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Using microalgae for wastewater treatment of an agro-food industry effluent

S. Oliveira, M. F. J. Raposo, P. M. L. Castro, and R. M. Morais

Escola Superior de Biotecnologia, Universidade Católica Portuguesa, Rua Dr. António Bernardino de Almeida, 4200-072 Porto, Portugal

E-MAIL: fraposo@esb.ucp.pt

The treatment of effluents from Agro Food Industries is a major issue in EU due to its industrial and economic importance. Microalgae can be used in wastewater treatment where they may be able to remove and incorporate nutrients.

In this study, the effluent coming from a brewery was used as the culture medium for biomass production, which can be processed for valorisation or directly used as a biofertilizer. Growth of microalgae was evaluated, either *Chlorella vulgaris* or the autochthonous flora, using the effluent of a brewery as the nutrient medium. It was also evaluated whether the microalgae used the compounds from the effluent as nutrients.

The microalgae were grown in different proportions of effluent, 1:2, 1:1 (in distilled water) and as it is. A control experiment was established using BG Medium (Blue Green). In addition, total nitrogen of the brewery effluent was brought to the BG medium concentration, and pH was also corrected. Growth was enhanced when using 1:1 effluent in water, with a significant decrease in the amounts of ammonia, nitrates and phosphates of the effluent. Moreover, the malodour of the effluent has disappeared by the end of the experiment.