

A FEASIBLE PROCESS

METABIORESOR

news

Newsletter

2

A SUSTAINABLE FUTURE

INTRODUCTION

Welcome to the second issue of the “METABIORESOR” (LIFE08 ENV/ES/000113) project newsletter. The aim of this newsletter is to disseminate, on a regular basis, both the key aspects of the project and the development of its activities. The **METABIORESOR** project is co-financed by the European Union LIFE+ program (call 2008) and the Autonomous Community of Murcia (Spain). It aims to solve the environmental and economic problems caused by the disposal of livestock by-products and waste (pig carcass, manure, slaughterhouse residues...) and some municipal non-recyclable by-products and waste. In order to do so, the project will demonstrate that energy can be efficiently recovered from these wastes, which become raw materials for its production. 

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NEWS ABOUT THE PROJECT

THE PILOT PLANT WILL BEGIN OPERATING IN SUMMER 2012.

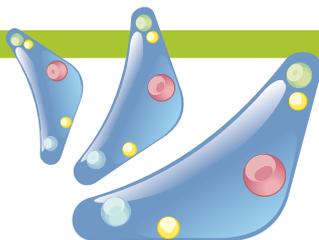
After many vicissitudes and adjustments, the pilot plant will be at last operational this summer. We will begin with the launch of the process and a first cycle, thus starting the validation stage. During this cycle we will try different by-products and waste, mixed in various proportions and with several variations in the process. In this way we will validate the pilot plant and research on the best combination of raw materials. □

>>>You can see photos of the plant in www.metabioresor.eu<<<



METABIORESOR IN OTHER FAIRS OF THE SECTOR AND OTHER AREAS.

We are developing a list of fairs in the environmental sector where the project could be presented. If you know of an event where METABIORESOR could participate, or you are interested in hosting a presentation in your region, city, educational institution, etc., do not hesitate to contact us at: info@metabioresor.eu. □

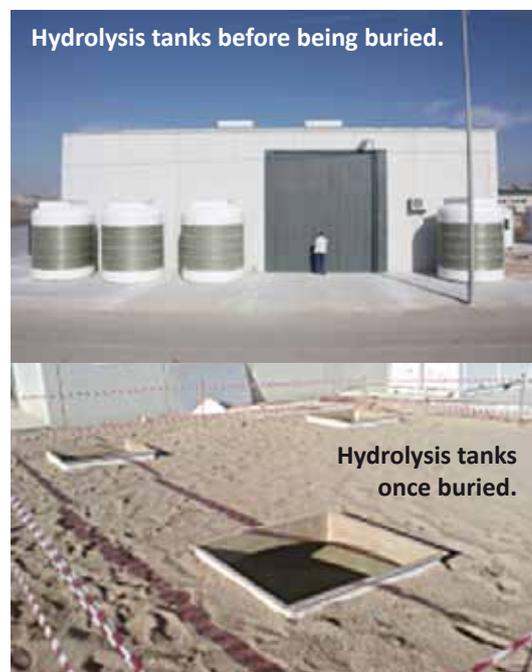


THE METABIORESOR PROJECT WAS PRESENTED AT FOAGRO, THE AGRI-FOOD FORUM OF THE REGION OF MURCIA.

On 8 may, during the celebration in Lorca (Murcia, Spain) of the “Sustainable exploitation of farms: Recovery of by-products” Day, Juan Lobera Lössel, METABIORESOR project manager, presented the project’s activities and later participated in a round table where various subjects related to the project were discussed.

The Agri-food Forum, FOAGRO, is organised by the professional associations of engineers agronomists and agricultural technical engineers of the Region of Murcia and the Polytechnic University of Cartagena. Its objective is to contribute to the development of the agri-food sector and to work for its sustainability. □

Carcass hydrolysis is one of the most important innovations brought by the project. It consists of using a clean, cheap and environmentally sustainable technique to dispose of pig carcasses and slaughterhouse waste (e.g. boiled blood and hair). Disposal of these products through hydrolysis with bio-activators is a variant of the anaerobic digestion and one of the most rational and economical methods for their elimination. It is carried out in totally watertight tanks, at mesophilic and thermophilic temperatures, heated by solar energy (thermal plates) with support of some electrical resistance when there is not enough solar radiation.



PROJECT DESCRIPTION: HYDROLYSIS

The process is very simple. Waste is introduced in plastic tanks that are usually buried in the soil (the photo shows those we use for METABIORESOR). Tanks are always paired in order to simultaneously proceed with the filling and the digestion process: while one is being filled, the other, full, is closed and undergoes the process. Hydrolysis lasts about 6 months. The total number of tanks will depend on the needs of each installation (depending on the quantity of product generated by its activity).

Tanks are filled with the provided waste mixed with water and a natural product (alginate produced from the brown macro seaweed *Ascophyllum nodosum*) that speeds up the natural process of decomposition. The process is further enhanced by the addition of heat (in our case through solar energy) in order to raise the temperature inside the tank to 35–38 °C in the mesophilic range and more than 50 °C in the thermophilic one.

Once hydrolysis ends, the resulting product is stored for later mixing and homogenizing with sewage sludge and pig slurry, the mix being then hygienized before moving on to the biodigester to produce methane. □

THE FOLLOWING DIAGRAMS SHOW DIFFERENT VARIATIONS OF THE PROCESS.

Slaughterhouse waste can be treated in hydrolysis tanks located in situ (Figure 1) or transferred to the plant (Figure 3), this last option being chosen for the project, although the first option is the recommended one in order to fulfil one of the objectives of the project: reducing the environmental risks related to the management of carcass and its economic cost, by minimizing the number of required trips to the treatment plant. In the case of farms, hydrolysis in situ is only considered for large farms or for groups of small ones. □

Figure 1

HYDROLYZATION
[in plant]

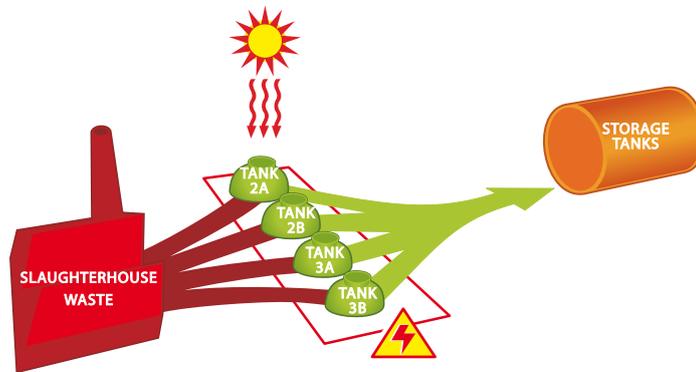


Figure 2

HYDROLYZATION
[in farm]

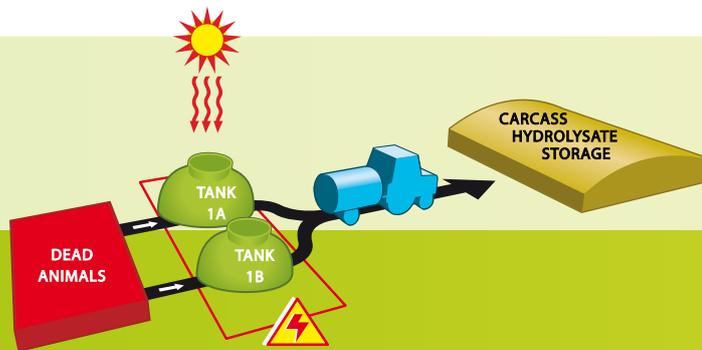
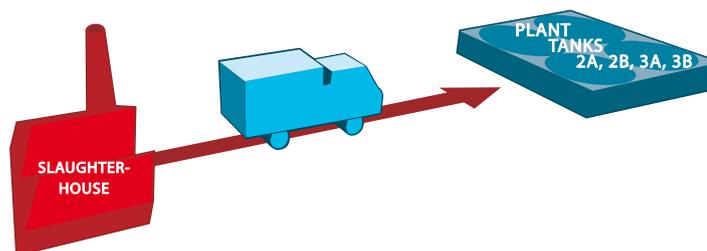


Figure 3

HYDROLYZATION
[in slaughterhouse]



The Institute for Agricultural and Food Research and Development of Murcia (IMIDA), is a research public body of the Regional Ministry of Agriculture. It was created in 2002 from the CIDA (Food and Agricultural Research Centre) which in turn was originated from the old Sericulture Station, created in the 19th century to support the production of silk through silkworms breeding. Its main objective nowadays is to encourage research and technological development, as well as to carry out research activities, in the agri-food sector.

PROJECT PARTNERS:



IMIDA has 6 departments of research and an OTRI (Office for Transfer of Research Results):

- Department of Biotechnology and Crop Protection.
- Department of Citriculture.
- Department of Fruit and Vegetable Growing.
- Department of Animal Production.
- Department of Natural Resources.
- Department of Viticulture.

In addition to the traditional agri-food approach, IMIDA also manages a research station on marine aquaculture.

METABIORESOR is led by staff of the Department of Animal Production.

IMIDA strives to be an applied research centre, promoting cooperative work with the main actors of the agri-food sector (farmers, stock-breeders, organizations of producers and marketers and other associations of the sector) through joint projects and cooperation agreements. IMIDA manages also other substructures, mainly:

- A network of demonstration and experimentation farms.
- An experimental wine station.
- An Agricultural Information System (SIAM) devoted to the calculation of fertigation requirements on the basis of a private network of more than 50 agro-meteorological stations.
- A Geographic Information System (SIGyT).
- A laboratory of quality of materials.

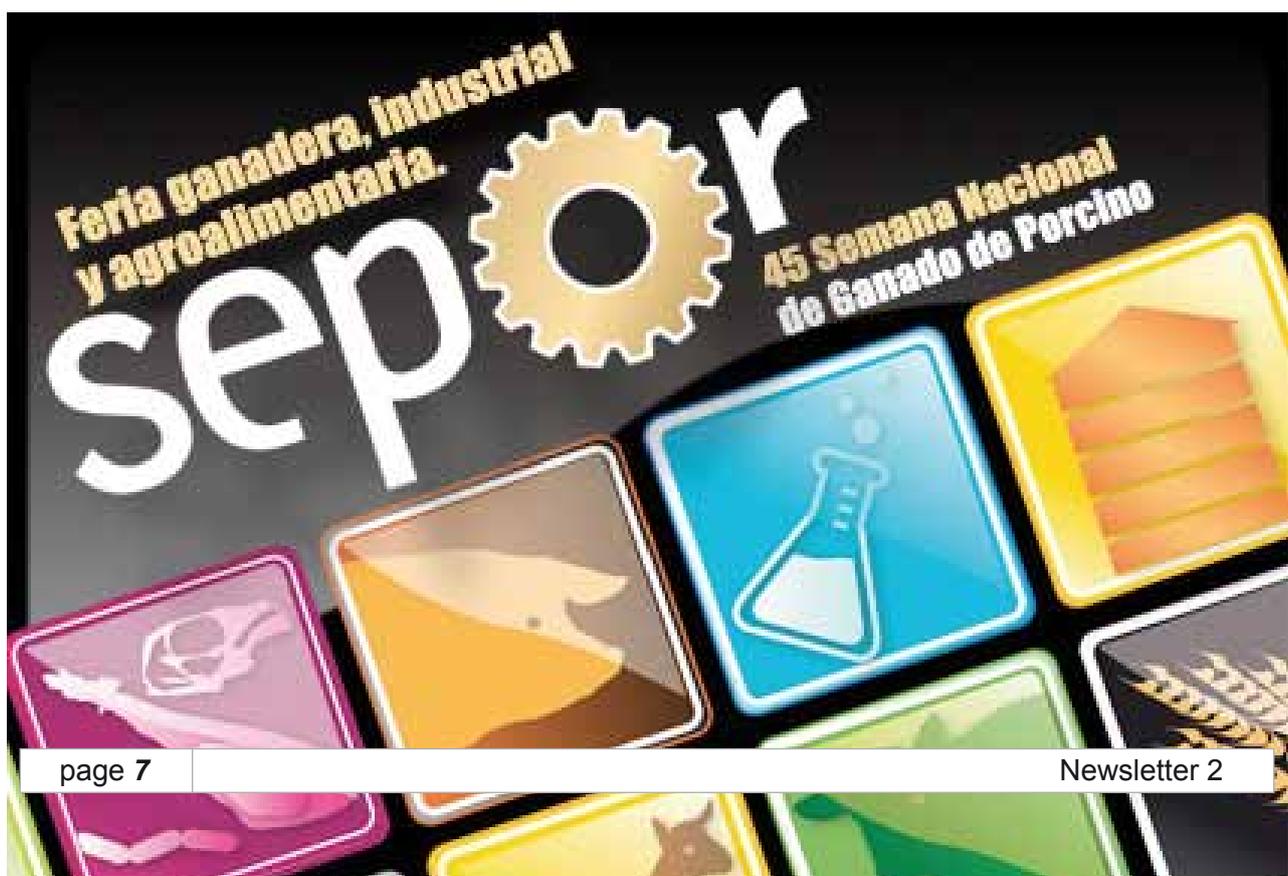
More information in www.imida.es.

Like last year, the project will be present at SEPOR 2012, the most important pig fair of Spain, to be held in Lorca from 17 to 20 September. This year, beyond the booth of the project (as in 2011), we will develop outreach activities, both at the fair and through guided visits to the plant. We will show the process and its environmental advantages, encouraging dialogue with visitors about the theme of the project. □

METABIORESOR AT THE SEPOR FAIR

Should you be interested in participating in these activities, e-mail us: info@metabioresor.eu.

More information at www.seporlorca.com



BASIC PROJECT INFORMATION

BASIC PROJECT DATA

Title: “Pilot Plant for Complete Energy Recovery of Different Municipal and Livestock Waste Materials and By-Products”.

Acronym: METABIORESOR.

Location: CGR (Center for Waste Management) of Barranco Hondo, Lorca (Spain).

Funding: LIFE+ programme, 2008 call.

Budget: € 2 645 308.

Grant: € 1 231 913.

Duration: June 2010 – May 2014.

PARTNERS



• **IMIDA:** Project Coordinator.



• **Lorca City Council** (Spain).



• **IFIP** (Institut du Porc, France).



• **UPCT**
(Technical University of Cartagena, Spain).



• **ALIA** (Feed Cooperative of Lorca, Spain).



• **INAPORC** (Inter-professional Pork Organisation, France).

Contact:

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