C-LED, coming soon new innovation for the cultivation of algae

A study in partnership with Fotosintetica & Microbiologica Srl, Spin-Off of the University of Florence, aims at the indoor development of photosynthetic microorganisms for industrial and food uses

IMOLA, *9 May 2019*. **C-LED and Fotosintetica & Microbiologica Srl,** Spin-off of the University of Florence, have developed a partnership to face the study of the effect of LED lights to help the growth and development of microalgae within photobioreactors: closed and protected systems, optimal for the growth of photosynthetic microorganisms.

Nowadays, the massive production of micro-algae and other phototrophic organisms (which source their metabolic energy from sunlight) takes place almost exclusively in large open tanks, which are exposed to the risk of unstable algal culture growth and suffer from limited productivity per unit of cultivated area.
The system being researched by C-LED and "Photosynthesis & Microbiology" involves micro-algae being exposed to an even source of light from the entire vertical surface of the structure in an enclosed space, in contrast with what would occur with a light source external to the photo-bioreactor, that would just cover the surface.

The LED technologies conceived and developed by C-LED have a number of different advantages ranging from the electrical efficiency of the lamp to the system's extreme flexibility, which means that it can be used in close contact with the micro-organisms without suffering phenomena of high temperature stress. LEDs also make it possible to select the most suitable light range for the type of cultivation, in order to guarantee the best results for the production.

Micro-algae are organisms characterised by a great physiological and metabolic range, that are capable of synthesising complex organic molecules with a high biological value. They are also used as a source of protein for human and animal nutrition, as bio-fertilisers, bio-stimulants, feed for aquaculture and for the purification of waste water.

"Our mission is to create innovation in our field, by investing in research and in partnerships with universities and industry in order to provide unique solutions that are ever more valuable," explains **Alessandro Pasini**, Managing Director of C-LED. "Our experimentation involves spirulina and chlorella in particular, in photo-bioreactors full of water: the light for photosynthesis is guaranteed by special Penta Circular lamps with a 360° luminous flux".

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.

C-LED srl Registered Office / Sede Legale: Via Selice Provinciale, 23/a - 40026 - Imola (BO) Italy - P.IVA / VAT - C.F. e Reg. Imprese BO n. 03533091207
Secondary Office / Stabilimento: Via Gambellara, 34 - 40026 - Imola (BO) Italy - Tel. +39 0542 653980 - Fax +39 0542 653344 - Cap. soc. i.v. € 30.000,00
info@c-led.it - www.c-led.it - Società soggetta a direzione e coordinamento di Cefla s.c. - Imola (BO) Italy - R.I. BO n. 00293150371