



**AGRIDEMO**

## Case study reports: Sweden CS2



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# 1. Background

## The Demonstration farm network – Farming In Balance

The Odling In Balance project started in 1992 by farmers who wanted to work for a more sustainable farm production. It is based on 17 Swedish pilot farms that work together with several stakeholders, researcher, and advisers with several projects. It is a multi-partner project. The OiB farms are showing trials and good management examples to other farmers. The OiB farm network meet at different farms together with stakeholders and academics, several times per year.

The farm network focuses on both production and environmental issues. The OiB network was an early developer of the nutrient balance method to evaluate fertilisation efficiency and environmental impact due to how and when fertilisation is applied. A huge amount of data has been gathered from the farms and a system with environmental indicators has been developed by the farm network. The nutrient balance method and the environmental indicators have later been adopted by the Swedish voluntary advisory system "Focus on nutrient". Example of questions that have been addressed in the OiB-project are;

- How to reduce eutrophication?
- How to fertilise optimally for both environment and economy?
- How to avoid soil compaction?
- How to increase energy efficiency on the farm?
- How to exchange fossil fuel with biofuel?
- How to increase biodiversity?
- How to use conservation agriculture?
- How to get to a sustainable use of pesticides (IPM)?
- How to set up a healthy crop rotation plan?
- How to increase yield without increasing environmental impacts?
- How to set up a sustainable water management?
- How to work to reduce climate emissions during production etc.

A motto of the network is that it needs to be balance between ecology and economy in production. The production needs to be economic but shall not affect the environmental in a bad way, and it shall support a sustainable production in the long perspective.

Innovations have been taken up and tested on the farms. When they are ready they have been available to disseminate to other farmers. One such example of an innovation from OiB is the biobed, which now are established on many farms in Sweden and the concept have been spread to farms in the whole world. An ongoing example of an innovation is called SamZones, which is about how to set up multifunctional protection zones to both promote and protect the environment and production. This farm demonstration event concentrates on the multifunctional buffer zones.

## Actors and networks

The pilot farmers consist of ordinary conventional and organic farmers. The manager of OiB together with the farmer arrange and administers workshops and seminars, writes reports and are responsible for gathering data and samples from the pilot farms. Demonstrations on the farms are often facilitated in collaboration between the farmer and the manager of OiB or between the farmers and the visitors. The most demonstration activities are a specific group invited, but sometimes it is an open invitation. Once a year there are a large seminar arranged with a topical theme, with an open invitation. At that event different groups are attending the meeting such as farmers, advisers, suppliers, researchers, authorities and NGO.

## How it works

- The OiB network choose among different projects to choose demonstrations activities suited to OiB purpose and goal.

- OiB is applying for money from a financing institution or from someone in the agronomic business that they collaborate with
- Many of the project is developed in close collaboration with farmers, advisers, researchers, suppliers, and sometimes NGO.
- Tests and field trials are set up.
- OiB experiences findings from the studies or the field trial are analysed and summarised.
- OiB experiences and findings from the studies or the field trial are communicated during demonstration on farms and on conferences and the farms are open for visits.
- Results are published in press and in scientific magazines.

### **Funding arrangements**

OiB is funded by research and development projects and by the stakeholders linked to the network. The OiB works is steered by a group of independent scientist and representatives from agricultural organisations that are stakeholders. The pilot farms are chosen to represent different productions and are situated in the South of Sweden in areas where there is dense arable agricultural production. Demonstration activities arranged are often free for visiting farmers. Many of the demonstrations on the farms are arrange voluntary by the farmers, some the farmers are paid by the group that is visiting the farm.



## 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 1) and farm level interviews with demonstrators/hosts (Level 1) to reveal how the functional and structural characteristics enable learning. Analysis of these interviews is reported in Sections 3 and 4. Data is sourced from interviews with 2 Programme/Network members were interviewed and the farmer that organise this demonstration in august 2018, and with some of the participants during the demonstration activity. The analysis followed 4 themes: (1) Coordinating effective recruitment of host farmers and participants, (2) Appropriate demonstration and interaction approaches (3) Enabling learning appropriate to purpose, audience, context, (4) 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 3 post demonstration surveys for participants 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. The workshop for the Danish and Swedish case studies was held on the 17<sup>th</sup> of October, 2018.

## 3. Structural characteristics

### T1: Programme/network level

This demonstration activity was arranged by a farmer near Ystad in collaboration with the manager of OiB. The demonstration activity on the farm was part of a development project called SamZones. Participants from the project were also engaged in the planning of the demonstration.

### T2: Farm (event) level

#### 1. Event Farm and location

The farm is a mixed farm with both arable and meat production. The farm is situated in South Sweden near Ystad, in Scania (Skåne). The farm has been a member of OiB since many years. There are pig and meat production from beef cattle grazing in field. The demonstration was focused on the arable production and specially the multifunctional buffer strips, called SamZones. All topics were discussed and agreed with the farmer (Farmer).

#### 2. Event

Before the field demonstration, a project working group consisting of farmers, advisers, authority, experts and industry partners had a meeting. After the project meeting everyone was visiting the farm and fields with buffer strips with different herbs and grass species on. There were more people joining the visit in the field. After the field visit a meeting on the farm was arranged. At the farm, the visitors were welcomed by the farmers he told the story about the farm and basic information about the crops and the animal production. The OiB manager spoke about the Farming In Balance (OiB) concept. Also, some of the stakeholders in OiB told their view on why they are engaged in the Farming in Balance concept. Some of the participants asked questions during the meeting at the farm.

The farmer classified the event as a mixture of exemplary and experimental approach which falls in between a whole farm and single focus dimension.

This visit on the farm was facilitated by the farmer and the manager of OiB. Both have some 6-7 years of experience in demonstrations. Only one of them has reported that he benefited from some kind of training in pedagogic during his academic life, which proved to be useful in demonstrations. Both stated that they could use some, practical/technical (Demonstrator 1) and/or group management/facilitation (demonstrator 2), training could have been useful in their roles.

In the field the farmer showed up the SamZones and told the visitors how he has managed the buffer strips. There was also a visit on another farm with buffer zones. After the field walk the meeting continue the farm, with coffee and small talk. Then the farmer presented his management strategy and their management to balance ecology and economy in a holistic way. The farmer told the story about the farm and their strategy to use the concept of lean for their management on the farm. The farmer is very much involved in the SamZones project and had made an innovation in that project.

Many other steps that increased sustainability have been taken on the farm, a biobed that collects and breaks down pesticides during cleaning of sprayer, integrated plant protection (IPM), efficient fertilisation strategy, healthy crop rotation, roof on the manure wells to reduce ammonia emissions and they have done an energy efficiency survey in order to reduce the use of fossil fuel.

Participants had been targeted/specifically invited to attend the demo (interviewed demonstrators). They travelled from nearby and some from long distance. Participation was free of charge, none of the interviewed participants was compensated (participants' post survey interviews).

No dissemination material has been used during or after the event. Moreover, there is not a formal or informal procedure set to assess the demo event (Farmer).

## 4. Functional characteristics

### T1: Coordinating effective recruitment of host farmers and participants

#### 3. Incentives

Although no financial incentives are offered, costs are covered by whoever arranges the demo events, the cost for food and drinks is covered and they will also pay for farmer's time spent on the visit.

#### 4. Motivations for host farmers

According to the farmer, a key motivation is recognition and validation of what he is doing:

It is a pure pleasure to get a confirmation of one's own thoughts and the organisation's thoughts about good things I do and show up. I want to develop this in a future programme and show it to others, so people will light up. That confirmation is like any nod. [...] It is based on my own driving ability to do something good. (Farmer)

Talking more widely about, he noted the importance of providing demonstration farmers for changing farmers' practice:

The demonstration farms should be able to try and show both what works and what does not work. Demo-farmers are required, which can show other farmers what works. They can show positive examples for other farmers. If there are no demonstration farms that administer and show up news, nothing will happen and there will be no change. (Farmer)

#### 5. Motivations for participants

With respect to what motivates participants to attend, the farmer explained that, for both consumers and other farmers alike, it is largely curiosity and wanting to learn, saying:

It is curiosity and education. People do not know how a farm work. Most consumers are far from production. One example is the field tour we arrange for consumers. Then people come because of pure curiosity, very basic. Afterwards I can hear very positive talks and discussions about farm production. Consumers are happy to know for example that a cow gets a calf every year, etc. Farmers are also coming [be] cause of curiosity. It is not a single farmer who does not want to see how somebody else has their management. Farmer

The farmer explained that the demo topic is the main reason for many farmers:

Yes, before, it was always so that if there were something to eat is attracted more people. But today only farmers who are genuinely interested in the subject come, then they can attend the meeting at any time, and they prioritize it. Farmer

#### 6. Target audience

The target audience includes farmers and others, such as advisers, officials and consumers, although those who usually come on a field walk are officials and advisers. It appears that for an invited demonstration, officials and politicians mainly participate:

If you have a farm that is well-managed, it is a front that can be displayed to other farmers. But when you invite a demonstration, it's usually officials and politicians who come. We also invite the public every summer to show the farm and our production. (Farmer)

Regarding the characteristics of a typical farmer participant, according to the farmer interviewee, they will be forward thinking and have an interest in new issues, and in making a change, and need some practical advice

on the way. There are also advisers of various kinds who want to come to a demonstration, as the farmer explained:

We have many different crops on our farm, i.e. trials with minor use of pesticides on our farm. Connected to those trials we also have a commitment. That is something we have worked with in many years. Sometimes it's just a meeting arranged for advisory to show that a new management works and sometimes it's the growers for a specific crop that is invited. Issues could both be about today management and strategies in the future. (Farmer)

## 7. Advertising and recruitment

Participants are sometimes targeted. It could be a direct invitation, when it is a demonstration in collaboration with the farm network OiB, and then the invitations come through their channels. The farmer explained that targeting depends on the goals:

Sometimes it is a demonstration suited for advisers and sometimes it is for farmers. It is target [ed] depending on what you want to achieve and who you invite. You must match the audience with the invitation. (Farmer)

He said that to be effective in the recruiting the hard to reach group, the recruitment process should be much targeted.

## T2: Appropriate demonstration and interaction approaches

### 1. The nature of interaction

The farmer described the nature of interaction as both top-down and bottom-up, as he explained that it depends on the subject, remarking:

When we are part of ERFA meetings then we share experiences with other farmers. But when we demonstrate results of a project such as SamZones then there's a message we want to bring out. But even then, we feel that we are on the same level as other farmers. (Farmer)

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

When asked about involving farmers, the farmer explained that the farmers had to have the right mind-set for more participatory processes to work but that this is happening now with the interest in environmental topics:

It's a lot of fashion and trends in this. Recipients must be mentally set. They are taking place, modernization and changes all the time now that issues about the environment are top on the list. (Farmer)

Regarding the extent to which participating farmers are involved in individual demonstrations, the farmer explained that they decide together what to show on the farm.

### 3. Focus and Design

With respect to the demo approach the farmer described this as In between whole and single focussed. Regarding the demo design the farmer described this as a mixture of Experimental and Exemplary, he expressed a preference for Exemplary because, as he explained:

The most inspiring thing is to show something that is my own idea, and I can convey my innovation it to someone else. (Farmer)

#### 4. Ideal group size

The farmer considered that the optimal group size was 10-15 people as the group will not be active if it is too large. This size allows the farmers to feel that they belong to the group. He likes to start with coffee and small talk.

### T3: Enabling learning appropriate to purpose, audience, context

#### 1. Facilitating interaction and learning: structure, content and techniques

The farmer felt that an effective structure for a demo event needs:

To start at the farm with a whole farm presentation. But if the theme is about a specific issue this will be presented first. Visitors expect to hear about what is written in the invitation. The things the visitors have seen in field or outside the farm can also be substantiated during a lecture inside. It is important to have a combination of theory and to look at practical things on the farm. It is not necessary to have a practical activity, it is not necessary to have someone driving a machine around. In a larger group it is hard to hear, so the group size need to be kept small. (Farmer)

The farmer described his style as asking questions to the participants so that they are active and feel that they are participating in the event. He explained that a stand up and talk showing a PowerPoint or a map makes them feel passive. When believes interaction is good with two way questioning. His approach is to be direct:

When you are direct it is the best tool, to get participants active. You address someone specific, ask questions and involve the participants. (Farmer)

He does however sometimes show a presentation of the farm with photos or pictures of something what he has done in the previous year, If he has time to prepare.

The farmer cited 'Good quality expert advice & technical presentations' as the most important ... aspect of a demo because it provides some structured substance and complements his experiences, as he explains:

Good quality expert advice and technical presentation creates new interesting conditions for others. It gives the demonstration a structure. Otherwise it can be unstructured. I will compare it with setting an agenda at a meeting. You have expertise and science to talk around. There is substance around what you want to tell the visitors. Then comes my experiences and I can show what I have done. (Farmer)

#### 2. Taking into account variation in learning

The farmer does not take variation in participant learning into account. He remarked that the approach is different depending on who is coming, saying that you need to match the difficulty and complexity of the topic with the audience and the sort of visit.

### T4: Effective follow-up activities

#### 1. Follow-up activities and materials and assessing impact

They do not try to engage with participants after the event, nor do they provide any materials after the event. They sometimes assess the impact of the event amongst participants, but this is informal as he explained:

I see what neighbours do. A visual analysis. (Farmer)

They do not assess the impact of the event in the wider farming community.



## 5. Event analysis: effective peer learning characteristics

### Event details

The group consisted of about 30 participants and 3 of them filled in the post survey.

### T1: Learning processes

#### 1. Communication initiation by participants

More than 50% of the participants had no problem sharing their knowledge and/or experiences related to the topic, when they were in the big group or in smaller groups. It was a positive feeling among the participants. The aim of the meeting before the field visit was to discuss the project. There was some time for questions and a lot of questions were asked. Almost every participant formulated their own points of view regarding the topic. The facilitator encouraged questions and the discussion.

	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	0	3/3	0
I asked at least one question during the demonstration .	3/3 yes				
I shared my own point of view at least once during the demonstration.	2/3 yes				
I felt encouraged to ask questions during the demonstration.	0	0	0	3/3	0
When there were any discussions, I felt comfortable sharing my opinion.	0	0	0	3/3	0

#### 2. Interactive knowledge creation

### *Hands-on opportunities and other multi-sensorial experiences*

The participants go around the field to identify the different species, and tried to observe the benefits for insects, birds and wildlife, by looking at the sunflowers too. There were no hands-on activities demonstrated. Participants could take part in a hands-on activity but didn't get any feedback on their doing. For example, they went to the fields to identify species.

### *Discussion opportunities and negotiating conflicting points of view*

M. A (a board member of OIB) was facilitating the morning session and came with us to the field. H (OIB) was coordinating the organisation of the day and took care of timing of different parts and of some of the presentations.

Open discussions between a few participants were stimulated and shared critical points of view were clarified/rephrased so more people could understand. For example, problems and regulations for the SamZones were discussed. More specifically, the problem of bare soil, because there is a problem with the space for wildlife.

	participant answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
In my opinion, <b>there were interesting discussions</b> during the demonstration.	0	0	0	3/3	0
<b>If participants didn't agree</b> with each other during discussions, somebody (demonstrator/other participant) <b>tried to reach a consensus</b> between them.	0	1/2	1/2	0	0

### 3. Engagement during the event

Participants all seem to know each other well, but are not close friends and the demonstrator acts open and friendly, but not as close friends with the participants. There was a friendly atmosphere during the meeting.

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

## T2: Learning outcomes

Explained knowledge was very clearly understandable. Different issues were explained. Skills were carefully and effectively addressed to foster maximum uptake by participants. SamZones were showed through pictures inside and afterwards also in field. The connection to regulations and subsidies was made. Common methods or ways of thinking on farming and on learning were questioned and alternatives were shortly elaborated on in group. There were discussions on the issues and different goals related to the SamZones. Evidence based literature research was explained with a clear example.

The demonstrators intended for the participants to 'open their eyes that you do not need to do...you shall not stare at only one mixture/compound. Use field edges and create good environments zones. What's important is to show that it really works. One should have had more established options, we have had a hard year this year due to the draught. We did not have the moisture with us this year. They built a seed drill, but you would probably have slim suited seed drill to get better results. Now, the bio drill is very easy for performing sow test and to adjust the settings. Just these experiences enable showcasing of different management. Farmers can pick up different experiences from different places. 'Things that have been bad and things that have been good. '; 'see in practice that it works, and that they get inspired and start at their own farm with a manner of management that suits the local situation.'

	participant answers				
	strongly disagreed	disagreed	agreed	strongly agreed	not applicable
The <b>demonstration met my expectations</b> regarding what I wanted to learn.	0	0	1/3	2/3	0
The <b>demonstration exceeded my expectations.</b>	0	0	3/3	0	0
I <b>felt surprised</b> at some point(s) during the demonstration.	1/3	2/3	0	0	0
I <b>obtained a clearer understanding</b> of the topic(s) demonstrated.	0	0	3/3	0	0
I have the feeling I <b>learned something new</b> (knowledge, skill, practice, etc.).	0	0	2/3	1/3	0
I <b>thought about how I could implement</b> some of the ideas and practices on my own farm.	1/2	0	0	1/2	0
I <b>reflected on my own point of view</b> at some point during the demonstration.	0	0	2/3	1/3	0
I learnt about <b>the principles underlying a practice.</b>	0	0	3/3	0	0
I thought about <b>how we learn something new</b> on demonstrations (e.g.: teaching methods).	0	2/3	1/3	0	0
I thought about <b>why</b> I want to learn about <b>the topic(s) of this demonstration.</b>	1/3	1/3	1/3	0	0

### T3: Overall comments on the effectiveness of the event

#### *Participants:*

With an average of 3,7 on 5, participants rated the event overall as effective. 3 on 3 of the participants who answered the questions would recommend the demonstration.

As effective characteristics of the event, two participants mentioned: To see everything in real, to see that it is working; it was highly relevant subject. Qualitative demonstration farm, the farmer came across skilled as a demonstrator.

One participant mentioned as a suggestion to improve the demonstration: If it is a large group, make sure everybody can hear and see everything.

The main strong aspects of the demonstration included the many actors together, which gave an excellent synergy effect. They also included the examples of improvements able to be seen in the field, as well as a map of farms so one could get an even better idea of how close to the water we were.

The people who came only to the field visit, might have needed a little more explanation about the mixtures and SamZones. The general impression about this demonstration was that it was a very good and interesting one!