PHILIPS

Horticulture
LED Solutions

Case study
Flavourfresh

Lancashire, United Kingdom

Philips GreenPower LED toplighting
Philips GreenPower LED interlighting

“The greatest innovation in horticulture since the invention of the tractor”

LEDs will allow us to improve yields and deliver a world class product all year round

> LEDs will allow us to extend the UK growing season, improving consistency in flavour and increasing the yield of specialty tomatoes. ***We can deliver a world class product all year round.***"

Andy Roe, Production Manager, Flavourfresh

Background

Lancashire-based Flavourfresh Solfresh Group is one of the leading UK salad producers and supplies leading supermarkets with Sweet Rosso, Piccolo, Santini and Tomkin varieties of tomatoes. The company has a track record of developing and trialling innovative crops and production technologies. There has been contact between Philips and the Flavourfresh Salads Landsdale Nursery site in Lancashire for several years. After visiting the 3 ha project of Jami in Bergschenhoek, Netherlands, Flavourfresh Salads was convinced about the potential benefits of LED interlighting. At that time, they were using natural light to grow their tomato crops. This meant that no tomatoes were harvested between December and March. As far as toplighting is concerned, most of the greenhouses in the UK have lower ceilings than those in the Netherlands, so HPS lighting is not always an option here.

The challenge

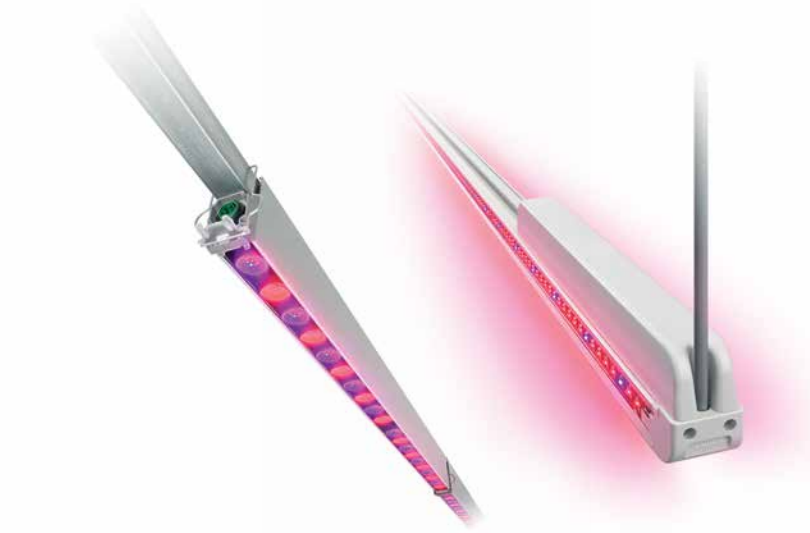
The challenge that growers in the UK face is: to be able to deliver healthy and tasty locally grown tomatoes to the supermarkets all year round. "This lighting installation will allow us to extend the UK growing season, improving consistency in flavour and increasing the yield of specialty tomatoes." With the cost of energy ever increasing, it is important that the correct source of light energy is selected to provide the maximum return in terms of crop yield and quality per kW of energy. Addressing this issue, Melrow Salads was trialling the Philips hybrid LED top/interlighting system on a small cherry-type tomato cultivar (30-35 gr fruit weight) at Flavourfresh Salads' Lansdale Nursery site last winter. This was the first tomato trial using 100% LED lighting (both top and interlighting) and daylight in the UK. By utilizing the expertise offered by Philips' plant specialists team and the Flavourfresh team led by Production Manager, Andy Roe, the company is hoping to take the outcome of the research into the commercial environment.

The solution

Philips' horticultural lighting solutions are based on years of experience and close cooperation with the horticultural world. Successful field tests with growers and breeders around the globe have provided unparalleled knowledge of the growth effects of lighting on different crops throughout their growth cycle. This has allowed Philips to create a unique approach to lighting with specific 'light recipes' that can be tailored to meet the unique needs of every grower. The solution installed at Landsdale Nursery consists of Philips GreenPower LED interlighting modules in two rows (delivering 110 µmol/m²/s) and Philips GreenPower LED toplighting modules (delivering 112 µmol/m²/s). The installation was managed in cooperation by Philips LED Horti Partner Agrolux and LS Systems UK Ltd.

Benefits

The solution of using two rows of LED interlighting and toplighting combines the benefits of having efficient light and heat within the crop and having efficient light in the spectrum that is used efficiently by the plant from above. After two days of lighting the tomato plants already looked stronger, with darker leaves, more purple anthocyanin in the head, and a stronger truss.
Roe adds, "The total LED installation gives 100% control to us as a grower. The lighting and heating work hand in hand to reduce the need for ventilation and in turn, this reduces the total energy requirement by up to 35% which is a win, win situation for the environment." Flavourfresh expects to increase yield of the tomato crop by a minimum of 30% with LED technology.



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Andy Roe, Production Manager, Flavourfresh

Facts

Grower
Andy Roe, Flavourfresh Salads

Segment
Vegetables

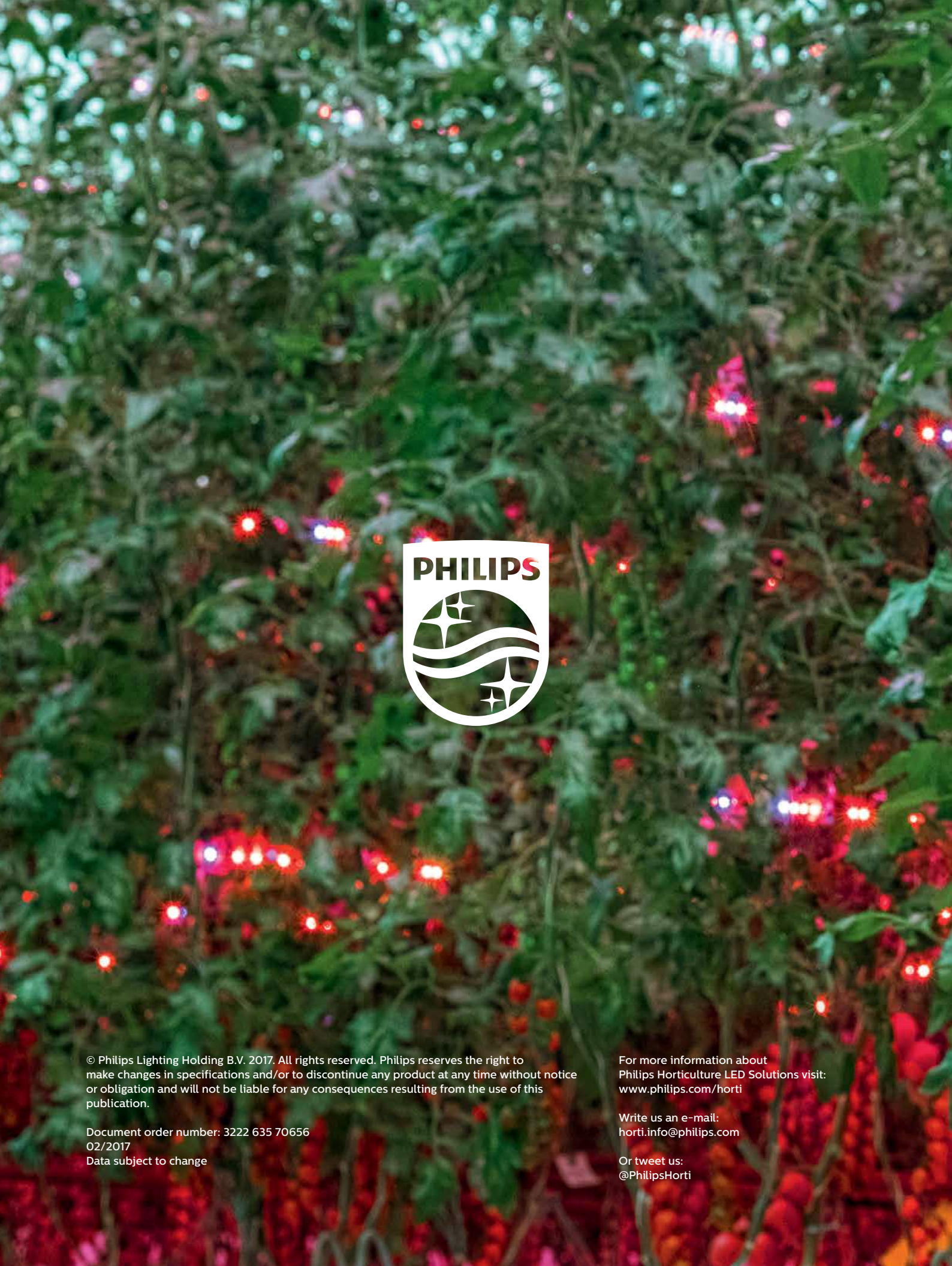
Crop
Tomato

Location
Lancashire, United Kingdom

Solution
Philips GreenPower LED toplighting and LED interlighting

Philips LED Horti Partner
Agrolux

Results
To achieve a high production of healthy and tasty locally grown tomatoes by using energy-efficient lighting. Flavourfresh expects to reduce gas usage by up to 35% and increase yield of its tomato crop by around 30%.



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