



LIFE12 ENV/ES/000647

SELECTION REPORT OF PIG FARMS

LIFE+ FUTUR AGRARI

FARMS FOR THE FUTURE:
INNOVATION FOR FERTILIZACION SUSTAINABLE
MANAGEMENT
FERTILIZATION FROM THE FARM TO SOIL

Lleida, April, 25th 2014

Affected shares

Main action: A2

Related actions: A1, B1 y B2

Antecedentes

Futur Agrari project requires, first, characterize a number of pig farms located in Osona county that is known by its high livestock concentration, with a significant number of livestock enterprises and cooperatives aware of the needs to improve manure management. Consequently a large part of the project study area is enclosed in this county, characterizing 11 farms through surveys that describe them.

Objective

To perform a first pig farms selection that has agreed to participate in futur agrari with a facilities characterization, management and production system. This selection is performed by the information obtained from surveys (see annex 1) through the visit farm and interview with owner.

Procedure

a) Farm selection after surveys.

Farms owners committed with the Life Project by its signature are contacted. In this first contact, Life Project is explained specifically in action B.1.

After first meeting, headlines and/or livestock enterprises which are interested to participate in the Project are selected to perform surveys.

Pig farms chosen to make surveys are:

<u>Farm name</u>	<u>ID</u>	<u>Town</u>
1 - Farm Casó de Juventeny	751 FH	Torelló
2 - Jordi Baucells Ribas	405 CG	Tona
3 - Can Toi	751 AK	Santa Maria de Corcó
4 - Mas Madiroles	406 DB	Manlleu
5 - El Pujol	659 BO	Sant Bartomeu del Grau
6 - Cal Fusta	536 AA	Perafita
7 - Can Bosch	689 AE	La Pobla de Montagut
8 - La Farinera	583 AF	Prats de Lluçanès
9 - Mas Rovira (Casa Ramona)	788 AK	Sora
10 - Mas Arumi de Palau	352 IE	Gurb
11 - Vila Viñeta	821AJ	Torelló

b) Survey design to farms owners.

A survey is designed to obtain information about:

- Owner.
- Enterprise system (cooperative, integrated, free.)
- Farm production (fattening, isowean, one site production).
Facilities (drinkers, feeders, building surface, ventilation system, heating system...)
- Manure management facilities (volume and pit type, volume and pond type, and treatment systems description.
- Animals (genetic line, fattening age, health status)
- Feed system (Number of feeds, composition, food ration, facilities...).
- Water management.
- Manure management (individual o collective management, outside or inside agricultural framework management ...).

The survey is into annex 1. The objective is to obtain enough information about farm and then to select 6 farms to make the follow-up one year at least.

c) Surveys implementation.

11 initial diagnosis have been made, first of all having contact with the farm manager in order to go a specific day and time.

When the farm is visited, it is necessary to explain the Life project again and after taking the health measures you enter into the farm. Two technicians involved in the project conducting surveys (interview and photos of different parts in the farm).

Afterwards, the survey is completed in the office, with the SIR (livestock information system) data information and downloading and placement of photos in survey.

d) Analysis of survey results.

For selection approval criteria have been taken into consideration:

- Personal
- Zootechnical consideration
- Health.
- Food
- Fattening management

- Facilities
 - o To animals
 - o To manure
- Manure management

Analysed points and criteria

Personal

Farms where the staff provides to assist in the implementation of Futur Agrari have been selected (actives and motivated persons).

It has also given priority that person signing the collaboration agreement with the Project (farm owner), Works into the farm because it is the way to have a commitment and assist in the dissemination activities under the project. All farmers have responded positively to improve farm management by making changes in food, facilities...

Zootechnical classification

From the star of project preparatory actions, it is clear about the type of farm to be diagnosed. Pig fattening and/or isowean farm with a very specific genetic line, mother (Landrace x Large White) and father (Pietrain), the most representative of the study area, and also Duroc (father) because of market that values the fat infiltration. Input weights (17-20 kg) and output weights (105-110 kg) and a slightly higher in the case of Duroc (120 kg).

These two lines, with these output weights, are the most representative pig fattening in Catalonia.

Health

The farm health status to be selected must be free of PRRS, (it is accepted that there is PRRS recirculation) and the farm must be have a circovirus and mycoplasma vaccination plan.

Management

In order to perform a pig fattening monitoring, all in-all out management it is necessary. This problem has slowed us the beginning of farms monitoring because we have had to wait to facilities depopulation to begin the monitoring with the entry for new animals.

Feeding

The feeding way should be similar to most fattening and isowean farms in Catalonia. Specifically, food must be dry and by phases (flour, pelletizing)

Diets information should be delivered to technicians (composition, management system...)

If the project so required, feed factory that supplies food in the farm must be interested to make changes in food planning and formulation.

The analyzed feed pipe in the farm must be with animals of the same age and genetic.

Farm and owner must be ready to make changes in food planning and formulation with the objective to reduce the quantity of nitrogen, phosphorus, copper and zinc.

Thus, responsible and active farmers must be selected as required to facilitating work changes.

Facilities

The areas of facilities that have been considered when farms have been chosen are:

- Water distribution system:
 - o One only line by facility to can be placed a water meter.
 - o Drinker type: Farm that can easily change drinkers in the case that it is select for the second phase following the criteria of the experts group.
- Feeding system:
 - o The facility must have at least one silo to perform a diet plan. To know the exact feed consumption by animal and by type of feed. Farm that can easily change feeding troughs in the case that it is select for the second phase following the criteria of the experts group.
- Facility size/group size:
 - o Fattening facilities about 1000 pigs although in some selected farms, monitoring of pen will only be made always that this pen is independent of the other pens.
- Facilities for manure management:
 - o Groups studied should have a single pit to assess the volume of slurry produced by fattening.
 - o A system to collect homogeneous slurry samples must have in the pits. The volume of the pits must be able to store all the slurry of fattening. If that were not that does not have to more tan 3 times by fattening.

- Pits must be homogeneous and easy to size to not create errors.

Manure management

The farm holder needs to optimize the manure management. The farm should have scope for improvement

- Feeding to reduce nutrient excess to manage.
- Water to reduce slurry volume in farm.
- Management (air, temperature...) to reduce emissions.
- Manure management (use of additives, treatments ...)

e) Selecting farms

With the information obtained, from characterized farms, a selection of 6 farms is carried for monitoring its management for one year. Farms have been excluded a first sight because they are uninteresting either by difficulty in collecting information or because their production system does not fit the Project objective.

Farms selection was made during two meetings with technician from IRTA (Martí Orra & Mateu Tulsà) and from DARP (Ángeles Goya & Joan Parera).

After surveys it has detected that one of main reasons is the lack of knowledge of water consumption in the farm by the absence of meters. Most farmers surveyed ignore the advantages of knowing water consumption in the farm. In all selecting farm it is possible to install a water meter in the pit under study to make monitoring.

None of the selected farm makes slurry analytical or applies additives into pits. There is also a lack of knowledge of content of manure generated annually on the farm. Farmers do not outsource the manure management, all perform this management within the agricultural framework.

The selected farms participating in the first phase of action B1 withing Life project:

<u>Farm</u>	<u>ID</u>	<u>Town</u>
1 - Casó de Juventeny Farm	751 FH	Torelló
2 - Jordi Baucells Ribas	405 CG	Tona
6 - Cal Fusta	536 AA	Perafita
8 - La Farinera	583 AF	Prats de Lluçanès
10 - Mas Arumi de Palau	352 IE	Gurb
11 - Vila Viñeta	821AJ	Torelló



Annex 1: Characterization survey made in pigs farms involved Life project Futur Agrari

CHARACTERIZATION SURVEY IN FARMS

Identifier:

Date:

Interviewer:

GRANJA			
Farm		Owner	
Location		Main production	
Description			
Is it the main economic activity?			Photo farm
Who takes care of farm?			
Are you willing to improve management by making changes in feeding, facilities and management on farm?: <input type="checkbox"/> YES <input type="checkbox"/> NO			
Comments:			
Enterprise system:			
<input type="checkbox"/> Free <input type="checkbox"/> Cooperative: Name: <input type="checkbox"/> Integrated system: Name of integrative:			

SIR data (Livestock Information System):

ID	
FARM NAME	
FARM ADDRESS	
ZIP CODE	
TERRITORIAL SERVICE	
X COORDINATE:	
Y COORDINATE:	
LENGTH:	
LATITUDE:	
KIND OF FARM:	
OWNERS NAME	
ADDRESS NAME	
ZIP CODE	
OWNERS TOWN	
PHONE	
EMAIL	
ANIMAL ESPECIES	
ZOOTECNICAL CLASSIFICATION	

PRODUCTIVE STATUS	HEAD OF LIVESTOCK NUMBER
Capacity Others	
Census Others	
Capacity Breeding	
Census Breeding	
Capacity Fattening	
Census Fattening	
Capacity sows	
Census Sows	
Capacity Males	
Census Males	
Capacity Isowean	
Census Isowean	
Capacity Replacement	
Census Replacement	
UPDATE CAPACITY	
CENSUS UPDATE	

Photo outside building:	Photo silos:
Photo inside:	Photo pig group:
Photo feeding facilities:	Photo drinkers:



DESCRIPTION MANURE FACILITIES						
Fattening	Building description	Surface area type	Slat total ² : m2 Slat partial m2 without Slat : <input type="checkbox"/>			
		Slat type	Pit 1	Pit 2	Pit 3	Pit 4
			Concrete: <input type="checkbox"/>	Concrete: <input type="checkbox"/>	Concrete: <input type="checkbox"/>	Concrete: <input type="checkbox"/>
			Plastic : <input type="checkbox"/>	Plastic : <input type="checkbox"/>	Plastic : <input type="checkbox"/>	Plastic : <input type="checkbox"/>
	Pit dimensions	Perpendicular wall <input type="checkbox"/> / Diagonal <input type="checkbox"/>	Perpendicular wall <input type="checkbox"/> / diagonal <input type="checkbox"/>	Perpendicular wall <input type="checkbox"/> / diagonal <input type="checkbox"/>	Perpendicular wall <input type="checkbox"/> / diagonal <input type="checkbox"/>	
		Length: m	Length: m	Length: m	Length: m	
		Height : m	Height : m	Height : m	Height : m	
		Width: : m	Width: : m	Width: : m	Width: : m	
Pond description	Manure ponds type	Pond 1	Pond 2	Pond 3		
		Concrete: <input type="checkbox"/>	Concrete: <input type="checkbox"/>	Concrete: <input type="checkbox"/>		
		Polyethylene: <input type="checkbox"/>	Polyethylene: <input type="checkbox"/>	Polyethylene: <input type="checkbox"/>		
	Pond Dimensions	Others: Open <input type="checkbox"/> Closed <input type="checkbox"/>	Others: Open <input type="checkbox"/> Closed <input type="checkbox"/>	Others: Open <input type="checkbox"/> Closed <input type="checkbox"/>		
Length: m		Length: m	Length: m			
Height : m		Height : m	Height : m			
Do you have separator?	<input type="checkbox"/> No <input type="checkbox"/> Yes What kind?:					

² This section will be repeated for each building.



MANURE FACILITIES DESCRIPTION		
Fattening	Manure heap description	Kind Concrete: <input type="checkbox"/> Others: Is there Wall? :
	Dimensions	Wall height : m Length: m Width: : m

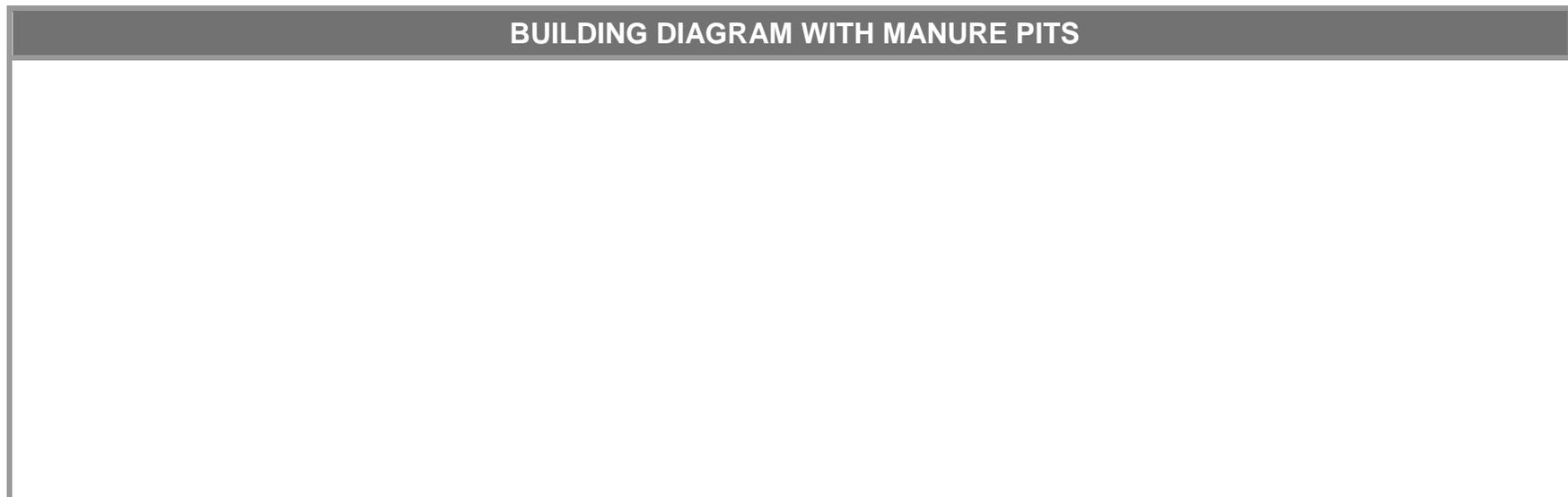


Photo building floor	Photo building slat
Photo pits:	Photo ponds:
Photo separator S/L	Photo manure heap:



FARM			
LIVESTOCK	Genetics	Genetic line used:	
		Average weight entrance: Average weight way out:	
		Does the carcass classification: <input type="checkbox"/> Yes <input type="checkbox"/> No Comments:	
	Health	Biosecurity measures	Mandatory step with shower: <input type="checkbox"/> Yes <input type="checkbox"/> No Comments: Vehicle disinfection <input type="checkbox"/> Yes <input type="checkbox"/> No Comments: Existence of fence: around the farm: <input type="checkbox"/> Yes <input type="checkbox"/> No around the slurry pond <input type="checkbox"/> Yes <input type="checkbox"/> No Manure separation <input type="checkbox"/> Yes <input type="checkbox"/> No Comments:
		Circovirus vaccination plan.	<input type="checkbox"/> Yes <input type="checkbox"/> No Comments:
		Mycoplasma vaccination plan	<input type="checkbox"/> Yes <input type="checkbox"/> No Comments:
PRRS:		<input type="checkbox"/> Yes <input type="checkbox"/> No Comments:	



FARM							
Feeding	General	Number of feeds by cycle:					
		Number of times the silo is filled by fattening					
		Number of silos by building:		Volume of silos:			
		System control feed consumption: Manual <input type="checkbox"/> Automatic <input type="checkbox"/> Brief description: Frequency:					
		Dry food <input type="checkbox"/> Semi-moist feed <input type="checkbox"/>					
		Do you have assigned a level of reduction? <input type="checkbox"/> Yes <input type="checkbox"/> No Which? %					
	Piensos		Feed 1:	Feed 2:	Feed 3	Feed 4	Feed 5
		Trade name feed					
		Feed presentation	Flour <input type="checkbox"/> Granulated <input type="checkbox"/> Extruded <input type="checkbox"/>				
		Crude protein content (PB)					
		Phosphorus content (P)					
		Period of application (days)					
Consumption (animal/day)(kg)							
Can you have the formulation and composition of feed used	<input type="checkbox"/> Yes <input type="checkbox"/> No Comments:	<input type="checkbox"/> Yes <input type="checkbox"/> No Comments:	<input type="checkbox"/> Yes <input type="checkbox"/> No Comments:	<input type="checkbox"/> Yes <input type="checkbox"/> No Comments:	<input type="checkbox"/> Yes <input type="checkbox"/> No Comments:		



FARM			
Water	General	Water source:	
		Have you done some analytical? <input type="checkbox"/> Yes <input type="checkbox"/> No When the last time was? What it was studied?	
		Does water meter?: <input type="checkbox"/> Yes <input type="checkbox"/> No Where?: - In every building: <input type="checkbox"/> / one only in the farm <input type="checkbox"/>	
		What more water use on the farm? - Cooling <input type="checkbox"/> Yes <input type="checkbox"/> No; is there any control?	
	Water management	Control	<input type="checkbox"/> NO Why?
			<input type="checkbox"/> Yes How?
		Cleaning system building	
		Does the cleaning is outsource? <input type="checkbox"/> NO <input type="checkbox"/> Yes With who?	
		How often you clean?	
		Is used water for cooling? <input type="checkbox"/> NO <input type="checkbox"/> Yes With whom?	
Water storm Separation of slurry pits <input type="checkbox"/> NO <input type="checkbox"/> Yes If yes, Do they take advantage?			

FARM		
Manure	General	Frequency of emptying of pits:
	General	Have you done some analytical? <input type="checkbox"/> Yes <input type="checkbox"/> No When was the last time? What it was studied?
	General	Frequency of cleaning of pits:
	General	Additive application into the pit: <input type="checkbox"/> Yes <input type="checkbox"/> No
	General	What kind of additives: Physic-chemical <input type="checkbox"/> Biological <input type="checkbox"/> Others <input type="checkbox"/> Trade name:
	General	Frequency of application:
	General	Reason for applying additives to the slurry:
	General	Do you know the slurry content generated annually into the farm: <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, how?: theoretical <input type="checkbox"/> ; Make a note of number of tanks <input type="checkbox"/> ; Others:
	General	Do you have problems with odors? <input type="checkbox"/> Yes <input type="checkbox"/> No <ul style="list-style-type: none"> - Into the buildings <input type="checkbox"/> - Around the farm <input type="checkbox"/> - Have you had any neighbourhood complaints? <input type="checkbox"/>
	Volume management	Do you plan manure management? <input type="checkbox"/> NO <input type="checkbox"/> Yes How do you perform? :
Volume management	Is the planning suited with the daily manure management? <input type="checkbox"/> NO <input type="checkbox"/> Yes What percentages match?	
Volume management	Is the manure management outsourced? <input type="checkbox"/> NO <input type="checkbox"/> Yes If yes, What percentage? With who?	
Volume management	Do you perform management outside agricultural framework: <input type="checkbox"/> NO <input type="checkbox"/> Yes What amount?: m ³ & kg N With who?	
Volume management	Do you perform management inside agricultural framework: <input type="checkbox"/> NO <input type="checkbox"/> Yes What amount?: m ³ & kg N With who?	

PRÁCTICAS AGRÍCOLAS		
Fertilization	Do you calculate nutrients content when manure is applied?	<input type="checkbox"/> Yes <input type="checkbox"/> NO; If yes, How?
	Is the regulation of applicator/tractor according to crop needs and slurry concentration?	<input type="checkbox"/> Yes <input type="checkbox"/> NO; If yes, How?
	Do you make feed analysis?	<input type="checkbox"/> Yes <input type="checkbox"/> NO; If yes, How?