

The Philips logo is displayed in blue capital letters on a white background within a rounded rectangle.

Horticulture
LED Solutions

Case study
Bejo Zaden

Kessel, Netherlands



Philips GrowWise Control System
Philips GreenPower LED production module Dynamic

Full light control per growth phase

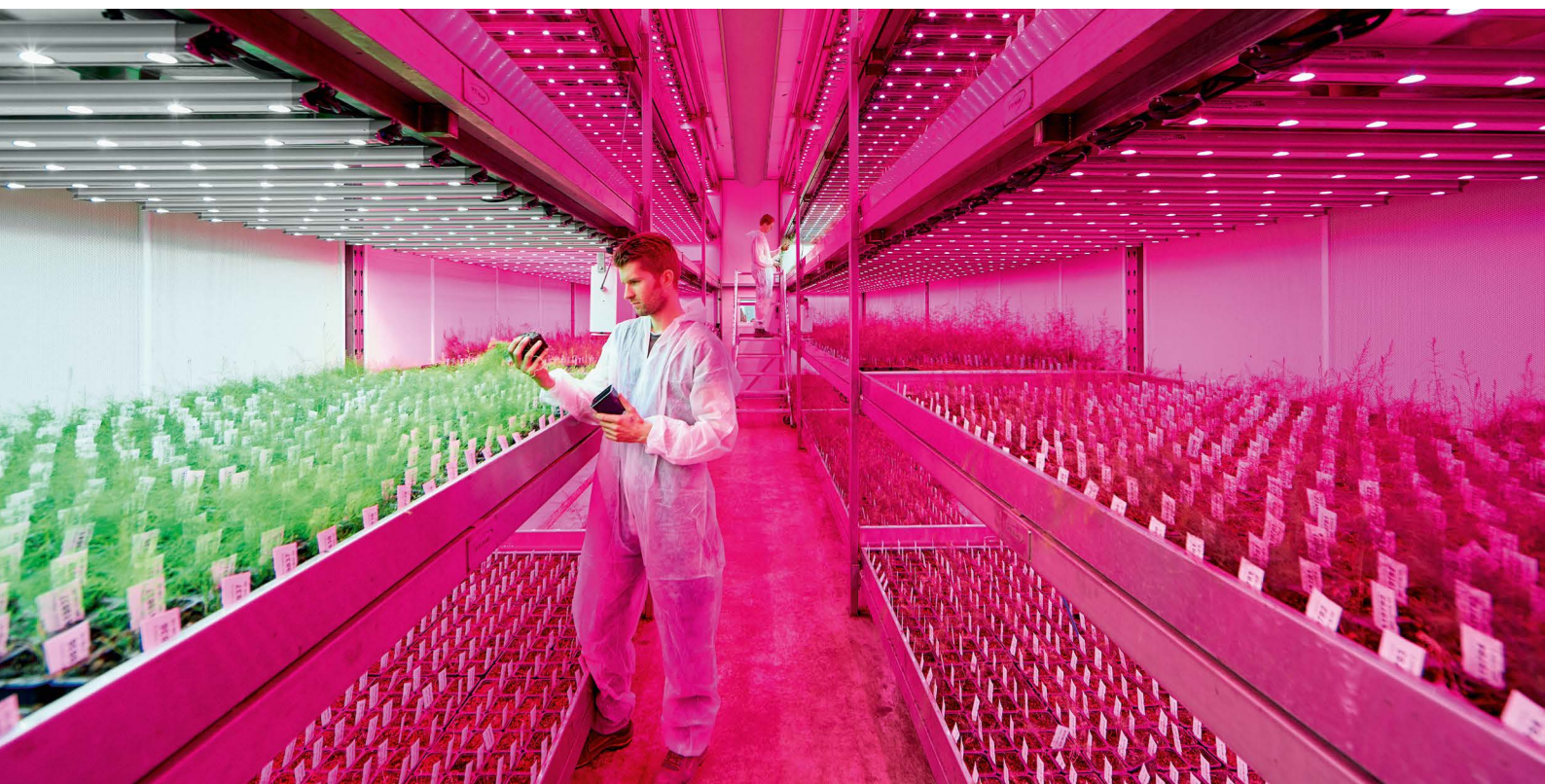
With controllable LED lighting we can get new seed varieties much faster



“

We are very excited about the possibilities that **dynamic LED lighting brings to our breeding program.**”

Jan Kempen, Crop Specialist, Bejo Zaden



Background

A pioneering spirit and commitment to sustainability have made Bejo Zaden (Bejo) a leading innovator in the breeding, production and sales of high quality vegetable seeds. Bejo is an internationally oriented family business which operates in more than thirty countries and has about 1700 employees worldwide.

Together with its customers and partners, Bejo actively explores market opportunities and innovative research methods. The company stays close to nature to develop the best vegetable seeds so growers around the world can harvest healthy, flavorful varieties for consumers to enjoy, today and in the future.

Since 2000, Bejo has been using supplemental lighting at its location in Kessel, The Netherlands to improve the quality of its crops. They began with conventional lighting, then switched to LED lighting in 2015. In 2017, Bejo implemented a completely new approach to cultivation using climate-controlled rooms equipped with Philips GrowWise Control System and Philips GreenPower LED dynamic modules.

The challenge

By the end of the 20th century, Bejo was one of the first to make organic vegetable seeds an integral part of its business as part of its commitment to a long term, sustainable approach. But time is the enemy when it comes to breeding sustainable new alternatives. It typically takes 10 to 15 years to develop a new variety of seed.

“We need to speed up the breeding process to meet the high market demand from growers for new seed varieties that are more resistant,” says Jan Kempen, Crop Specialist at Bejo. “Our objective is to increase the choice of resistant varieties, but it is a complex and time-consuming process to make seed varieties more resistant.” Bejo had already tried other static lighting solutions to speed up its breeding process, but they could not control the light intensity or light spectrum to achieve their goals.

The solution

To test out new ways to accelerate breeding, Bejo ran crop trials at the HAS (University for Applied Sciences). Based on the trial results, Bejo and long-term horticulture partner Lek Habo made a business case and set-up two small climate-controlled rooms equipped with Philips GreenPower LED production modules. In 2017, Bejo reached out directly to Signify. “Signify gave us good advice and we decided to build a bigger climate-controlled room. We were one of the first growers to use the Philips GrowWise Control System to control the LED modules.”

“We strive for optimum growth with a good balance between natural cultivation practices. Signify’s plant specialists helped us develop the optimal growing process, in the right environment,” says Kempen. “They created special light recipes for us to meet our requirements. We’re able to use different lighting per growth phase and easily adjust the colors per crop and layer.”

Benefits

“We’ve actually doubled our growing hours per day. Normally our crops only flower once a year, but now with this dynamic LED lighting solution, our crops flower multiple times a year. Thanks to our dedicated light recipes from Signify, we can steer the light spectrum and intensity for each individual crop and growth phase. We are able to force flowering or prevent plants from bolting. For asparagus, we are now getting stronger, more vigorous tissue culture plants.”

There are many other advantages. “The GrowWise Control System is easy to use and saves us a great deal of time and labor by automating many operational tasks,” says Kempen. “Working with Signify is a true collaboration where we keep exchanging information and learn together. They have a very high level of knowledge about sophisticated cultivation techniques for vegetables and they are really hands-on in their support. They understand our business and provide quick service. All in all, it’s a perfect match.”

“

We are now able to experiment
**with light spectrum, intensity and
DLI to speed up the flowering.”**

Wil Strous, Crop Care manager, Bejo Zaden



Philips GreenPower
LED production module Dynamic



Facts

Horticulturalist/grower

Bejo Zaden

Segment

City Farming

Crop

Asparagus, Leek, Radish, Spinach

Location

Kessel, Netherlands

Solution

Philips GrowWise Control System

Philips GreenPower LED production module Dynamic

Philips LED Horti partner

Lek Habo

Results

Full light control per growth phase, resulting in multiple crop cycles per year, better root development and stronger, more vigorous plants.



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