

TONIA PRINCIPE – Micoperi Blue Growth – Research and Development

Master degree in Marine Biology at Università Politecnica delle Marche (UNIVPM). Internship at Umea Plant Science Center (Sweden) and at Algae and Plant Physiology Laboratory (UNIVPM) to investigate metabolomics in microalgae. Involved as research scientist for C.I.R.C.C. Consortium to select microalgae strain producing specific class of lipids for plastics industry. Experience in algal culturing techniques and development of new methods to monitor microalgae cellular composition. Currently researcher to Micoperi Blue Growth to optimize large scale biomass production for biotechnological application.

HIGH VALUE MICROALGAE TO CLEAN THE AIR

Tonia Principe, Mazzotti Matilde, Guido Emiliani, Micoperi Blue Growth

Abstract:

Direct carbon combustion for energy production generates more than 24 gigatons of carbon dioxide (CO₂) annually. As a result, atmospheric CO₂ concentrations have risen from 295 parts per million (ppm) to 380 ppm over the last 100 years, and have contributed substantially to global warming, climate change, and resultant biological extinctions. Algae have higher photosynthetic efficiency than land plants because of greater abilities to capture light and convert it to usable chemical energy. Under ideal growth conditions algae direct most of their energy into cell division, allowing for rapid biomass accumulation.

Micoperi Blue Growth have focused its attention on microalgae because of their commercial applications as natural sources of valuable macromolecules, including carotenoids, long chain polyunsaturated fatty acids and phycocolloids. As photoautotrophs, their simple growth requirements make them attractive for bioprocesses aimed at producing high added-value compounds that are in large demand by the pharmaceutical market. A few compounds synthesized by microalgae have indeed proven to possess anti-inflammatory, antiviral, antimicrobial, and antitumoral features.

*For these reasons, Micoperi Blue growth has developed a microalgae biomass system to **produce** microalgae characterized by a high commercial value and a high quality standard at a **reasonable price**, **integrating** the heat that comes out from an anaerobic digester to **reduce the gaseous emission and optimize the entire production cycle.***