



## Driving football in grocery retail

In-depth with... Wim Peters,  
Kate Hofman and Aad Vreugdenhil

Retail is being shaped by online shopping and digitized in-store experiences. But when it comes to buying groceries, it's fresh food that determines where many people shop.

According to a recent article in Business Insider, 75% of consumers say the produce department is their most important consideration when deciding where to buy food. More and more, shoppers are looking for locally grown, sustainably cultivated produce.

### The city-farming revolution

In the US market alone, fresh food consumption is predicted to rise by 20% by 2018. This desire for nutritious, local produce has spurred a boom in city farming (sometimes known as vertical farming), where crops are grown indoors under LEDs tuned to special growing 'recipes'.

A city farm can be created in just about any large, indoor environment – even areas of retailers' stores. Compared to conventional growing methods, indoor crops consume far less water, are pesticide-free, and don't have to travel far from 'farm to fork' – which means vitamins are retained, while transportation costs, and the

associated environmental impact, are greatly reduced. Also, crops can be planted vertically and in layers, so you can grow more plants in less space.

### Farm to fork

East London city farm, GrowUp Urban Farms, supplies fresh, sustainable greens and herbs. The company combines hydroponics (growing plants without soil) and aquaculture (fish farming) in a recirculating system. With ten layers and 6,000 square feet of growing space, GrowUp plan to produce more than 1,995kg of salads and herbs, and 3,991kg of fish, per year. "Everything is freshly harvested to order and then delivered just around the corner to our local customers within 12 hours of harvest," says co-owner Kate Hofman of GrowUp.

GrowUp supplies fresh greens to local restaurants and the feedback is always positive: "We use it because it's got amazing flavor, really peppery, mustardy," says Joel Braham, chef at The Good Egg restaurant, London.

"It doesn't matter what time of year we get the salad, even in the middle of winter, it's always the same. To find a salad producer that's ten miles down the road in the middle of London is brilliant."

Hofman believes LED lighting offers a number of benefits for growing sustainable food. "When we control what light plants are receiving, we have more control over their overall growth. This means plants germinate quicker,

their roots grow faster and we get bigger yields. "In terms of energy usage, LED lighting systems can use reportedly 85% less energy than traditional methods. The use of LEDs rather than fluorescent lamps, for example, helps us to further lower our energy consumption."



"We are able to control growth perfectly throughout the entire year using the hybrid lighting system."

**Wim Peters,**  
Owner Kwekerij Wim Peters

### Customized light recipes for growers

Philips LED lighting is playing a key role in indoor, year-round, sustainable crop cultivation. Tailor-made light recipes mean faster growth, bigger harvests, and better-quality plants.



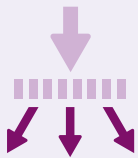
#### Fruit and veg

LED luminaires complement natural light, supplying the spectrum and intensity needed, without adding extra heat. Light recipes stabilize and improve plant quality, increasing the yield – even during winter.



#### Floriculture

LED luminaires can supplement or replace natural illumination, providing the exact light spectrum and intensity needed, and make it easy to manage heat levels.



#### Propagation

LEDs provide uniform illumination while reducing the distance between layers, resulting in consistent growth. Customized light recipes give crops the sustenance needed, improving the seeding rate and shortening the production cycle.

### LEDs and fresh food

#### It pays to bring out the color

Shoppers naturally associate the look of fresh produce with taste – the fresher food looks, the more likely it is to taste good. Philips Lighting LED luminaires bring out the colors of fresh produce, giving it a more appealing, ‘tastier’ appearance. Crucially, the rich colors on display mirror the saturated colors people have in mind when they think of fresh food.

#### LEDs and crop growth: how it works

LED luminaires are cooler than regular lamps, allowing farmers to place them closer to the plant. The entire plant receives the right amount of the right light, encouraging homogenous growth. ‘Light recipes’ enable city farmers to tailor LED light wavelengths to various crops, in order to optimize their growth and other variables, such as texture and taste.

### Reducing food waste

#### How LED light can combat meat discoloration

According to the United Nations, over 20% of the 263 million tonnes of meat produced globally each year is lost or wasted.

Retailers are under pressure to address the issue, and not just from a revenue perspective. The United Nations and European Union are committed to reducing the amount of food waste by 50% by 2025. Also, today’s sustainability-aware consumers simply aren’t prepared to accept wastage on this scale.

A major source of food wastage is fresh meat. Light-induced discoloration of meat is off-putting for customers and results in unsold food. Philips fresh food lighting recipes help reduce waste by emitting the right color temperatures to slow down the discoloration of sliced meat and increase its shelf life.



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Optimizing the saturation of the most dominant color in fresh produce leads to a 3.5% increase in sales.\*\*



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\* Business Insider \*\* EHI/Philips 2012 study

