

Eco-logic Green Farm: organic microalgae production in an integrated plant

Thomas Caltarossa¹, Alen Caltarossa¹, Andrea Cailotto¹, Francesca Saran¹, Giacomo Sampietro², Niccolò Bassi², Liliana Rodolfi^{2,3} and Mario Tredici³

¹*Soc. Agr. Serenissima s.s. via Q.re delle Fornace 7/1, Conselve, Padova, Italy*

²*Fotosintetica & Microbiologica S.r.l., via Dei della Robbia 54, Firenze, Italy*

³*Department of Agri-food and Environmental Sciences, Piazzale delle Cascine 18, Firenze, Italy*

The Eco-logic Green Farm project is an Horizon 2020 project started in 2015, aims to the production of high-value microalgal biomass and products in a low-cost photobioreactor, the GWP[®]-II (Tredici *et al.*, 2015; Tredici *et al.*, 2016). The plant, with a total area of about 1000 m², is made of four separated production lines, making it possible the contemporaneous cultivation of four different algal species. The inoculum section is set up with four bubble columns and four 6-m long GWP[®]-II reactors (Figure 1, left) that will be used also for research. Mass production is carried out in four 250-m² GWP[®]-II modules made of fourteen 18-m long panels connected at both ends with manifolds. The flues gas produced by two syngas generators is used as carbon source for the culture, and the heat produced by the engine is used for thermoregulation. The culture medium is totally recycled in order to reduce water footprint and wastes.



Figure 1 – Inoculum area (left) and GWP[®]-II reactors under a greenhouse for algal mass cultivation (right).

References

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