

JOINT EVENT

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*Frédéric Fonlut*

Biotechnology Consulting, Spain

The solution is out there: focus on microalgae

Nowadays, more than ever, biotechnologies sectors are increasingly screening and isolating natural species to produce valuable and commercial molecules for the cosmetics, medical, chemicals and food markets. In the case of microalgae, the isolation of the strains focuses on natural species, with a high potential to synthesize these molecules in the culture process in complete cycle and in large volume. As a result, a significant amount of high quality EPA (eicosapentaenoic acid) is entering the market; DHA (docosahexanoic acid), EPS, pigments, various carotenoids and many other types of products. After several decades of RDI (Research Development and Innovation), the acquired knowledge daily increases, impulses and secures new projects in the culture of micro-algae and the production and extraction of new molecules. "The solution is out there". We present the main molecule process used for different markets, from its research to the scale up on large volume on an industrial level. We analyze each species, the milestones, the limiting factors and the result for each case. Lastly, we study in depth the case of two molecules with a great future and an interest for the natural products' market.

Recent Publications:

1. M A Borowitzka (2013) High value products from microalgae, their development and commercialization. *Journal of Applied Phycology*. 25(3):743-756.
2. M Vigani et al. (2015) Food and Feed products from microalgae: market opportunities and challenge for the EU. *Trends in Food Science & Technology*. 42(1):81-92.
3. M Koller, A Muhr and G Braunegg (2014) Microalgae as versatile cellular factories for valued products. *Algal Research*. 6:52-63.
4. J J Milledge (2011) Commercial application of microalgae other than as biofuels: a brief review. *Reviews in Environmental Science and Biology*. 10(1):31-41.
5. D A White et al. (2013) The effect of sodium bicarbonate supplementation on growth and biochemical composition of marine microalgae cultures. *Journal of Applied Phycology*. 25(1):153-165

Biography

Frédéric Fonlut has obtained his degree from Université de Bordeaux and has 30 years of experience in the biotechnology, aquaculture and environment sectors. His profile is mainly of a developer using the results of research to apply them to industrial production processes, controlled, profitable and safe to put on the market of quality products. Responsible for multidisciplinary teams, his objective includes: the selection of species and the development of production system in large volume, in different structures adapted to the needs of each species (Molluscs, Crustaceans, Fishes and Microalgae). His incorporation has been both with the public sector, research centers, IFREMER (French Research Institute for Exploitation of Sea, France), IRTA, PEMARES (Spain), ADOA, (Dominican Aquaculture Association, Dominican Republic), ACFK (Aquaculture Center of the Florida Keys, USA), as private companies, also ensuring in many projects the technical transfer between the two sectors. His motivation and personal vocation is to continue to participate in this great project of discovering our biosphere. "The solution is out there".

fredericfonlut@gmail.com