



PHILIPS

Horticulture
LED Solutions

Case study
Siberia B.V.

Maasbree, The Netherlands



Philips GreenPower LED toplighting

Going indoors to **boost lettuce production**

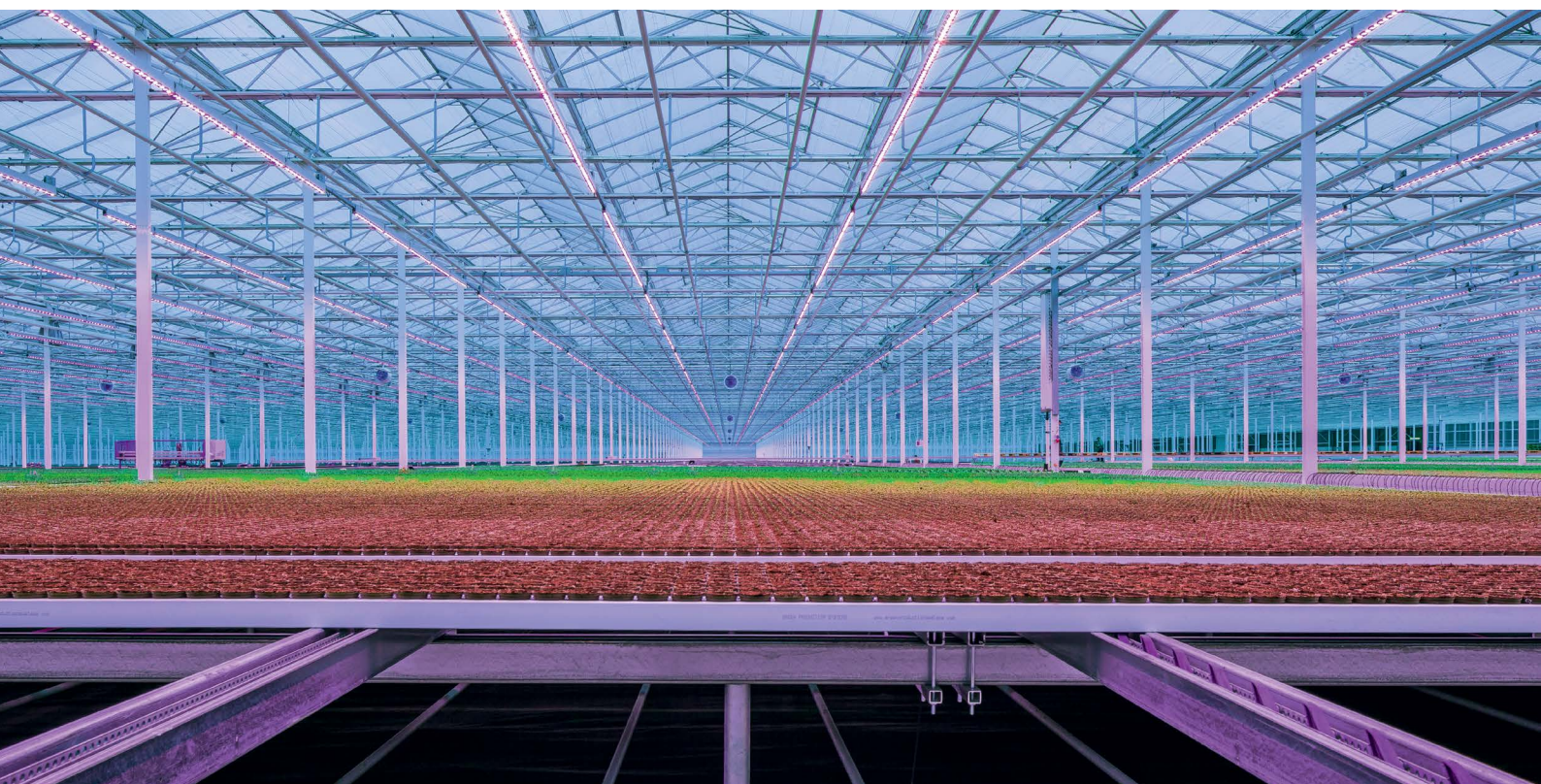
The growth exceeds even the high expectations



“

I had very high expectations, but the lettuce is growing even faster than even I had expected.”

Tim van Hissenhoven, Head Grower Siberia B.V.



Background

Since the 1980's Van Dijck Groenteproducties has been successfully cultivating lettuce, leeks, sugar beets and other crops using conventional outdoor farming methods on over 800 hectares of land. The demand for iceberg lettuce, in particular, has been steadily growing in the past years. In the late 1990's Luc Willemssen, large-scale expert in growing iceberg and cabbage lettuces, joined Peter van Dijck as Co-owner. Since then the company has expanded its capacity for growing lettuce and leafy greens using the latest technologies and agricultural practices.

Today the company is one of the largest suppliers of iceberg lettuce to the retail and processing sectors in The Netherlands. Their total production goes to market via growers association Fossa Eugenia.

The company employs over 90 full-time people and has an impressive fleet of machinery to grow its crops as efficiently and eco-friendly as possible.

The challenge

There came a point when van Dijck and Willemssen started looking at installing a greenhouse to meet the increasing demand for fresh produce in the winter. For this they decided to start a new company; Siberia B.V. Committed to finding an efficient and eco-friendly set-up for their greenhouse, they consulted Cogas Zuid, a specialist in ultra-modern greenhouse installations and certified Philips LED Horti partner. Advisors from Philips Horticulture provided input on the best grow light system to use.

Siberia B.V.'s 5 hectare greenhouse would be used to grow lettuce and leafy greens. The co-owners first considered using HPS (high pressure sodium) lighting, but Philips Horti Account Manager Koos de Wit proposed using LED instead. "There are a lot of advantages of using LEDs rather than HPS lights. You can go to higher light levels, which are really needed for growing lettuce and you can produce more in the winter. Plus, LEDs produce less radiant heat, so you have fewer quality problems with burnt leaves and inconsistent growth," says de Wit.

The solution

In the new greenhouse, the first crops were sown at the beginning of 2016. It is equipped with a mobile gutter system for growing the plants that can be adjusted as the plants grow. The total growing area is 50,160 square meters. The greenhouse height is 6 meters and there is four meters between the grow lights and crops. Philips GreenPower LED toplighting modules are used to deliver a light level of $104 \mu\text{mol}/\text{m}^2/\text{s}$ in the grow light system. According to de Wit, these LEDs provide twice as much light output as HPS lights and. The entire installation has an efficiency of $2.6 \mu\text{mol}/\text{w}$.

Benefits

The LEDs give the lettuce growers much more control over their greenhouse climate than HPS lights because they produce almost no radiant heat. That means they will lose less CO_2 through ventilating warm air and the plants can still get the light energy they need at the right moment. The high light output of the LEDs will also promote very fast growth of the plants, shortening the growth cycles. Clearly the LED technology adds the possibility to further improve Siberia B.V.'s business results.

“

LEDs deliver higher light levels which are really needed for growing lettuce.”



Facts

Horticulturalist / grower

Siberia B.V.

Segment

Vegetables

Crop

Lettuce and leafy greens

Location

Maasbree, The Netherlands

Solution

Philips GreenPower LED toplighting

Philips LED Horti Partner

Cogas Zuid B.V.

Results

Much faster growth with LEDs than on open ground, seen after a few days already



© Philips Lighting Holding B.V. 2016. All rights reserved. Philips reserves the right to make changes in specifications and/or to discontinue any product at any time without notice or obligation and will not be liable for any consequences resulting from the use of this publication.

Document order number: 3222 635 70323
02/2016
Data subject to change

For more information about
Philips Horticulture LED Solutions visit:
www.philips.com/horti

Write us an e-mail:
horti.info@philips.com

Or tweet us:
[@PhilipsHorti](https://twitter.com/PhilipsHorti)