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Project InnoVa: Innovative valorization of olive mill effluents

Olive oil production is associated with the production of large quantities of olive mill wastewater (OMW) and solid waste (leaves and pomace). Tunisia is the second largest producer of olive oil in the world, for now with 350 000 t in 2019, producing more than 1 million m³ of OMW. OMW has a high pollutant potential due to its high load of organic substances, in particular phenolic compounds, which can have a strong phytotoxic and soil-damaging effect. Physico-chemical methods applied for the degradation of OWM are generally very expensive and do not generate added value such as marketable secondary raw materials.

The InnoVa project aims to further develop an innovative process combination for the treatment of OMW for industrial application in order to reduce the environmental threat to soil, water and air as well as to additionally valorise valuable resources. Beside the optimization of the treatment steps on a laboratory scale, a demonstration plant will be constructed and operated in Tunisia. The selective recovery of polyphenols (antioxidants) and the production of fertilizers for agriculture ensures economic feasibility and generates local added value. Since the OMW can be treated anaerobically and without dilution (lower water demand), the efficiency is increased and the biogas yield of the part of the OMW that can no longer be used is improved. The project aims to prepare the establishment of a spin-off for the production of antioxidants that can be used in the cosmetics and food industries.

The InnoVa project focuses on a clearly defined business case study which helps researchers to develop and to market a product as a result of their research. At the end of the project, a business plan will be available for a spin-off which commercialises the process and the generated extracts.