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Optimisation of the biotechnological recycling solution for olive washing water Grant Agreement n° 315469

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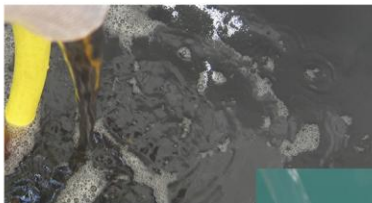
ALGATEC II is a demonstration activity based on the promising results of the FP7 - SME - 2008 ALGATEC project (contract n° 232331). During the ALGATEC project, both the lab and field-scale experiments proved a system to treat olive washing water (WW) was efficient in removing the pollution load and in producing water of drinking quality that could be reused in the process. Five European SMEs, from 3 EU countries, 4 partners of the ALGATEC project, with a new SME specialized in market studies, will work in the optimisation of the innovative and easy to operate and maintain system developed in ALGATEC, based on: a photobioreactor (PBR), a micro - algae consortium and a membrane module system by implementing improvements in the pilot plant located in Spain, in order to improve the capacity and efficiency of the system, and therefore reducing its cost. All these measures will lead ALGATEC II system to become more competitive in the market, and that would mean the opening of new market opportunities for its commercialization and for the participating SMEs.

Objectives:

- To provide an affordable technical solution for reducing the consumption of drinkable water in the olives washing process by 90 % and increasing the overall water efficiency of the process by 80% based on the solution developed in ALGATEC.
- To diminish the overall effluent of polluted water produced in olive oil mills, reducing the wastewater management costs and the environmental impact of wastes.
- To increase the competitiveness of the participant SMEs and the European olive oil industry through a cost effective WW treatment and an improved water management.

ALGATEC II Technologies

The ALGATEC II treatment system is based on a pre - treatment with a PBR as the core of the WW treatment process, and a post treatment based on membrane filtration. The technology is adapted for its use in olives WW mills treatment, for this its main purpose is to remove organic matter, nitrogen, phosphorous and other hardly biodegradable contaminated compounds. After the PBR process a membrane combination consisting in submerged ultrafiltration membrane (UF1) plus nanofiltration treats the PBR effluent to finally produce drinking quality water to be reused in the washing olive process.



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