

Data sheet

Source reduction and slurry treatment



Data sheet n° 2

ACTION B1. FEEDING MANAGEMENT

1. What does make a good feeding management?

Feeding strategies and nutrient management are the basis to reduce environmental pollution that manure can generate. It is crucial to improve the use of nutrients provided to animals to adjust the feed needs with maximum possible accuracy.



2. Background

In pig production, manure management is a very important aspect for its effects on the environment. Low protein diets are being encouraged to reduce nitrogen concentration and slurry emissions. When one feed composition is used during all the fattening, there will be a deficiency ideally protein at the beginning of fattening and a large excess at the end of the period, because the required nitrogen decreases as weight increases.

3. Objectives

With Futur Agrari we look to adapt the best feed strategy to optimize production rates and minimizing nitrogen, phosphorus, copper and zinc excretions. The aim is to compare, during the fattening period of a group of pigs, two diets, a more conventional diet and a multiphase diet adjusted for protein and phosphorus making six feed changes.

4. Location

Testing farm, where this study is carried out, is located in the IRTA Monells Center because it has facilities that allow frequent changes in feed composition, checking feed consumption and the generated manure volume. In the testing farm, nutritional needs of animals will be adapted with genetic, age, sex and food regime to avoid excessive intake of protein and thus reduce the excretion of nitrogen in manure.

A second phase will take place in commercial fattening pig farms, located in Osona, participants in Futur Agrari project.

5. Experiment design

In a first phase two test will be performed:

- First test (begins May, 29th 2014):

48 females are controlled on an individual way every three weeks. It includes:

- Individual weight of each individual pig.
- Individual feed consumption.
- Back fat and loin depth.
- Water consumption for every pig group.
- Slurry collection to quantify its composition.
- Carcase quality in slaughterhouse.



-Second test: (begins July 31th 2015)

In a second phase, food improvements obtained in a first phase will be implemented in commercial farms participating in Futur Agrari.

6. Results

With data obtained from technical index during fattening, a statistical analysis will be performed and productive index and quality of carcase will be evaluated as well as results of generation of nitrogen, phosphorus, copper and zinc according to volume and concentration.