



Crop IQ

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UK STARTUP USES SMART LIGHTS TO GROW MORE NUTRITIOUS AND TASTIER HERBS

 TELECOMMUNICATIONS

Machine learning and advanced lighting help speed up growth in a natural way

Spotted: London startup (IoT Stars) is using machine learning and smart LED lighting to produce high quality microgreens. Crop IQ is a kitchen countertop device that uses smart LED lighting to help people fine-tune flavours, through the help of an app. If you want hot basil, for example, you can select this from the app, which will automatically set the LED light sequence on the device, affecting the entire growth cycle of the plant.

Plants react to light through a protein in their leaves called photoreceptors. The photoreceptors influence the production of amino acids and other chemical compounds in plants – **affecting nutritional value and taste**. For microgreens, it changes not only how fast plants grow, but affects flavor, vitamins, minerals and antioxidant levels. **Lighting spectrum can produce** hotter basil or more mild radishes.

“The device helps people without any knowledge of agriculture or planting to be able to choose from an app on their smartphone a basil that gives them a fiery guacamole,” says Michael Setton, a French engineer. He originally made the device for himself, and then more for friends.

The device controls the light spectrum to affect plant taste and phytonutrients in the same way temperature controls what are called “**Maillard reactions**” (a chemical reaction when browning food)

during cooking. Optimising the light at each stage of a plant's growth is like being able to adjust your oven temperature every couple of minutes to have the most delicious cake, says Setton.

This week, the company is launching a crowdfunding campaign via its website and on the [Investors platform](#). Crop IQ will be available for pre-order starting in May, and for delivery in early 2020, according to the company.

4th March 2019

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Takeaway:

Consumers are increasingly looking for high nutrient sustainable foods. This is one step in that direction. On a larger scale, the world needs to produce 70 percent more food by 2050 to feed the global population, according to the [United Nation's Food and Agriculture Association](#). Technologies such as the Internet of Things (IoT) will prove useful in agriculture to more efficiently produce higher yields of healthier crops. This is inspiring innovations like CROP - - automated systems for home use that reduce energy consumption and labour. Several agriculture IoT devices already exist to [monitor weather conditions, track factors that affect crops and control irrigation](#).