



## Led grow lamps, the right light for plants

*A study by the University of Bologna, C-LED and Cefla to research the impact of Led lighting on plant growth.*

IMOLA, 2017, 3rd March. C-LED, Cefla and the University of Bologna are working together to research, develop and test special Led lamps that make it possible to increase the production of tomatoes in industrial greenhouses. This is the aim of the "Led Growing" project, which is led by C-LED and which also plans to develop technologies for the production of micro-vegetables in closed environments relying totally on artificial light. The aim, for C-LED, is to widen the range of lamps, entering the world of plant and vegetable cultivation with technologically advanced products that are supported by objective data derived from r&d trials carried out in the field. "Up until now we've been carrying out research on the light spectrum, concentrating in particular on red and blue," explains **Enzo Cuoghi**, Managing Director of C-LED, "and we have carried out analyses and tests on special lamps that were made in our laboratories and installed on an automatised ferti-irrigation system made for indoor growing situations. During 2017 we will have the first results on herbs that are being tested according to three different colour spectra settings, and to the greenhouse results from UniBo's tests on tomatoes. We have installed Led toplighting, which of course provides light from above, and interlighting which, as its name suggests is positioned in the rows dividing the plants, at medium height. These results will enable us to answer questions on a wide range of activities and cultivation, both at industrial and amateur level. During the year we will also try to delay the deterioration of vegetables and fruit by means of exposure to UV-A and UV-B lights in order to improve the duration of goods in the fruit and vegetable department of supermarkets."

Plant cultivation by means of Led lighting was introduced in the early 2000s and was immediately welcomed with enthusiasm both among professionals and the general public, especially for the increased energy efficiency it displayed. Led technology does in fact have numerous advantages compared to conventional lighting, such as a high degree of energy saving, more rapid activation, reduced volume and weight and lower emissions of thermic energy. Thanks to the introduction onto the market of diodes that make it possible to design different lighting spectra, the energy radiated can be optimised according to the metabolism of the various plants. Lighting spectra that are more appropriate for the photosynthetic processes of the plants in question can therefore be chosen, improving harvests in terms of both quantity and quality, increasing germination in some cases and stimulating flowering.

**Cefla Shopfitting** is a leading manufacturer of shelving, checkouts, and shopping trolleys and provider of display unit design and proximity marketing solutions. It's an ideal partner for interpreting and anticipating market trends in the small and large-scale retail trade thanks to continuous research and a combination of innovation, the highest quality, ergonomics, practicality and technology.

**C-LED** is a Cefla company specialised in the design and production of personalised lighting solutions made to respond to client requirements. C-LED principally addresses businesses that operate in the field of retail and visual merchandising, interior design, public lighting, growing and industry. The company also develops systems governed by proximity sensors and environmental sensors for interactive communications (proximity marketing) and for efficient energy management of indoor spaces.