



AGRIDEMO

Case study reports: Austria CS1



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1. Background

Network

In CS 1 the main actors of the networks present were the agricultural chamber, the advisory for soil and water protection, companies, AGES, farmers, the host farmer and media channels.

Farm facts and location

The farm of MK & FK (50 ha arable land, 140 fattening pigs) is located in Upper Austria and is an example of a farm well connected to agricultural organisations. They have a long history of demonstration activities on their fields, which range from various crop trials to fungicide and growth regulator tests and experiments with soil and plant aid agents. The agricultural holding is working very closely with the agricultural chamber of Upper Austria. They also collaborate with AGES and private companies which can rent fields for their experiments and tests. The farm of the family organises field days already since 12 years; in the first year around 50 to 60 people participated and in 2017 already approximately 800 people (personal communication farm K., 2018).

Event details

The demonstration event took place in June 2018 and was organised with a total of 350 participants (split up in groups of approx. 30-50). 10 demonstrations as a field walk were organised: 1. fertilisation of winter rape, 2. fungicides in winter barley, 3. winter barley varieties, 4. winter rape varieties, 5. under sown crops and herbicides in grain maize, 6. N-fertilisation in winter wheat, 7. varieties and sowing density of winter wheat, 8. growth regulators for winter barley, 9. varieties and sowing density of winter barley, 10 varieties of winter wheat. A few hands-on tools (testing nitrate levels in water) and some multisensory activities (touching and looking at crops and roots) were available for the farmers, There was rather little time for formulating questions, however the discussion were lively once they started. The limited discussions in smaller groups maybe have been caused by the heavy rainfall that encouraged the participants to move further from station to stations rather than staying in the rain for long discussions. The host farmer provided trial areas for the experiments of the agricultural chamber and other participating organisations. The organisations benefit from the large range of the event and the huge amount of participants. In cooperation with agricultural companies machineries were exhibited and subsequently tested on the host farmer's fields. AGES was mentioned as one key player for knowledge transfer to the farmers. A report of the local television channel made the main contents of the field day available for a broader audience.

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 (Level 1) and Farm level interviews with demonstrators/hosts (Level 2) to reveal how the functional and structural characteristics enable learning. Analysis is reported in Sections 3 and 4. Data is sourced from interviews with 3 Programme/Network members and 1 Farm level interviewee. The analysis followed 4 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 6 pre-demonstration participant surveys, 1 pre-demonstration facilitator survey 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, workshops were organised in September 2018 with the aim to introduce the project Agri-Demo-F2F and the two Austrian case studies in detail to members of the agricultural chamber (WS 1) and to demonstrators and participants of the demo events as well as two external stakeholders (WS 2). Furthermore, the workshop participants, who have experiences in demonstration activities in their provinces, were asked to contribute to key structural/functional characteristics of effective on-farm demonstrations. Afterwards, they discussed about 'barriers' (issues/challenges) and 'drivers' of on-farm demonstrations in Austria and gave examples for best practices from their regions.

3. Structural Characteristics

T1: Programme/network level

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

AGES (Austrian Agency for Health and Food Safety) is responsible for variety testing throughout Austria. It leases fields in different farms to conduct trials and compare results. AGES' department role is to test and present new varieties (Programme interviewee 1).

The Agricultural Chamber of Upper Austria holds the main responsibility in the organisation of events. It also conducts experiments at the host farmer's location, and together they plan the route for the field day.

Private advisers are organised in a steering group which meets 2 times per year for discussions, coordination, personal management, annual planning, and presentation of the business report. Within formed working groups the advisers together with the so called 'water farmers' (which are heads of the work groups and are trained by the consultancy for soil and water protection) manage the network/programme (Programme interviewee 2).

Training organisations, such as the rural institute for advanced training, is responsible for specific trials, such as plant protecting issues. They engage experts as facilitators/demonstrators. (Programme interviewee 2)

Host farmers engage in the selection of topics and the organisation of the event. (Programme interviewee 1)

All actors above are engaged into assessing the event and planning future steps.

In the end we (AGES, agricultural chamber, farmers, demonstrators) pass the event in review and think about possible improvements for the future. (Farmer)

Participants' ideas are included in the demo set-up. Results from an event in autumn for example are discussed with farmers, advisers and researchers. Their suggestions are taken into account for the follow-up event in spring. (Farmer)

2. Networks

All programme interviewees stated that actors involved are well connected at both national and international level, as well as among themselves. Cooperating organisations and bodies use those links to inform and increase outreach and impact of demos.

In Austria AGES conducts variety testing within 9 experimental stations throughout Austria. There is no international cooperation.

I collaborate with BOKU Vienna (University of Natural Resources and Life Sciences) and the agricultural school in St. Florian (upper Austria) to a limited extent. (Programme interviewee 1)

We are well connected to other work groups and committees like the Advisory for soil protection in Vienna, the ministry, universities (Boku, Vienna), partner organisations in Bavaria (Bavarian regional office for agriculture), the machinery ring of upper Austria, schools, the Federal Environment Agency (excursion delegations from Morocco or Jordan), the ministry (....) The connection focuses on Austria and partly on Bavaria or foreign countries due to excursions. (Programme interviewee 2)

I have good connections to other federal states like lower Austria, Burgenland, Styria, and Carinthia. Furthermore I am well connected to the Austrian Agency for Health and Food Safety (AGES), the agricultural ministry, RWA (Raiffeisen Goods Austria) and the chemical industry including companies like: Bayer, BASF Austria, Syngenta, Kwizda, Nufarm Austria, Belchim Crop

Protection, FMC, Adama Austria, Plantana and Certis Europe. The connections are mostly national and partly international (e.g. the Bavarian regional office). (Programme interviewee 3)

3. Funding arrangements

All institutional actors are either directly or indirectly funded for their involvement in organised demonstration activities by the national or local government. In specific cases commercial/supply case companies also pay for variety testing.

Variety testing is task of the state. Seed companies pay fixed tariffs for variety testing. We have core financing from the agricultural chamber but no special funding. (Programme interviewee 1)

The budget is provided by the division 'soil water management'. Therefore an annual decision of the state parliament is necessary. (Programme interviewee 2)

For the division crop protection there is no funding any more, in former times there was a federation-federal state-funding pool. Now (...) we have to submit a project proposal every two years which is supervised by a coordination office of the 'agricultural chamber Austria' in Vienna. (Programme interviewee 3)

T2: Farm (event) level

The farmer has a 30-years long experience in experimental farming and demonstration activities.

In 1985 I started with silage maize trials. In 1987 I started to cooperate with the agricultural chamber. 1991-1997: crop rotation trial with 16 replicates. Since 1995 variety testing on grain maize, silage maize, wheat and barley. Since 1999 Trials on crop protection and fertilisation in cooperation with the agricultural chamber. Since 2000 fertilisation trials with AGRO Linz and other companies. Since 2004 my fields are one of AGES's trial sites. Since 200 all our experiments are set up in 4 replications. (Post host farmer interview)

The farm hosts a variety of events each year with multiple objectives and target groups. Moreover, the farmer's experience has guided his selection of demo topics and objectives to meet the farmer community needs.

(We host) ... annual field days, 10 excursions per year, pupils visit the farm once a week. (Post host farmer interview)

(...), we aim to present a broad range of varieties from different companies and point out also those with low yield levels for example. Independence of companies and politics is important for us. (Post host farmer interview)

Although the demo farm is connected to the agricultural chamber and AGES (which summarize and compare experimental results) it does not consider itself as part of a programme or wider network. The farmer holds a decisive role in deciding on the when's and how's of hosted demos.

(...) AGES for example comes up with ideas for our farm but we decide whether we implement them or not. But we are not involved in any demonstrations on other farms (post host farmer interview).

Financial support of demos is rather limited despite the long-standing relationship of the farm/farmer with AGES and the agricultural chamber. It seems that the overall power of the demo stems from the clear division of roles and alignment of strengths, objectives and aspirations among actors.

(...) The family acts as manpower, the agricultural chamber is the interface to companies, AGES (Austrian Agency for Health and Food Safety) supports with the experimental set-up and also

acts as demonstrator. (...) We receive small financial support from the agricultural chamber (...) but we are not part of any funding programmes. AGES also pays a small financial compensation for leasing 7 of our fields but this is no funding arrangement but just a compensation for work effort. Last year we awarded the Austrian innovation prize that is endowed with 500 Euro.

The host farmer acted also as a demonstrator whereas the multiple demo trials were served by experts/facilitators of collaborating organisations.

There was a facilitator at each 10 topics, as well as a person who guided the group from one spot to another. The facilitators/demonstrators were from the organisations that were responsible for the demonstration (observation tool).

1. Location and layout

The farm is located in Upper Austria. It is an average sized farm (50 ha arable land and 150 fattening pigs) cultivating maize, barley, rapeseed, soya, biodiversity fields as well as permanent grassland (post host farmer interview). The farm offered ample opportunities for demo experiments on several fields as comparisons in multiple fields while agricultural machinery was also showcased.

Size and design of demo: big field experiments, on several fields, e.g. small plots with several winter wheat varieties - also old varieties (observation tool).

2. Practice/technology demonstrated

The rich host farmer's experience in demonstrations and experimental trials has resulted to a multifaceted set of comparisons fields covering a wide set of demo topics.

(the farm had) 10 trials on: 1. fertilisation of winter rape, 2. fungicides in winter barley, 3. winter barley varieties, 4. winter rape varieties, 5. under sown crops and herbicides in grain maize, 6. N-fertilisation in winter wheat, 7. varieties and sowing density of winter wheat, 8. growth regulators for winter barley, 9. varieties and sowing density of winter barley, 10 varieties of winter wheat (observation tool).

The farmer's collaboration with apex organisations and national bodies equipped him with a plethora of materials which he availed to participants.

We provide a printed field guidebook including explanations and results, posters, brochures, presentation boards, Links, printed results, references for downloads from our and partner homepages (e.g. PPT presentations). (Farmer)

3. Frequency, duration and timing

The farmer runs this specific annual field day since 15 years. This time the event took place in the afternoon of a day in June, 2018 and its duration was three (3) hours (17.00 – 20.00).

It should be noted that trial/demo results are presented in a follow-up event organised in autumn. (Farmer)

Impressively wide attendance numbers -some 350 participants in total- indicate that the event is a milestone in local farming communities. Most farmers found it rather easy to join, with only a few reporting a travel time to attend that exceeds 45 minutes (pre survey participants' tool).

4. Functional characteristics

T1: Coordinating effective recruitment of host farmers and participants

1. Incentives

Although the Farmer was compensated for their involvement, he received a modest amount of money.

We receive small financial support from the agricultural chamber, according to their financial resources, but we are not part of any funding programmes. AGES also pays a small financial compensation for leasing 7 of our fields but this is no funding arrangement but just a compensation for work effort. (Farmer)

According to the Programme Interviewees, funding was increasingly limited, coming via the agricultural chamber. They reiterated that any funding was intended as a compensation, rather than a payment.

There are no monetary incentives except taking over the arising expenses for a demonstration event. (Programme Interviewee 2)

Farmers obtain a low financial compensation for the experiments but I would call this only a tiny incentive. (Programme Interviewee 3)

2. Motivations for host farmers

The Farmer was motivated by a desire to transfer 'curiosity and interest to others'. He also added that demonstrations provide the opportunity to see developments in agricultural machinery first hand and noted how economic benefit has never been a motivation for them.

Our field days also include machinery exhibitions. Companies often offer us to test their agricultural machines. Hence we become familiar with new technologies and the companies get the chance for advertising their products at our field days. This is a win-win-situation for both. Economic benefit has never been a motivation or reason of us! (Farmer)

Programme Interviewee 1 noted how the Farmer (CS1), was naturally oriented to delivering demonstrations.

[The Farmer has expressed a] keen interest since school days, has closely cooperated with the agricultural chamber, and has curiosity [...] As a teacher at an agricultural school he also attaches importance to knowledge transfer for pupils. Social standing is no motivation. (Programme Interviewee 1)

Programme Interviewees 2 and 3 reiterated the importance of a personal desire to want to deliver demonstrations, rather than a desire for financial benefit. In terms of tangible benefit, Programme Interviewee 3 recognised how – by becoming host farmers – farmers expand their own network.

Overall interest in plant production and in forwarding the information to colleagues. The focus is on personal conviction rather than economic benefit. Our water farmers only get 150 Euros for their activities. (Programme Interviewee 2)

I can exclude economic benefit as a motivation. Host farmers want to expand their own knowledge, social standing in the region may be a reason too. Host farmers gain personal benefit due to close contact to advisers also beyond and above the agricultural holding. (Programme Interviewee 3)

3. Motivations for participants

The Farmer felt participants were particularly attracted to their events because of their independence from companies; he felt that participants were therefore more likely to trust their advice.

Because we are independent of any companies, participants appreciate independent statements [...] we aim to present a broad range of varieties from different companies and point out also those with low yield levels for example. Independence of companies and politics is important for us. (Farmer)

Programme Interviewee 1 suggested that the access to other farmers and the informal knowledge exchange associated with this, was a key motivation for farmers. The social aspect should not be underestimated either.

The communication between the farmers and their exchange of knowledge could be a motivation factor. Last but not least the cosy get-together with food and beer in the end is a great trigger factor. (Programme Interviewee 1)

The second Programme Interviewee highlighted the importance of content; particularly attractive for participants was the exhibition of machinery, as well as novel speakers.. By attending demonstration events, farmers can work towards their certificates of competence; which makes it a significant motivation for participants.

Technique (machinery exhibition) is a big trigger factor, interesting and new speakers, and confirmations for ÖPUL interventions or certificates of competence too. (Programme Interviewee 2)

Farmers obtain points for their certificate of competence by attending a demonstration event. (Programme Interviewee 3)

Participants stated as motivations to attend this demo: interested in progress concerning plant breeding and crop protection; comparing with others, get to learn something new; exchange of experience; exchange of views with farmers; continuing education; experiments; interest; machinery exhibition; unaltered results; school; watching new experiments on varieties and fertilisation and copy them for own farm; experience for the future (on own farm); finding the best varieties for own farm.

4. Advertising and recruitment

The Farmer noted that participants were not specifically targeted for recruitment and that the events were open to a wide range of interested groups.

Everybody who is interested is invited to come, no matter if farmers or others. (Farmer)

The Farmer felt that word-of-mouth advertising was the most effective means of advertising events, although he supplemented this with other platforms, including agricultural chamber communications.

Word-of-mouth advertising is the most effective way, agricultural journals and the newsletter from the agricultural chamber of Upper Austria are also used for advertising events. (Farmer)

One of the Programme Interviewees noted the importance of differentiating the means of advertising and inviting participants. He noted that this needed to be tailored to the age of participants. Interestingly, the means of advertising were broad and varied.

Depending on the age of the target audience the personal, printed invitation, for elder people, or a Facebook post, for the younger ones. The water farmers also use Email and send reminders via SMS or WhatsApp. Water farmers have to comply with a special number of participants that is targeted by the work group. Deductions are made in case of too less participants. (Programme Interviewee 2)

In terms of recruiting traditionally 'hard to reach' farmers or populations, the certificate of competence (discussed above), meant that demonstrations had become of interest to all farmers, who needed to attend such events to achieve their certificate.

We are successful with the certificate of competence, that farmers have to prove. Some pressure is put on the farmers because now they have to pass this kind of advanced training. (Programme Interviewee 3)

One of the Programme Interviewees suggested that providing problem driven demonstrations – which offer a solution to a specific and contemporary problem – was key to recruiting participants.

For example pesticide residues are found in water. Therefore the rural government requires to advise farmers concerning stopping the application of a special pesticide and finding alternatives. I always try to keep in mind the present problems and topics. (Programme Interviewee 3)

T2: Appropriate demonstration and interaction approaches

1. The nature of interaction

The Farmer felt his approach to demonstrating was 'Mostly top down'. Two out of the three Programme Interviewees agreed with this, although one felt it was 'Entirely top down', owing to the direct input from the Agricultural Chamber.

Although the demonstrations had a clear relationship with the Agricultural Chamber, the design of demonstrations and selection of demonstration topics was done closely with farmers and hosts, and often responded to issues farmers were experiencing or facing.

Some special issues are predominated by the host farmer and by the members of the working groups. The presented experiments need to have duration of at least 3 years. Another focus is on news and innovations, for example depending on new products for crop protection. Farmers want to become more familiar with them before using them. (Programme Interviewee 3)

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

According to the Farmer, participants were involved in the development of the demonstrations. There was a strong emphasis on including potential participants in the demonstration-design, and a process in place to ensure this could happen.

Participants' ideas are included in the demo set-up. Results from an event in autumn for example are discussed with farmers, advisers and researchers. Their suggestions are taken into account for the follow-up event in spring. (Farmer)

The Farmer reiterated how demonstration design was a product of cooperation between farmers and other stakeholders. This came through strongly in this Case Study.

They are selected in cooperation between farmers, AGES, the agricultural chamber, the school that I'm teaching at, and me. The main decision is up to the agricultural chamber and me. Current agricultural topics (e.g. pesticide residues in the groundwater) are presented and alternatives are stated. (Farmer)

There was a similar emphasis on the inclusion of host farmers in the design of the overarching programme. Although it appears to be a democratic process, as Programme Interviewee 2 claimed – 'appreciation for the host farmer is of particular importance, the host farmer is the crucial part'.

Host farmers are always involved regardless of they are well known to our network or if they are newly recruited ones. (Programme Interviewee 3)

On the one hand the topics are steered by the programme or network on the other hand the interest of the work group members, which is discussed at the annual meetings, is taken into account. Nevertheless not every wish can be satisfied. (Programme Interviewee 2)

3. Focus and Design

Both the Farmer and two out of the three Programme Interviewees described the network as 'in between' a 'Whole farm' and 'Single focus' approach. The third Programme Interviewee described the network as 'Single focus'.

The Farmer and two out of three Programme Interviewees felt the network approach was also 'a mixture' between an experimental and exemplary design. However, the Farmer felt that a more 'experimental' approach would better fit his farming ethos. All Programme Interviewees recognised the importance of the Farmers' ethos and own preferences.

This choice is influenced by the host farmer, the consultant for agriculture of the agricultural chamber and myself. The approach should be as broad as possible. (Programme Interviewee 1)

'Whole farm' focussed, deploying an approach that was 'a mixture' between experimental and exemplary approaches to demonstration. The Farmer told us how he emphasised the whole system because of the importance of the bigger picture to sustainable farming operations.

I try as less as possible to single out stuff. It's the whole system that... well I can imagine that people who see something interesting here say 'let's try this too' and then it doesn't work, because you need the whole system. (Farmer)

The Programme Interviewee reiterated the importance of a broad approach, particularly to those interested in improving the environmental credentials of their farms.

People who want to start a nature inclusive farm, they have a big list of questions, not only about the trees, crops or agricultural things, but very often more about the financing or how to get approval from the municipality, or how do you get the land to start your farm? So very broad, always very broad. (Programme Interviewee 2)

4. Ideal group size

The Farmer and Programme Interviewees tended to agree about the ideal group size for a demonstration – all suggested around 20 people or under work the best (regardless of type of participant) – although they did recognise that it did depend on the event. Interestingly the Farmer noted how, despite recognising an optimum number, some demonstration days had *a lot more* attending.

20 persons (farmers) per group with almost the same basic knowledge are most effective. Nevertheless, at our field days we have a number of groups with 50 to 80 participants each. (Farmer)

Not more than 20 persons per group is most effective. The type of group is always farmers, no matter which age. (Programme Interviewee 1)

Programme Interviewees 2 and 3 suggested that when groups are bigger, splitting the group into smaller groups was a useful tactic to facilitate discussion.

The optimal group size is 30 people maximum. In case of more participants, they are split up in smaller groups, like at our field days. 15 to 20 people per group would be even more effective because than discussions arise but this is not feasible each time because a certain number of farmers has to be advised. (Programme Interviewee 2)

I prefer 15 to 20 people per group. Above 20, smaller subgroups may split up and discuss a special issue. (Programme Interviewee 3)

T3: Enabling learning appropriate to purpose, audience, context

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

In terms of structuring the day, a clear emphasis was put on combining different elements.

Prefer a combination of demonstrations and oral presentations. Also a machinery exhibition is part of our field days. Versatility is important, as well as food and drinks in the end. (Farmer)

The most effective way is a balance between talk and practical activities. (Programme Interviewee 2)

Programme Interviewee 3 described a very structured, but nonetheless varied, format of their typical events. It also included a social element (meeting in a restaurant), before a field walk. He also noted how, in his experience, farmers preferred evening events and warned against a standalone presentation, without any interactive elements e.g. field walks.

We often meet in a restaurant for discussing before the field walks or also the other way round. The structure of the event also depends on the weather conditions. Farmers prefer evening events. Single presentations that are given in restaurants in front of a huge audience are less effective than events for small groups that are combined with field walks. (Programme Interviewee 3)

The Farmer described a range of tools which he had found useful and was planning for future events. There was a strong emphasis on 'hands on' elements or actually seeing, scope for open discussion or doing things 'in the field'.

Question and answer sessions are most effective. Posters would be effective too. It is important to present topics directly in the field rather than at the meeting point in the machinery hall before the field walks. Hands-on tools or looking in a soil pit would be desirable for future planning. (Programme Interviewee 1)

The Farmer and all three Programme Interviewees listed the ability for 'Participants to ask questions and talk openly' as the most important facet of a demonstration day. As Programme Interviewee 2 noted – 'open discussion is extremely important'. Programme Interviewee 1 suggested that asking questions was a way of telling that participants had listened to the speech.

2. Taking into account variation in learning

The Farmer claimed to 'try to consider each participant's view', although noted that it was often 'not possible at a field day with many participants'. He did however, claim to 'assume participants have basic knowledge' about the demonstration topic.

Two out of the three Programme Interviewees claimed to plan for variation. The both referenced the use of pre-demonstration evaluation of participants' knowledge, which is a novel and important approach. Although, both noted that this is not always possible at smaller events; this may be something to consider developing the provision for in the future.

We partly plan for the variation in learning capacities. In single cases (e.g. a seminar concerning a new programme for the Austrian fertilisation plan) we evaluate participants' knowledge in advance. This is not possible for demonstration events / field days. (Programme Interviewee 2)

In case of small course groups with a more diverse audience like pupils and farmers I ask participants to introduce themselves to ascertain their standard of knowledge. In case of our working groups I know about that in advance. Planning for the variation in learning capacities is not possible at big demo events. (Programme Interviewee 3)

T4: Effective follow-up activities

1. Follow-up activities and materials

The Farmer claimed to continue to engage with participants on an informal level – encouraging them to test what has been presented at the event. The Farmer and the Programme offered a range of materials for participants to access after the event including presentations, figures and other resources; these documents are available online to participants or in hard copy at the event.

I offer my PowerPoint presentation as printed slides before the event and an overview table for pesticides as well as folders on topics like erosion, driftage, resistances, and weeds. The latter are available on the info desk. Information material is also available on our homepage. (Programme Interviewee 3)

Actual information from our network and the agricultural chamber is available on an information desk at each demonstration event. These are brochures, information sheets, etc. Participants collect them before or after the event [...] printed handouts don't show great effect because they aren't read. Therefore, we focus on having a few but precise printed materials with the hint to our email as well as downloads from our homepage. (Programme Interviewee 2)

2. Assessing impact

Nor the Farmer or Programme Interviewees attempted to assess any kind of impact of the demonstration event amongst participants or in the broader context.

5. Event analysis: effective peer learning characteristics

Event details

There were approximately 350 attendees at the event, of which 37 completed the pre and post survey.

| | n° surveys | agricultural master | employee | farmer | pupil | retiree | salesman | adviser | farmer + apprenticeship | training centre + apprenticeship | unknown |
|-----------------------|------------|---------------------|----------|--------|-------|---------|----------|---------|-------------------------|----------------------------------|---------|
| <i>occupations</i> | 37 | 1 | 2 | 15 | 9 | 1 | 1 | 1 | 1 | 1 | 5 |
| <i>working area</i> | 33 | | | | | | | | | | |
| local area | 29 | 1 | 2 | 12 | 6 | 1 | 1 | | 1 | | 5 |
| not local area | 4 | | | 2 | 1 | | | 1 | | | |
| <i>gender</i> | 35 | | | | | | | | | | |
| male | 34 | 1 | 2 | 13 | 9 | 1 | 1 | 1 | 1 | 1 | 4 |
| female | 1 | | | | | | | | | | 1 |
| <i>age</i> | 36 | | | | | | | | | | |
| 18-30 | 24 | | 2 | 10 | 9 | | | | 1 | 1 | 1 |
| 31-40 | 1 | | | 1 | | | | | | | |
| 41-50 | | | | | | | | | | | |
| 51-60 | 7 | 1 | | 2 | | | 1 | | | | 3 |
| 60+ | 4 | | | 2 | | 1 | | 1 | | | |

T1: Learning processes

3. Communication initiation by participants

When in the whole group participants were rather closed and didn't share their knowledge and/or experiences related to the topic willingly. When in small groups between 10% and 50% of the participants had no problem sharing their knowledge and/or experiences related to the topic. In the small groups, when walking in the fields and after the demonstrators had talked, people were opening up and sharing ideas and stories. A little time was made for questions. Some (5-10) questions were asked. There were a few participants trying to formulate their own points of view regarding the topic.

| | participant answers | | | | | | demonstrator answers | | | | |
|--|----------------------|-------------|----------|-------------------|------------------|--|----------------------|-----------|--------|-----------------|----------------|
| | strongly disagreed % | disagreed % | agreed % | strongly agreed % | not applicable % | | strongly disagreed | disagreed | agreed | strongly agreed | not applicable |
| I had the feeling that I could share my own knowledge as relevant information. | 0 | 22 | 42 | 33 | 0 | I asked participants to share some of their own background knowledge during the demo. | 0 | 2/6 | 3/6 | 1/6 | 0 |
| I asked at least one question during the demonstration . | 84% yes | | | | | | | | | | |
| I shared my own point of view at least once during the demonstration. | 68% yes | | | | | | | | | | |
| I felt encouraged to ask questions during the demonstration. | 0 | 11 | 53 | 28 | 0 | I encouraged the participants to formulate their own point of view during the demonstration. | 0 | 0 | 5/6 | 1/6 | 0 |
| When there were any discussions, I felt comfortable sharing my opinion. | 0 | 19 | 42 | 22 | 11 | I encouraged the participants to formulate questions during the demonstration. | 0 | 0 | 3/6 | 3/6 | 0 |
| | | | | | | | | | | | |

4. Interactive knowledge creation

Hands-on opportunities

A hands-on activity on NO₃- measurements of water was demonstrated taking enough time, so it was clear to every participant. No hands-on activity was carried out by participants.

Other multisensorial experiences

It was possible to see and touch the crops, and the roots of rapeseed.

Discussion opportunities and negotiating conflicting points of view

There was a facilitator at each of the 10 topics, as well as a person who guided the group from one spot to another. The facilitators/demonstrators were from the organisations that were responsible for the demonstration.

Open discussions between a few participants were stimulated and shared critical points of view were clarified so more people could understand. The rain probably minimized some discussions in the group. There were although lively discussions about the advantages of old and new wheat varieties, diseases of winter wheat (e.g. fungi) in different years, N fertilisation strategies for wheat with different qualities; N fertilisation strategies (e.g. before winter, slow release fertilisers) for rape; sulphur fertilisation of rape and application of herbicides in rape. Additionally, advantages and disadvantages of different wheat varieties were discussed in the field.

| | participant answers | | | | | demonstrator answers | | | | |
|---|----------------------|-------------|----------|-------------------|------------------|----------------------|-----------|--------|-----------------|----------------|
| | strongly disagreed % | disagreed % | agreed % | strongly agreed % | not applicable % | strongly disagreed | disagreed | agreed | strongly agreed | not applicable |
| In my opinion, there were interesting discussions during the demonstration. | 6 | 8 | 47 | 33 | 6 | 0 | 1/6 | 3/6 | 2/6 | 0 |
| If participants didn't agree with each other during discussions, somebody (demonstrator/other participant) tried to reach a consensus between them. | 3 | 9 | 46 | 29 | 14 | 0 | 2/6 | 4/6 | 0 | 0 |

5. Engagement during the event

Participants all seem to know each other well, but are not close friends. Demonstrators act open and friendly, but not as close friends with the participants. The host farmer was also a demonstrator. Many of the participants said they came because of the host farmer.

| | participant answers | | | | | | demonstrator answers | | | | |
|--|----------------------|-------------|----------|-------------------|------------------|---|--|-----------|--------|-----------------|----------------|
| | strongly disagreed % | disagreed % | agreed % | strongly agreed % | not applicable % | | strongly disagreed | disagreed | agreed | strongly agreed | not applicable |
| I felt actively involved during the whole demonstration process. | 0 | 22 | 59 | 19 | 0 | Were participants (farmers, advisers, researchers etc.) involved in the overall development of this demonstration? If yes, how? | 2/6 answered yes, by discussion and involvement in the planning of the demo event. | | | | |
| I felt like the demonstration increased my ability to rely on myself as a farmer. | 3 | 5 | 57 | 30 | 5 | | | | | | |
| I could relate well to other participants (because they have an agricultural background similar to mine). | 3 | 1 | 54 | 32 | 0 | Most of the participants were well known to me. | 0 | 2/6 | 4/6 | 0 | 0 |
| A lot of the other participants are part of the same farmer network as me. | 8 | 17 | 47 | 28 | 0 | A lot of the participants are part of the same network as me. | 0 | 2/6 | 4/6 | 0 | 0 |
| I felt like I could trust the knowledge of (most of) the other participants. | 3 | 19 | 33 | 42 | 3 | | | | | | |
| The demonstration felt like an informal activity to me. | 3 | 8 | 49 | 41 | 0 | The demonstration felt like an informal activity to me. | 0 | 0 | 2/6 | 4/6 | 0 |
| I thought the host farm was comparable enough to my own farm. | 0 | 28 | 39 | 31 | 3 | I think the host farm was well suited for this demo. | 0 | 0 | 0 | 6/6 | 0 |
| I had the feeling the demonstrator was like one of us. | 3 | 11 | 56 | 31 | 0 | | | | | | |
| I had the feeling I could trust the demonstrators knowledge. | 3 | 6 | 58 | 33 | 0 | | | | | | |
| I got along very well with the demonstrator. | 3 | 11 | 51 | 31 | 3 | I got along well with the participants. | 0 | 0 | 1/6 | 5/6 | 0 |

T2: Learning outcomes

Explained knowledge was sufficiently understandable and practical skills were sufficiently addressed to foster maximum uptake by participants. There was no clear evidence that common methods or ways of thinking on farming and/or on learning were questioned. So at the actual demonstration critical thinking was not fostered

clearly, but this happened extensively afterwards when attendees were having food and drinks together.

| | participant answers | | | | | demonstrator answers | | | | |
|---|---|-------------|----------|-------------------|------------------|--|-----------|--------|-----------------|----------------|
| What would you ideally like to learn today? | most answers contained: crop protection; effects of plant production products, experiments on and characteristics of varieties; drought on arable land, tips, practice-oriented information and solutions, current situation in cereal production; results for experiments on sowing density; indicators for yield level; how to improve arable farming on the own farm | | | | | getting to know new products and new techniques in crop production; agricultural tools for the protection of soil and water; presentation of new varieties; practical experience | | | | |
| | strongly disagreed % | disagreed % | agreed % | strongly agreed % | not applicable % | strongly disagreed | disagreed | agreed | strongly agreed | not applicable |
| The demonstration met my expectations regarding what I wanted to learn. | 3 | 8 | 50 | 39 | 0 | 0 | 0 | 1/6 | 5/6 | 0 |
| The demonstration exceeded my expectations. | 6 | 22 | 36 | 36 | 0 | 0 | 2/6 | 3/6 | 1/6 | 0 |
| I felt surprised at some point(s) during the demonstration. | 3 | 17 | 58 | 28 | 0 | 0 | 4/6 | 1/6 | 0 | 1/6 |
| I obtained a clearer understanding of the topic(s) demonstrated. | 3 | 8 | 58 | 31 | 0 | 0 | 3/6 | 2/6 | 0 | 1/6 |
| I have the feeling I learned something new (knowledge, skill, practice, etc.). | 3 | 8 | 58 | 31 | 0 | 0 | 1/6 | 4/6 | 0 | 1/6 |
| I thought about how I could implement some of the ideas and practices on my own farm. | 8 | 6 | 61 | 25 | 0 | 0 | 3/6 | 2/6 | 1/6 | 0 |
| I reflected on my own point of view at some point during the demonstration. | 3 | 14 | 59 | 24 | 0 | 0 | 1/6 | 4/6 | 1/6 | 0 |
| I learnt about the principles underlying a practice. | 3 | 11 | 56 | 25 | 6 | 0 | 0 | 3/6 | 3/6 | 0 |
| I thought about how we learn something new on demonstrations (e.g.: teaching methods). | 6 | 21 | 44 | 26 | 3 | 0 | 1/6 | 4/6 | 1/6 | 0 |
| I thought about why I want to learn about the topic(s) of this demonstration. | 3 | 26 | 43 | 23 | 6 | 0 | 0 | 5/6 | 1/6 | 0 |
| what do you intend for the participants to learn today? | | | | | | | | | | |
| I think participants have learnt what I intended them to learn. | | | | | | 0 | 0 | 1/6 | 5/6 | 0 |
| I tried to surprise participants with uncommon/new knowledge/new skill. | | | | | | 0 | 2/6 | 3/6 | 1/6 | 0 |
| I felt surprised at some point(s) myself during the demonstration (e.g. by a question or discussion). | | | | | | 0 | 4/6 | 1/6 | 0 | 1/6 |
| I obtained a clearer understanding of the topic(s) myself. | | | | | | 0 | 3/6 | 2/6 | 0 | 1/6 |
| I have the feeling I learned something new during this demo (from participants, discussion...). | | | | | | 0 | 1/6 | 4/6 | 0 | 1/6 |
| I reflected on my own point of view myself at some point during the demo. | | | | | | 0 | 3/6 | 2/6 | 1/6 | 0 |
| I encouraged participants to reflect on their own point of view during this demo. | | | | | | 0 | 1/6 | 4/6 | 1/6 | 0 |
| I encouraged participants to reflect on their own situation sometime during this demo. | | | | | | 0 | 0 | 3/6 | 3/6 | 0 |
| I encouraged participants to reflect on how we learn something new on demonstrations. | | | | | | 0 | 1/6 | 4/6 | 1/6 | 0 |
| I encouraged participants to reflect on why we are trying to learn about the topic of this demonstration | | | | | | 0 | 0 | 5/6 | 1/6 | 0 |

T3: Overall comments on the effectiveness of the event

Participants:

With an average of 3,9 on 5, participants rated the event overall as effective. Everybody who participated in the surveys would recommend the demonstration. They stated as most effective characteristics of the event: exact results from the experiments; the host farmer; good information; field walks; many participants; broad scope; precise experiments and demonstrations.

Most had no suggestions for improvement. Only three commented with: more efficient grouping of participants; precision farming for next generations and 'changes'.

Demonstrator:

The demonstrators reported as most effective characteristics: the practical relevance, variety of experiments, only interested farmers as attendees, lots of experts as demonstrators, the broad scope, the exact experiments and information about listed varieties.

Observed points of improvement

As points of improvement, the demonstrators stated none.

Observed main strong points of the event:

The event was very well structured and organised with guided field walks and printed guidebooks. The host farmer is very interested in research and cooperates with various networks. Another strong aspect is the host farmer's focus on knowledge transfer not only to farmers but also to pupils. The different demonstrators were recognised by the participants as trustworthy and the participants felt as if they could actively participate.