

Case study reports: Spain CS2



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1. Background

Programme

The farm (pig meat production) is part of the Coren SCG cooperative. And it is where the AUTOFARM system is implemented, oriented towards animal welfare and management.

Coren is a cooperative of the second degree, that is, a cooperative of cooperatives. The products of the various activities (meat poultry, egg-laying, pigs, cattle or rabbits) are associated in first-degree cooperatives, which are made up of a total of 3,200 members (the farmers). In turn, these are integrated, through the cooperative regime, in Coren, which is why it is a cooperative of the second degree or "cooperative of cooperatives". This structure allows both the cooperative members and the Coren team to be directly involved in the management. They are the most interested in organising and financing 2/3 visits per year to this farm to achieve the highest quality in each phase of the production process and in a socially responsible management, keys of the "Coren model".

Funding and Governance

The program of visits to the farm is managed in 2 ways:

• Visits through Coren SCG. In this case there is a team consisting of 3 vets assigned to each type of production, who coordinates the actions, logistics and carries out the visit to the farm with the farmer. These visits are financed entirely by the Coren cooperative with their own funds so that their farmers improve their profitability. The farmers who attend the visits are selected by Cooperative Coren, who is interested in knowing the Autofarm system and implementing it.

• Visit through the company Autofarm. In this way it is the farmer himself (owner of the farm) who manages and finances the visits. The farmer carries out the search for potential clients who can visit the farm and at the same time coordinates all the actions of the visit (from the reception to the farewell).

Actors and networks

The actors involved in the visit are usually:

In case of organising the Cooperativa Coren SCG: There is 1 coordinator of visits to the farms that selects the topics that are interesting for the farmers. This selection of topics / topics are suggested by the veterinarians who are visiting the farms of the cooperative.

Later, when a group of 10 farmers interested in issues related to improving the management and automation of the farms, a date for the visit is proposed.

The visit to other interested partners is then disseminated through the livestock communication media.

Finally, the program of the day is coordinated with the farmer and the schedules do not coincide with any important activity of the farm. At the visit is present the veterinarian responsible for the farm, the owner who help each other in the explanation of the automation system AUTOFARM.

It is a closed visit program for members of the Cooperative and a nearby geographical area (50 km radius).

In case of organising the owners of the farm and Autofarm System: There is a visit coordinator who goes to other cooperatives / groups of farmers or agricultural vocational training schools. It makes a promotion during the first 2 months of the year and visits are usually made from March to October (3 visits / year). Visits are scheduled 1 month in advance.

The schedule of visits is from 11:00 h to 13:30 h. and there is no cost for the farmer to transport.

The groups are of 15 breeders.

Event Farm and location

Name: Autofarm

- Description: Development, design and manufacture of software, hardware and automation for the control and remote control of livestock farms, including assembly and installation. Preparation, study, design and execution of technological projects. Design and programming.
- Country: Spain
- Website: Autofarm
- Event Date: 06/2018

2. Method

In line with the Methodological Guidelines, three main data sources are used: a background document and interviews at Programme and Farm level to analyse structural and functional characteristics, and event tools and surveys to analyse event level participation and learning, as follows:

- 1. A background document for every case study was completed by the AgriDemo-F₂F partner who carried out the case study.
- 2. Interviews with representatives of programme/networks (level 2) and farm level interviews with demonstrators/hosts (Level 1) to reveal how the functional and structural characteristics enable learning. Data is based on one interview with the host farmer. Analysis of this interview is reported in Sections 3 and 4. The analysis followed 5 themes: (1) Coordinating effective recruitment of host farmers and participants, (2) Developing and coordinating appropriate interaction approaches, (3) Planning, designing and conducting appropriate demonstration processes,(4) Enabling learning appropriate to purpose, audience, context, (5) Follow-up activities.
- 3. Event tools and surveys (Level 3) to reveal peer to peer learning processes. Event details and analysis is reported in Section 5. This data is sourced from 12 pre and post-demonstration participant surveys, 1 predemonstration demonstrator survey, 1 post-event host farmer interview and an event observation tool completed by an observing researcher. This data is mainly used for the analysis of learning processes and learning outcomes related to the specific event and overall comments on the effectiveness of the event.

Finally, partners reviewed the case study reports to prepare their workshops with different stakeholders related to the case studies. These workshops aimed at validating the data presented in the case study reports and to discuss on key characteristics related to effectiveness of demonstrations.

3. Structural Characteristics

T1: Programme/network level

1. The main actors involved in the demonstration activities and their roles

Host farmer and demonstrator

The host farmer is the leader of the demonstration day organised on his farm. He is a qualified specialist in pig production, knowing very well the sector as well as his own farm operations. He implements on this farm an innovative technological project, the *Autofarm* application, a system of monitoring and control of agricultural operations through easy management and compression with its own hardware and software (Farmer), which has been developed by the pig farmer himself with a team of computer experts (Observation tool).

The demonstration topics have always to do with the presentation of the Autofarm in pig/livestock production. The host farmer is always the demonstrator during demos, he leads the visitors guide on his farm, and he talks about farm's processes and explains the farming technologies he is implementing on his farm. It seems also that he is totally responsible for the content of the demo events. The main people involved in the demonstration activities are the host farmer and his parents. Sometimes other people, who know the development of the software and the hardware of the Autofarm platform, are invited to speak at the demo. He does not request feedback from participants or any evaluation for the demonstration activities. However he keeps contacts for the further engagement of participants after the demonstration, through social networks, email, telephone or personal contacts (Farmer).

Q: How are the demo activities on the farm managed? R: Well, normally it is me who guide the visit because I am a farmer and primary producer and, as such, I have some knowledge of the sector and had the idea at the time to explain this farming technology. I as a farmer decide at the moment who visit the holding, to whom can me can transfer this knowledge and above all I considerate which safety measures should be implemented. (Farmer)

Q: Who are the main people involved in the demonstration activities and what are their roles? R: Me, mainly, my parents and sometimes some experts to give explanations about the development of software and hardware. (Farmer)

Q: How are demonstration topics selected? R: To start with, we are going to focus on this technological project. [And also, to all farmers and other visitors you show your product ...]Which we are going to demonstrate, yes. [The product Autofarm.] (Farmer)

Yes, we always focus on the application and its application in the environment in order not to raise other issues. (Farmer)

I should do it, but well, in the productive cycle we primarily focus on the livestock topic. But what is there, I know that we should diversify and link it depending on whether there is a technical professional or other specialist. (Farmer)

Q: Do you request feedback on the event day from participants? R: No. It would be interesting to get a feedback not at the event day but after the visit to give some necessary time (to the participants) and ask them. (Farmer)

Q: Do you evaluate the demonstration activities overall? R: No. (Farmer)

Q: Do you continue to engage participants after the demonstrations? R: Yes. Yes, I try ... I try to do it contacting them (participants) social networks or writing them per email or calling them on the phone or face-to-face. In other words, being in a personal contact, talking with them. (Farmer)

Audience/type of participants

The intended audience of the demonstration events are mainly stockbreeders/producers, companies (big integrating ones, animal feed manufactures, logistic etc.) and cooperatives. Most of the people attending the demonstration events are stockbreeders (mainly pig farmers), veterinarians, technical specialists, non-profit associations, and mass media representatives. The farm visits are organised upon request/registry of the

visiting groups. The demos take place upon consultation and appointment between the visiting groups and the host farmer, who manages all these processes. It seems that participants are not involved at any processes before the demo. However during the demo participants are expected to be actively involved.

Well, primary producers, big integrating companies which can be cooperatives, companies that ... that manufacture animal feed, logistic companies and so on. (Farmer)

Q: Who typically attends your demonstrations activities? R: Stockbreeders mainly focused on pig farming, veterinarians, technical specialists, non-profit associations, mass media representatives. (Farmer)

R: [Those people who attend the demo are groups to attend... which you are looking for... well, to attend are organised or they register for a visit or you are... there are groups who request a visit and you handle it?] Yes, exactly. (Farmer)

Q: Are participants (farmers, advisers, researchers etc.) involved in the overall development of the demonstrations? R: Yes. [Why?]Because they have the possibility to participate in a real environment, enter the farm and we demonstrate all in situ. [How do they interact? With questions, how do they interact with?]It would be ideal, that they would interact with questions, logically. What we are looking for is they raise doubts and questions, they can have. (Farmer)

2. Networks

The host farmer's farm is not part of a programme or wider network. This could be the reason why the host farmer stated that he is not involved in the overall development of demos at the programme /network level. Furthermore the specific farm's demonstration activities are not connected to other demo farms and/or other knowledge exchange organisations in a context of a network. However, the host farmer has contacts with start-up businesses, technological centres, universities related to primary sector and some cooperatives (COREN etc.).

Q: Is your demonstration farm part of a programme or wider network? R: No. (Farmer).

Q: To what extent is the demo farm connected to other demo farms and/or other knowledge exchange organisations? R: We have contacts with other Start-ups but we aren't with any kind of network regarding the demo matter. [You also have some contacts with the university or...] Yes, we work with technological centres and universities even with universities which are closely connected with the primary sector and cooperatives such as COREN. [But you are not in any network.] No. [Well, neither do not hold any official position...]. (Farmer)

3. Resources, finances and incentives

The demonstration activities at the specific farm are mainly self-funded. However, the farm had benefited at its first steps of developing the system with some sort of public support in the context of an acceleration programme they participated to in order to work on livestock's facilities ventilation.

Q: What are the funding arrangements for your demo activities? How do these impact on the lifespan of the farm demo? R: Well, what we usually use is our own funds, we had some public support, that we got some prize for participation in an acceleration programme and then we also focus it as a marketing strategy that can bring more sales. (Farmer)

Q: What do you think motivates participants to attend demos? R: It is a project which is carried out as an ad hoc project and which is exclusive for this farm and that there was a huge problem with air conditioning and that this issue can be interesting to the farmers for its application in their own farms. (Farmer)

In this farm we are developing a project and the system of comprehensive monitoring that is based on remote control of the operation, and thanks to a real time and a range of measuring parameters such as temperature, humidity, the CO₂, and which allows to act from different locations and synchronise different parameters from any device farms. (Farmer)

4. Goal/ objectives

The overall goal of the demo events is to show visiting groups the full potential of the Autofarm comprehensive monitoring application in a real farm's environment (Farmer). Extend demonstration and knowledge transfer of the opportunities offered by the monitoring system take place during the demos.

In this farm we are developing a project and the system of comprehensive monitoring that is based on remote control of the operation, and thanks to a real time and a range of measuring parameters such as temperature, humidity, the CO₂, and which allows to act from different locations and synchronise different parameters from any device. [What are the goals of your demonstration farm?] Well, to transfer knowledge, synergy, show our products in real environment and solve the problems generated by the environment in the most productive way farms. (Farmer)

Well, because of the economic aspect, to show the product and see how it works in a real farming and well, in a family farm in a real environment. Is that you have something like a closer connection because it is a farm we had to rebuilt and which hat a problem, and the ventilation as well, and well... well, to transmit this technology base applied to this real environment and which truly works. (Farmer)

T2: Farm (event) level

The demonstration event was held on a family farm, which has been working over forty years (Farmer). The farmer owns a pig farm integrated in a cooperative (COREN) of 2000 places. The farm has implemented a management and monitoring system (smart farming) of the productive parameters since 2014 (Observation tool). According to the farmer, the demonstrations on his farm are exemplary; indicating also that this approach is also more preferable. According to him the advantages and the opportunities offered by the application could be only demonstrated as a best practice.

We make a visit through the whole farm. [Is this an experimental or an exemplary farm, a best practice case?] It is exemplary farm, a best practice case. [Why?] Because we improve and apply the productive cycle and the animal welfare and we also reduce the energy consume and well, the quantity of invested products. So that's because it is a best practice case. (Farmer)

5. Farm's layouts and practice/technology demonstrated

There were not typical comparative layouts on the farm like tests strips etc. However the participants of the demonstration have been able to compare the productive data of the farm with other farms that do not have computer systems to measure the parameters (Observation tool).

6. Topic: AUTOFARM.

The topic discussed was the monitoring, control and management of resources of the entire farm to improve the efficiency and the productive indexes of a farm (smart farming applications on the farm). The system was applied throughout the farm and all farm's facilities were visited (Observation tool).

7. Host farmer

The host farm was the demonstrator of the event. He explained the technical aspects of the AUTOFARM application and his personal history. During the demo the host farmer explained the computer system in a room on the farm. Thereafter they visited the farm, analysing how the sensors work and how the pig farmer makes decisions based on the parameters received by the monitoring system (Observation tool).

The host farmer guided also questions and/or discussions during the demo, and made himself available to solve participants' doubts of how to implement the monitoring in the milk production farms. He led the discussion so that all the farmers would participate and give their opinion on how to implement AUTOFARM on their farm (Observation tool). Moreover, the host farmer offer follow-up opportunities to the participants interested for further information or for the implementation of the application on their farm. Participants filled out a form for the farmer demonstrator, in order send them additional information or to visit their farm in the future (Observation tool).

8. Participants

The participants had the opportunity to observe the farm's system, to discuss extensively with the host farmer and to undertake some kind of hands-on activities. More specifically, they managed the environmental parameters through the software by entering data into the system and observing the results of on-site tests (Observation tool). Most of the participants were known to each other as well as to the demonstrator. More specifically the demonstrator already knew part of the participants through other training sessions of the cooperative he is part of (Observation tool). All demo participants have been interviewed. Three out of four participants (77%) work at the local area and they were farmers (50%) and/or advisers (42%). There were also one student and one forester (Pre demonstration survey participant). All participants stated that they were part of the same farmer network. The interviewed participants agreed or strongly agreed that they have actively been involved during the whole demonstration process (Post participant's survey).

I explain the system and how it works at the office where we have the system ... [So they can see the control panels ...] yes, where they can ... [How you make your decisions ...] how I perform, and then in the production hall we can see the results.

[So, at the beginning you give a little explanation of your system at the office and then ...] Yes, even some resources we can see outside the building different silage, external environment, the level of the water tank and so on, and then we see in situ, inside the farm in the production environment. [So inside you can see the results of the system.]Exactly, it is what I have told in the previous answer. That they (participants) can see all in situ; that it is not a laboratory; that it is a real farm environment and that they can see it working. Then, they can observe how these animals are and their welfare conditions and the air conditioning which is properly adapted to the environment. Thus, we can talk about the productive outcomes and resulting improvements ... well, a bit ...] [Data over all ...] Technical data and data on results. (Farmer)

9. Frequency

The host farmer hosts more than 15 demonstration events per year (Farmer).

10. Duration

The specific demonstration event's duration was approximately 3 hours (Observation tool).

11.Accessibility

According to the pre demonstration participant survey, the travel time of all participants to reach the demo farm, was 60 minutes. However, the observation tool mentioned that the participants travelled for 2.5 hours together to the demonstration and they are from the same region. Every other participant interviewed (50%) rated its effort to participate as negligible or very little effort. Approximately 42% of participants have rated their travel effort to participate as little effort or quite some effort (Pre demonstration survey participant). Finally one participant (8%) has rated his travel effort to participate as the greatest possible effort.

12. Fees for participation

At the specific demonstration event, there were no attendance/participation fees charged (*Post demonstration participants*).

4. Functional characteristics

T1: Coordinating effective recruitment of host farmers and participants

13.Incentives

There was some public support, but predominantly the farmers used their own funds and focused the money on generating income for the project.

Well, what we usually use is our own funds, we had some public support, that we got some prize for participation in an acceleration programme and then we also focus it as a marketing strategy that can bring more sales. (Farmer)

14. Motivations for host farmers

Host farmers were motivated by a personal connection to the project that they are presenting, and a personal passion for showcasing a working family farm in a 'real environment'.

Well, because of the economic aspect, to show the product and see how it works in a real farming and well, in a family farm in a real environment. Is that you have something like a closer connection because it is a farm we had to rebuilt and which hat a problem, and the ventilation as well, and well... well, to transmit this technology base applied to this real environment and which truly works. (Farmer)

15. Motivations for participants

Participants were motivated by learning about the specific issue of ventilation and air conditioning, and the possible solutions that could be applied to their own farms.

It is a project which is was carried out as an ad hoc project and which is exclusive for this farm and that there was a huge problem with air conditioning and that this issue can be interesting to the farmers for its application in their own farms (Farmer)

16.Target audience

The target audience was broad, including: primary producers, companies that manufacture animal feed, logistic companies, cooperatives, stockbreeders mainly focused on pig farming, veterinarians, technical specialists, non-profit associations, mass media responsible persons.

17. Advertising and recruitment

Participants were not targeted, and the farmer gave no details as to how the events were advertised.

T2: Appropriate demonstration and interaction approaches

1. The nature of interaction

The Farmer described the nature of interaction as 'entirely bottom-up', emphasising that the personal relationship between host and participants. The approach appears to be farmer-to-farmer in its truest sense.

I think it would be "bottom-up". I mean, having a personal relationship mainly, not personal but rather an interaction with the farmer himself, farmer-to-farmer. (Farmer)

2. Involving farmers in the learning process and the demonstration programme

Participants' involvement in demonstrations consisted of being able to interact with questions and raise doubts that they have.

They have the possibility to participate in a real environment, enter the farm and we demonstrate all in situ. [How do they interact? With questions, how do they interact with?] It would be ideal, that they would interact with questions, logically. What we are looking for is they raise doubts and questions, they can have. (Farmer)

3. Focus

The farmer described the network as 'whole farm', as opposed to single focused.

4. Design

The Farmer described the network as 'exemplary' and expressed a preference for this approach. The farms that hosted demos were best practice cases, because they 'improve and apply the productive cycle and the animal welfare' as well as reducing external inputs, such as energy.

5. Group size

The optimal group size was 10, because any more than that and the animals can get stressed. As well as this, with more people biosafety becomes a more complicated issue. The Farmer added that depending on the set up of the demo farm it may be possible to have a greater number of participants (i.e. if the animals can be viewed without entering the production hall).

I believe that 10 people are enough for a visit because of the issue of biosafety and to avoid stressing the animals as we always enter the production hall, so that animals can remain calm. [And now, you could give explanations to more people if not this issue, there could be more than ten people if not the problem of ... eh ...] Yes, yes, provided that we not enter the farm building, where the production environment is and where we can see animals, we can always extend the group of participants. (Farmer)

T3: Enabling learning appropriate to purpose, audience, context

6. Facilitating interaction and learning: structure, content and techniques

The structure of the day consisted of a tour of the office where the air conditioning system was held, and an explanation of how it works, followed by a tour of the production hall to demonstrate the results of the system. There was also an opportunity to look at resources outside of the production building, such as the water tank and silage storage. The focus appeared to be on presenting the whole farm system in situ.

I explain the system and how it works at the office where we have the system ... [So they can see the control panels ...] Yes, yes, where they can ... [How you make your decisions ...] How I perform, and then in the production hall we can see the results. [So, at the beginning you give a little explanation of your system at the office and then ...] Yes, even some resources we can see outside the building different silage, external environment, the level of the water tank and so on, and then we see in situ, inside the farm in the production environment. [So inside you can see the results of the system] (Farmer)

Exactly, it is what I have told in the previous answer. That they (participants) can see all in situ; that it is not a laboratory; that it is a real farm environment and that they can see it working. Then, they can observe how these animals are and their welfare conditions and the air conditioning which is properly adapted to the environment. (Farmer)

No supplementary materials were provided to participants.

The Farmer cited 'Good quality expert advice & technical presentations' as the most important tool for engaging participants because this was the best way to resolve any doubts that were raised. The farmer did add that there was a balance to be achieved here, and that it was best to avoid getting too technical.

Yes, I believe, that to explain technically the product without entering issues which can be too technical, logically, to interact with a farmer. And then, well, that every doubt or question they raise, I can resolve them. (Farmer)

7. Taking into account variation in learning

The Farmer expressed an effort to accommodate different learning styles, but this was mostly a matter of considering whether the audience consisted of farmers, vets or technical professionals. Prior knowledge and main interests of these groups was taken into account when giving a presentation, for example when dealing with farmers, the host farmer focused on the production side rather than the technical side of things.

Yes, yes, it is not the same to deal with a technical professional, a veterinarian or a farmer. [If the topic is more technical you focus more on the technical aspects...]

Yes, I do not go into any more detail or I explain the technical issue directly. In contrast, if I deal with a farmer, I talk more about production. (Farmer)

T4: Effective follow-up activities

8. Follow-up activities and materials

The farmer made an effort to engage with participants after the event by contacting them personally, either through social networks or by email.

Yes, I try ... I try to do it contacting them (participants) social networks or writing them per email or calling them on the phone or face-to-face. In other words, being in a personal contact, talking with them. (Farmer)

No follow-up materials were provided after the event.

9. Assessing impact

The impact of the event was not assessed amongst participants, although the Farmer expressed that it would be interesting to do so. Likewise, there was no assessing the impact of the events in the wider farming community, but they would consider doing this in the future.

It would be interesting to see the participation level with the people you interact after the visit. (Farmer)

5. Event analysis: effective peer learning characteristics

Event details

The group consisted of about 12 participants and all of them filled in the pre and post survey. Nobody works in the local area.

	n° survey participants	Adviser	Adviser pig production	Farmer
Occupations	12	1	1	10
Gender	12			
Male	9			9
Female	3	1	1	1
Age	12			
18-30	12	1	1	10
31-40				
41-50				
51-60				
60+				

T1: Learning processes

1 Communication initiation by participants

70% of the participants had no problem sharing their knowledge and experiences related to the topic, when in bigger groups. They knew each other, so in smaller groups everyone had no problem sharing. There was a lot of time for questions, about 45 min, and a lot of questions were asked. About 50 percent of the participants formulated their own points of view regarding the topic at the end of the demonstration.

	participant answers					
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable	
I had the feeling that I could share my own knowledge as relevant information.	0	0	2/12	10/12	0	
I asked at least one question during the demonstration .	8/12 yes					
I shared my own point of view at least once during the demonstration.	4/12 yes					
I felt encouraged to ask questions during the demonstration.	0	0	1/12	11/12	0	
When there were any discussions, I felt comfortable sharing my opinion.	0	0	0	12/12	0	

2 Interactive knowledge creation

Hands-on opportunities and other multi-sensorial experiences

Participants could only see the result of the AUTOFARM system. They could touch the pigs and analyse the environment (temperature, humidity, etc. ...) throughout the farm where all the facilities were visited. More than one hands-on activity was demonstrated very clearly and the participants could participate in hands-on activities and got feedback on their doing. The participants were able to try the AUTOFARM system, touch the sensors and manage environmental parameters. Participants could clearly participate (open close windows, cut water circuits, etc.). The demonstrator allowed farmers to enter data into the system and see the results of on-site tests.

Discussion opportunities and negotiating conflicting points of view

There was a facilitator available to the participants to solve the doubts on how to implement the monitoring in the milk production farms. The system is very interesting for young farmers, especially how to apply AUTOFARM to other types of production. Open discussions were stimulated and given a lot of time (15%). Everyone understood the AUTOFARM system perfectly and it was made sure that everybody understood the shared critical points of view.

	participant answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
In my opinion, there were interesting discussions during the demonstration.	0	0	2/12	10/12	0
If participants didn't agree with each other during discussions, somebody (demonstrator/other participant) tried to reach a consensus between them.	0	0	8/12	4/12	0

3 Engagement during the event

Participants act like a group of friends who know each other really well. They travelled for 2.5 hours together to the demonstration and they are from the same region so they acted very close. The demonstrator already knew part of the participants through other training sessions of the cooperative and acted as friends with the participants.

	participant answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
I felt actively involved during the whole demonstration process.	0	0	1/12	11/12	0
I felt like the demonstration increased my ability to rely on myself as a farmer.	0	0	0	12/12	0
I could relate well to other participants (because they have an agricultural background similar to mine).	0	0	4/12	8/12	0
A lot of the other participants are part of the same farmer network as me.	0	0	1/12	11/12	0
I felt like I could trust the knowledge of (most of) the other participants.	0	0	5/12	7/12	0
The demonstration felt like an informal activity to me.	0	0	2/12	10/12	0
l thought the host farm was comparable enough to my own farm.	0	0	2/12	10/12	0
I had the feeling the demonstrator was like one of us.	0	0	2/12	10/12	0
I had the feeling I could trust the demonstrators knowledge.	0	0	3/12	9/12	0
l got along very well with the demonstrator.	0	0	0	12/12	0

T2: Learning outcomes

Explained knowledge was very clearly understandable. Skills were addressed carefully and effectively to foster maximum uptake by participants. The demonstrator is the owner of the farm. He designed and implemented the system and that made it very clear. This allowed clear and concrete knowledge transfer. It was a very interactive demonstration, the group consisted of 12 people and that allowed to be very practical the demonstration. Common methods or ways of thinking on farming were questioned and alternatives were shortly elaborated on in group. Common methods or ways of thinking on learning were questioned, but no elaboration on alternatives. There was no group discussion about this.

	participant answers				
What would you ideally like to learn today?	Resource efficiency; How I can do pig production; Resource management; Animal weight control; To reduce the environmental impact of my farm; To work with system monitoring; Control water consumption ; Control of environmental parameters in farms				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
The demonstration met my expectations regarding what I wanted to learn.	0	0	2/12	10/12	0
The demonstration exceeded my expectations.	0	0	3/12	9/12	0
I felt surprised at some point(s) during the demonstration.	0	0	3/12	9/12	0
I obtained a clearer understanding of the topic(s) demonstrated.	0	0	1/12	11/12	0
I have the feeling I learned something new (knowledge, skill, practice, etc.).	0	0	1/12	11/12	0
I thought about how I could implement some of the ideas and practices on my own farm.	0	0	1/12	11/12	0
I reflected on my own point of view at some point during the demonstration.	0	0	5/12	7/12	0
I learnt about the principles underlying a practice.	0	0	1/12	11/12	0
I thought about how we learn something new on demonstrations (e.g.: teaching methods).	0	0	0	12/12	0
I thought about why I want to learn about the topic(s) of this demonstration.	0	0	2/12	10/12	0

T3: Overall comments on the effectiveness of the event

Participants:

With an average of 5 on 5, participants rated the event overall as the most effective it can get. 12 on 12 of the participants who answered the questions would recommend the demonstration.

Participants didn't mention any specific effective characteristics of the demo or suggestion on how to improve the demo.