



Blue Agave fields in Mexico



The BABET-REAL5 Consortium at INP in Toulouse



AN INTERCONTINENTAL PROJECT

BABET-REAL5 Video

An information video was produced which provides insights in the laboratory work at INPT in Toulouse (France) and summarizes the BABET-REAL5 project concept in about 3 minutes:



<http://www.babet-real5.eu/video>

BABET-REAL5 Partners

The BABET-REAL5 consortium includes 16 research partners from Latin America and Europe.

- Argentina: INTA
- Denmark: AAU
- France: INPT [Coordinator], APYGEC, ARTERRIS, INSAT, MAGUIN, OVALIE, SOLAGRO, URCA
- Germany: WIP
- Mexico: CMM, UNAM
- Portugal: LNEG
- Spain: CIEMAT
- Uruguay: INIA

Contact us for more information

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New Technology and Strategy for a Large and Sustainable Deployment of Second Generation Biofuel in Rural Areas



www.babet-real5.eu



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The BABET-REAL5 Project

The main aim of BABET-REAL5 is to develop an alternative solution for the production of second generation ethanol based on smaller industrial scale than the already realised plants of first generation ethanol. Such plants of small industrial scale shall be applicable to a large number of countries, rural areas and feedstock.

The target is to reach technical, environmental and economical viabilities in production units processing at least 30 000 tons equivalent dry biomass per year. This approach will definitely enlarge the scope of biomass feedstock exploitable for the production of biofuel and create better conditions for the deployment of production sites, to the benefit of rural areas in Europe and worldwide.



Work with extruder at laboratories of UNAM in Mexico

Challenges

Pretreatment

Until now the pretreatment of the lignocellulosic matrix to liberate monomeric sugars contained in cellulose and hemicelluloses is a complex operation which significantly increases capital and operational expenditures.

The BABET-REAL5 Project faces this challenge with a new pretreatment process which is able to run all operations from processing of ligno-cellulosic biomass to enzymatic pre-hydrolysis in a one-stage-reactor.

This new concept offers the most integrated and compact solution for the pretreatment of lignocellulosic biomass which has been designed and studied so far.

Modular design

The technical design focuses on the most feasible equipment. Co-rotating twin-screw extruders (see photo above, widely used in the agro-food, paper and plastic/polymer industries) are used to prepare the feedstock for further processing. These machines can be purchased off-the-shelves and allow a processing capacity of 30 000 tons per year.

Increasing the capacity can be easily achieved by multiplying the number of pretreatment lines in the plant.

This strategy allows flexibility when designing plants and savings on engineering costs for both operators and equipment manufacturers.

Sustainability

In order to guarantee sustainable production of Second Generation Bioethanol a methodology will be developed for decision makers.

This methodology takes into account:

- Identification of available biomass residues
- Mapping of feedstock ($\geq 30\ 000$ t dry biomass per year in 50 km radius catchment areas)
- Conditions for accessing the feedstock
- Risks assessment taking into account environmental impact and global warming

It is foreseen that after the project the developed methodology will become a key prospection tool for the identification of lignocellulosic feedstock in other regions worldwide.

News and Reports

Within the BABET-REAL5 Project widespread dissemination and exploitation of results is achieved through promotional material, a website, videos, publications, workshops, conferences and visits to experimental sites.

The project website provides project news, information about events in the research field and available reports and specialist literature.

Find out more here:

www.babet-real5.eu