



BATFARM

Project Newsletter

ISSUE I

AUGUST 2011

The BATFARM Project

Welcome to the first project newsletter of the BATFARM project. Our newsletter is aimed towards updating interested parties on the progress of the project, and on the information and outputs being developed.

BATFARM stands for **Best Available Techniques** to decrease air and water pollution in animal **FARMS**. Intensive livestock production systems are known to lead to a number of environmental effects, which include emissions to the air and discharges to soils and surface waters. The aim of this project is to set up a scientifically based protocol for the evaluation of

realistic options for the abatement of environmental impacts in air (greenhouse gases and ammonia) and water (nitrate content) from livestock wastes. The expected outcome will be

the increased knowledge of the site- and circumstance-specific mitigation potential of technologies that can reduce the environmental impact of farm housing and manure management systems.



BATFARM project team members at the 3rd Project Meeting hosted by Neiker-Tecnalia, at their offices in Derio, España. 13-14 January, 2011.



Reconciling environmental and sanitary risks in the management of livestock wastes

European workshop – Rennes, France – 5/7 October 2011

Cemagref are hosting a European Workshop on livestock waste Management in October 2011.

- Topics to be discussed include :
- (i) Reducing emissions associated with manure handling and use;
 - (ii) Reducing of water & soil

- pollution by nutrient excess after manure application;
- (iii) Reducing direct contamination of water and soil by pathogens;
- (iv) Reduction of risk presented to food production chain from manure use;
- (v) Costs associated with abatement options.

As well as quantifying technologies in these terms, the viability and durability of each option will be discussed, including conflicts between environmental and hygiene objectives.

For more information, contact: laurence.loyon@cemagref.fr



Project Background



The BATFARM project is Co-financed with the support of the European Union ERDF—Atlantic Area Programme.

The objective of the project is assess the effect of a range of Best Available Techniques (BATs) for reducing the environmental impact of livestock operations. Environmental impact evaluation is being assessed by implementing common protocols across all regions. Evaluation of the economic impact of the BATs on farm costs and profitability forms part of the assessment of each BAT.

Data generated within the project and from literature will be used to develop a model for evaluating the efficacy and appropriateness of a range of BATs in a given farm circumstance. The objective of this is to provide a framework for decision making regarding BATs to implement that will be effective and are appropriate to the environmental and economic challenges specific to farm circumstances.

The main objective of the project is to develop a Decision Support Software Tool which can assist farmers and policy makers with decisions on appropriate environmental technologies for varying farming systems and environments.

Time table

The project began in May 2010, and will run for 3 years until May 2013.

Co-ordinating and standardising the measurement protocols, and the on-farm measurements are taking place in the first two years of

the project. The data collected will feed into the final version of the model and software tool that will be developed within the project. The model and software tool will be completed in the final year.



The on-farm monitoring within the project will include poultry, swine and cattle enterprises



Expected Outcomes

In addition to protocols for sampling and homogenous analyses, the obtained results will be used to develop a practical software package for use in livestock farms that will allow the livestock farm agents and policy makers to understand the suitability of the possible environ-

mental techniques for each particular case, therefore better protecting those natural resources available. In the long term, the obtained results will reflect a better management of the livestock farm waste, with the consequent reduction of the impacts on water and air.



Project Activities in Year 1

During the first year, four interim meetings between partners have taken place to discuss progress in the four different activities:

1. Evaluation of environmental and economic efficiency of environmental techniques in livestock farms.
2. Development and implementation of field and laboratory protocols.
3. Development of a scoring system based on the impact of the technique evaluated.
4. Support software as a tool to aid in the selection of environmental strategies for unique livestock operations.

Partners have agreed on a set of protocols to enable pollution monitoring from different locations in a farming system, including, building, storage and land application of manures.

Once protocols have been established, partners have proceeded to monitor gas emissions in situ after set up of equipment and techniques. At this moment measurements are being taken in each region in the different locations defined. Some of the BAT'S identified and selected for experimental inspection are:

- Air cleaning of the animal buildings and slurry injection.
- Centrifugation and aerobic treatment of pig slurry.
- Manure composting and phyto-epuration of the lixivates.
- Phase feeding in laying hens.

- Additives for ammonia and odours mitigation in slurry pits.
- Aeration of slurry in under-floor slatted tanks .
- Crusting of outdoor uncovered underground concrete slurry tank.
- Slat modifications to reduce ammonia loss.
- Different slurry covers.
- Air scrubbers.
- Psychrometrics and heat exchange in broiler buildings.
- Different systems for drying hen litter.

In parallel, software development activity and definition of the reference farm system for each livestock category is in progress, based on specific questionnaires produced and completed for each region.

Monitoring and evaluation of the effect of a wide range of BATs will take place in a minimum of 36 farms in the Atlantic Area during the life of the project.



BATs for reducing emissions and environmental impact from housing and ventilation, manure storage, and land spreading are being evaluated on farms.



Project Partners

**Lead Partner:
Neiker-Tecnalia**



Contact Project Leader:

Dr. Pilar Merino
Neiker-Tecnalia
Berreaga Kalea, 1
48160,
Derio,
España

Phone: + 34 94 4034319

Fax: + 34 94 4034310

E-mail: pmerio@neiker.net



**ITG Ganadero, Navarra,
Spain**



**Teagasc, Johnstown Castle,
Ireland**



**Cemagref, Rennes,
France**



**ISA, Lisbon,
Portugal**



**Glasgow Caledonian University,
UK**

We're on the Web!
www.batfarm.eu

Upcoming Events

- Internal Project Meeting on Modelling. 3-4 October 2011, Cemagref, Rennes, France.
- Reconciling environmental and sanitary risks in the management of livestock wastes. European workshop. 5-7 October 2011, Cemagref Rennes, France.
- 5th Meeting of the BATFARM Project Team. 22-23 February 2012, ITGG, Navarra, Spain.
- International symposium on Emissions of Gas and Dust from Livestock (EMILI 2012). 10-13 June 2012. Saint Malo, France. (<https://colloque.inra.fr/emili2012>)
- 17th International Nitrogen Workshop. 26-29 June 2012. Wexford, Ireland. (www.nitrogenworkshop.com)

