



**PHILIPS**



Horticulture  
LED Solutions

Case study  
Imereti Greenery

Samtredia, Georgia

Philips GreenPower LED toplighting

# Growing tasty lettuce **year round**

“Now we still have extra light in dark months,  
but without the extra heat.”



“

There's a growing demand from Georgian consumers **for fresh, local grown produce**”

**Dirk Alevén**, Director FoodVentures



### Background

The Imereti Greenery in Samtredia, Georgia, Caucasus region, is an important milestone for the struggling Georgian greenhouse industry. The project was founded by the Dutch investment firm FoodVentures and Georgian business partners to meet the growing consumer demand for fresh and tasty greens year round. The state-of-the-art 4,000 m<sup>2</sup> greenhouse facility produces hydroponic lettuce varieties for the local market. It is equipped with Philips GreenPower LED toplighting and is powered by geothermal energy. It's part of a major economic shift going on in emerging economies. Dirk Alevén, director of FoodVentures says, “Due to the lack of modern production techniques, off-season consumption needs to be imported. Georgia is strongly dependent on food imports from neighboring countries like e.g. Turkey. Importing is a time-consuming cost-adding activity, resulting in high prices and moderate quality. There's a growing demand from Georgian consumers for fresh, local grown produce, so it's a smart move to invest in domestic greenhouse production.”

### The challenge

Georgia has a rich agricultural heritage, in the past being the major supplier of fresh produce to the Soviet Union. However, since the collapse of the U.S.S.R., much of Georgia's agricultural industry and greenhouse production in particular, has fallen behind due to a lack of investment funding. Many local growers also lack knowledge about modern greenhouse practices that are required to manage new facilities. Though generally for most of the year the country enjoys fairly good natural light conditions as such, the Georgian subtropical climate offers another challenge for a greenhouse facility. Located between the Black Sea and the Caucasus mountains, Samtredia has a warm climate, even during the darker periods of early spring and late autumn. This presents its own challenges to producing crops year round in a greenhouse.

### The solution

The Imereti Greenery is a high-tech hydroponic facility that is designed to produce a high volume of different lettuce varieties year round. The structure was supplied by Dutch greenhouse builder KUBO and the hydroponic system is from Dry Hydroponics. When required due to agro processes, to keep energy costs down, the greenhouse uses geothermal energy for the 'free-of-charge' heat. To provide effective year round lighting in this warm climate, Philips GreenPower LED toplighting was installed in the greenhouse. LED lighting produces significantly less heat than conventional HPS lamps, so the greenhouse climate can be controlled more accurately. Less heat also means the Imereti Greenery can use light more effectively, for example by increasing light levels, extending lighting periods, or by using light on warmer days without having to ventilate.

### Benefits

Aleven says, "Thanks to the hydroponic technology, this greenhouse has the capacity to produce 1 million heads of lettuce per year – the same amount of lettuce that is currently being imported by Georgia." The harvest is delivered directly to local professional buyers in Georgia. "The Georgian restaurants have been very positive about our produce compared to imports. Our lettuce is fresher, has better quality and there are more varieties to choose from, like Lollo Rosso, Frisee, and others," says Aleven. Head grower/consultant, Dick de Jong says, "Energy efficiency was not our main goal when it came to installing LEDs. Electricity is very affordable in Georgia. Our challenge here is maintaining a consistent temperature. The facility is located in a warm climate, so even during darker periods, like early spring and late autumn, the greenhouse can become very warm. During these periods, we needed something cooler than the toplighting provided by HPS (traditional technology of High Pressure Sodium HID bulbs).

That is why we choose Philips LED toplighting. Now we still have extra light in dark months, but without the very unwanted extra heat package coming along with that."

Based on the success of the initial greenhouse, FoodVentures expects to add 3 or 4 hectares of additional glasshouses in the near future to cultivate cucumbers, sweet peppers, and eggplants.



“

**Our lettuce is fresher, has better quality and there are more varieties to choose from”**



## Facts

### Horticulturalist/grower

Imereti Greenery

### Sector

Vegetable production

### Crop

Lettuce

### Location

Samtredia, Georgia, Caucasus Region

### Solution

Philips GreenPower LED toplighting

### Philips LED Horti Partner

FoodVentures and Lek/Habo

### Objective

To produce fresh and tasty locally grown lettuce year round in a warm climate



© 2015 Royal Philips N.V. 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 70060  
04/2015  
Data subject to change

For more information about  
Philips horticulture LED Solutions visit:  
[www.philips.com/horti](http://www.philips.com/horti)

Write us an e-mail:  
[horti.info@philips.com](mailto:horti.info@philips.com)

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