European Commission

Environmental Technologies

PILOT-ABP

At a glance	
Title:	Pilot plant for environmentally friendly animal by-products industries
Instrument:	Collaborative project
Total Cost:	€ 2.642.117,00
EC Contribution:	€ 1.789.323,00
Duration in months:	36
Start Date:	1/06/2014
Consortium:	INESCOP, TYDOCK, AMEK, DTI, CARNAD, GREEN-E, UA
Project Coordinator	Martínez, Pascual
Coordinating Organisation	INESCOP, ES
Project Web Site:	http//: www.pilot-abp.eu
Key Words:	animal by-product, pyrolysis, biopolymers, high oleic acid oils

The challenge

The PILOT-ABP project aims to develop new eco-innovative technologies associated to the animal by-products process, which allow, on the one hand, an environmental improvement of the process, thanks to a more efficient consumption of the energy used in the process and a better recovery of raw materials, with a related decrease in waste production, and on the other hand an increase in the added value of the obtained products which leads to better financial profitability of SMEs.

Project Objectives

The global objective of PILOT-ABP is providing the animal by-products manufacturing industry with technologies to help obtain better economic return while the environmental impact of the process decreases and improve the industrial process with less energy use and better final products properties. The specific objectives of the project are:

- Application of pyrolysis to ABPs for obtaining mainly bio oil as a fuel or as a source of fats and oils with greater purity. As by-products of the process, coal will be obtained and an aqueous phase that could be used as liquid fertilizer.
- Application of new extraction technologies based on the rendering process in order to obtain animal oils with higher value.
- Obtaining of gelatine and collagen derivatives for manufacturing functional and biodegradable, more ecological and sustainable biopolymers based on the rendering process.

Methodology

Pilot ABP will address the main products of the animal by-products industry, by developing the following demonstration plants:

- Pilot plant for pyrolysis of animal by-products.
- Pilot plant for obtaining high oleic acid oils by means of enzymatic process that hydrolyse triglycerides
- Pilot plant for obtaining protein-based biopolymers with functional properties through the hydrolysis of MBM and PAP products from the rendering industry.

Expected Results

As a result of the three demonstration plants, it is expected to obtain:

- A bio oil, as the main product of innovative process of pyrolysis, to be used as fuel and/or to obtain oils or other specific added-value products.
- A low amount of char that can be recovered as energy in gasification plants.
- An aqueous phase with soluble substances that can be recovered as a liquid fertiliser
- High-value oils and fatty acids obtained by splitting fatty animal by-products. These new oleic-based products will be addressed to the cosmetic, food and pharmaceutical sectors.
- Protein-based materials in the generation of multiple added-value products:
    - Functional products of growing demand, such as microencapsulated active substances or stabilised nanoparticles.
    - Biodegradable products, such bio-based adhesives for the wood, bookbinding and footwear industries, among others.
    - New bio-based flocculants, emulsifiers or foaming agents for the chemical industry

Project Partners

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