t-shirt standing in a greenhouse filled with tomato plants. Red and blue LED interlighting strips are visible hanging from the ceiling of the greenhouse.

**PHILIPS**

Horticulture  
LED Solutions

Case study  
Vikars Grönsaker AB

Närpes, Finland



Philips GreenPower LED interlighting

**20% more yield**, thanks to  
higher plant density **enabled**  
**by LED interlighting**

My production cost per kilo is also lower with LED interlighting



“

Philips has real experience with LED interlighting in Finland, so **the choice was obvious.**”

**Stig-Erik Vikars**, owner Vikars Grönsaker AB



### Background

Vikars Grönsaker AB is an Encore variety tomato grower in Finland. The company has three greenhouses providing a total growing area of 10,300 square meters. Owner of Vikars Grönsaker AB, Stig-Erik Vikars, started growing tomatoes with his father in 1982 and in 1988 he built his own greenhouse.

In 1997, Stig-Erik took charge of the entire family business enabling his father to enjoy a well-earned retirement. Since then Vikars Grönsaker AB has been run by Stig-Erik accompanied by his wife Marika, who is not only a trained florist and gardener, her father was also a long-time tomato grower. In 2004 the company installed HPS toplighting and extended its growing period to all-year-round. With both husband and wife being tomato growers, it's not surprising that both are continually looking for ways to improve quality and yield.

### The challenge

In response to growing competition and higher quality demands from his supermarket customers, Stig-Erik wanted to increase both the yield and the quality of his tomato crop. At first he planned to build another greenhouse but then he heard about how two other local tomato growers had successfully deployed the new LED interlighting system from Philips. Although the company has a cogeneration – or combined heat and power (CHP) – system, the cost of energy is still a significant operating expense, so it is important that any new lighting is highly energy-efficient in order to ensure the maximum return per kW of energy consumed. Fortunately, the GreenPower LED interlighting system is highly efficient. “I like innovation and technology, so I really wanted to try LED interlighting,” said Stig-Erik, “and because Philips has real experience with LED interlighting in Finland, the GreenPower system and the Philips Horti partner ‘Electroteam’ were the obvious choices.”

### The solution

In November 2015 Stig-Erik started with LED interlighting in one of his three greenhouses. Within six months, he was so happy with the installation that he bought the same solution for his other two greenhouses. The increased light level enabled a higher plant density and bigger tomatoes, resulting in more than 20% extra yield. These were excellent results, but not at all unexpected, because before making the switch to LED, the Philips Account Manager had already calculated the outcome using data from similar growers. In addition, the Philips plant specialist worked closely with Stig-Erik on the different options and how to best make use of the added light. He continues to regularly follow up and analyses and advises on the climate data from Stig-Erik.

The current hybrid installation combines HPS toplighting and LED interlighting

- 330  $\mu\text{mol}/\text{m}^2/\text{s}$  HPS toplighting: 3500 lighting hours year-round
- 95  $\mu\text{mol}/\text{m}^2/\text{s}$  LED interlighting double row: 4000 lighting hours year-round

### Benefits

Interlighting makes it possible to control growth perfectly throughout the year, especially when the days are short. One of its biggest advantages is that it can be hung within the canopy wherever the crop needs it most. Also leaves can be left on the canopy longer, ensuring that they continue to photosynthesize and remain productive. It enables growers to produce even fruit size and consistent quality all year round, which is exactly what customers want. "GreenPower LED interlighting not only improved quality – with bigger tomatoes – it has also lowered my production cost per kilo," says Stig-Erik. "This is obviously good business news, and I'd like to thank Philips and the Philips Horti partner 'Electroteam' for their close collaboration and expert financial and growing advice. They helped make sure that I achieved the best possible return on my investment."

- More than 20% more yield
- More plants/ $\text{m}^2$
- Bigger tomatoes
- Longer trusses
- Better plant balance

**“I was so happy with the first installation, within six months I decided to equip my other two greenhouses with interlighting as well.”**

**Stig-Erik Vikars**



## Facts

### Horticulturalist / grower

Vikars Grönsaker AB

### Sector

Fruit and vegetable production

### Crop

Tomato (Encore variety)

### Location

Närpes, Finland

### Solution

Philips GreenPower LED interlighting

### Philips LED Horti Partner

Electroteam

### Objective

To increase yield and improve crop quality



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