Impact matrix analysis and cost-benefit calculations to improve management **pr**actices regarding health status in **o**rganic dairy farming

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- Deliverable -

D7.6 – Report on regional workshops to feedback and disseminate the results obtained in the project

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Executive Summary

This document reports on 6 workshops held in the 4 main IMPRO study countries (France, Germany, Spain and Sweden) to present and discuss the results of the project to stakeholders in the spring of 2016; 131 non-project people attended the workshops. Widespread interest in the project was shown by attendees, especially at how organic dairying was carried out in the various countries. The project's novel farm level methods to improve herd health on organic dairy farms were seen as positive, especially their participatory approach.

Dissemination Level		
PU	Public	**X**

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Table of Contents

1 Introduction

1.1 Purpose

The purpose of this Deliverable, which forms part of Task 7.3, is to report on 'regional workshops to feedback and disseminate the results obtained in the project'.

The Description of Work makes it quite clear that the target audience should be broader than just the case-study participating farmers in the project and their advisors and veterinarians for it says disseminate 'to stakeholders and advisory services'. In other words, the audience should have people from industry sectors both up-stream from farms and down-stream.

1.2 Procedure

At least one interactive workshop was to be held in each of the four IMPRO study countries: France; Germany; Spain; and Sweden. At these workshops, the results of the project for each of these countries were to be presented, with time being allowed for discussion. Participants were also to be asked for their opinions as to whether the findings were both practicable and feasible at the farm level.

Whilst the discussion was to be audio-taped to enable future analysis, participants were to be assured that no remarks they made would be directly attributed to them by name.

2 Report of outreach workshops in France

2.1 Organisation and structure of the workshops

Two regional workshops were held in France, one in Paris on 10 March 2016, and the other in Rennes on 23 March 2016. The workshop in Paris was attended by 15 people (apart from the ONIRIS project team) while 39 people attended the one in Rennes. The difference in the number of participants between the two sites is probably due to the professional organic dairying network that is more developed in the west of France and the ease of them going to Rennes. When Paris was chosen, the intention was to gather people from the east of France participating in the IMPRO project. However, only one such advisor was able to come to this workshop.

A diverse range of people attended the two workshops which gave rise to much discussion.

At the Paris workshop, attendees included: 4 scientists; 2 veterinarians not involved in the IMPRO project; 2 professors from the National Veterinary School of Nantes; and 7 advisors, 2 of whom specialised in organic farming, one of whom participated in the IMPRO project.

At the Rennes workshop there were: 4 farmers, 3 of whom participated in the IMPRO project; 8 veterinarians, one of whom participated in the IMPRO project; 3 professors of animal science; one engineer from the National Veterinary School of Nantes; 14 advisors of whom 4 specialised in organic farming with one who participated in the IMPRO project; 2 people from the French Livestock Institute; 2 people from the milk recording organisation; 4 veterinary students; and one PhD student in animal health.

The Rennes workshop took up most of the day and the participants were able to exchange views more freely during lunch. Four persons participated in the presentations: Christine Fourichon for the

introduction and the conclusion of the project; Nathalie Bareille, Julie Duval and Manon de Joybert for the rest.

During the workshop the team focussed on presenting the results of WP2, WP3 and WP4. The day was divided into three technical sessions. The current health status of organic dairy cattle in the study countries was described and then the current use of alternative medicines in France and the extent of the use of homeopathy on EU organic dairy farms. The last part was to discuss how to bring adapted advice on to organic farms. An introduction presented the IMPRO project and the workshop ended with a final conclusion session. The three technical parts are summarised below.

2.2 Summary of the discussions

These workshops were a very good opportunity to gather people together with different professional orientations but all linked to organic milk production and herd health for a detailed discussion. The results of the IMPRO project brought out some new information and tools, possibly applicable on farm, perhaps if adapted somewhat. They were a good support for discussion and further work on that topic.

The current health status of organic dairy cattle in the study countries

First, we looked at the farm systems of the study farms in the IMPRO project and discussed the differences found between countries, particularly the level of milk production and the quantity of concentrates used. Sweden has a higher milk yield than the other countries due to more concentrates being fed. Thus, it would have been interesting to have their financial results and details of the efficiency of their farming systems.

The results on health indicators for udder, claw and calf health, metabolic and reproductive disorders were the foundation for discussion by participants around the health status of the organic dairy farms involved in the IMPRO project. We also compared, using the same indicators, organic and conventional dairy farms in France. Again, it would have also been interesting to have their financial results and the efficiency of their farming systems.

Despite the organic regulation, no better health situation was observed for organic dairy farms. Nevertheless, none of the workshop participants agreed to make farmers achieve a minimum animal health level. Along with that, the question was posed that: can we easily monitor minimum standards? Furthermore, the participants were not sure that there is a system that would allow this to happen.

However, it was agreed by participants that very technical and good organic farmers, as well as farmers with a very bad herd health situation exist, as they do in conventional farming. However, there was agreement that, especially for the organic sector, farms with poor results represent a serious threat to the overall image of organic farming.

The current use of alternative medicines in France and the extent of the use of homeopathy on EU organic dairy farms

First, some figures from another French project, ‘CedABio’, were given to participants to help quantify the current use of alternative medicines (phytotherapy, aromatherapy and homeopathy) in France. Whilst conventional and organic farmers make use of it, it is more often used in organic farming. Another result was that organic farmers use fewer antibiotics and give fewer such treatments to their animals.

Then the legislation around the use of antibiotics on farms was presented. There was agreement on the fact that regulations are very vague and need to be updated. Nevertheless, this topic was not the priority of the day, and no such solution was either proposed or discussed.

Finally, the last part of this session was dedicated to the exploratory study of the use of homeopathy on organic dairy farms in Spain, Germany and France. Many participants noticed the gap between farmers using these medicines and veterinarians acting in the field whilst not being qualified to practice in this way. Someone asked about the position of the veterinary school at Nantes in this. Questions that arose were: could they integrate the study of homeopathy into their courses? or, at least, could these issues be discussed with the students?

How to be an advisor in organic farming

The first part of the IMPRO project gave the results of a qualitative interview study on the working relationship between veterinary practitioners and organic farmers, seen from the veterinarians' point of view. According to what they see in their day-to-day work on the few organic farms of their clients, they sometimes can have a bad opinion of organic farming. This negative opinion is based mainly on health situations encountered and does not take into account other positive aspects of organic principles. The discussion turned out to be around the reason why veterinarians focusing on prevention do not manage to work with organic farmers satisfactorily.

Second, the principle behind, and the application of, the Impact Matrix on around 50 farms in France were presented. According to the feedback we had from farmers, veterinarians and advisors who participated in it, the Impact Matrix was thought to be a good tool to get to know a farm system, but it is was not perceived as suited to help find corrective measures in a deteriorated herd health situation. Moreover, it did take a lot of time (around 3 hours) to use in its current format. As such, its design and use should be reconsidered. An alternative approach would be to define first a current health problem to solve, then to define the relevant variables, before using the Impact Matrix.

The participatory method was much appreciated by the workshop participants. Having the main advisors sitting around the table and conversing all together with the farmers permitted them to get one unique message. This led to higher compliance with agreed measures since they all came from a collective of advisors.

Finally, we presented the herd health management programme we put together with the Swedish partner in WP3. The co-construction of this monitoring tool by the farmer and the advisor was explained and the importance of the fact that the farmer could choose his own indictors was validated again during this workshop by the participants. The assessment of pre-defined fixed indicators in the field proved difficult due to restricted data availability. In fact, sometimes farmers did not record anything. It was agreed that the co-construction approach proposed might improve herd health monitoring in general with farmers selecting the indicators they want to use.

The link to the preventive protocols was explained, then coming into use when farmers and advisors receive a herd health alert. The preventive protocols were described as a list of objectives to attain that can be used as a check list for both farmer and advisor. Without any alert, the protocols can also be a support to talk about the farmer's disease prevention strategies.

The regularity of the farm visits fixed in the study (4 visits in one year) was appreciated by the users of the tool; one veterinarian was present during the workshop. However, she thought that the

reporting activities to the researches were too onerous and took her too much time. In her opinion, this reduced the time left for the actual monitoring of the herd.

At the end of the day, we discussed the future aspects of the project, as well as how the results will be transmitted to the field, for farmer training and for advisors' practices.

3 Report of an outreach workshop in Germany

3.1 Organisation and structure of the workshop

In Germany, 5 workshops were originally planned in the areas where the project's study farms are located to enable, and promote, farmers' participation. Those workshops, however, had to be cancelled because of too few registrations. Thus, it was decided to organise one central workshop instead, located in the middle of Germany, on 26 April 2016 at the University of Kassel in Witzenhausen.

Those invited had taken part in earlier IMPRO activities: farmers, advisors and veterinarians involved in farm visits (T2.3); participants in the first round of regional workshops on the identification of system variables (T2.1); and those at the workshops on animal health and options for improvement (2.4). Other stakeholders working in the field of animal health in organic dairy farming in Germany were also invited who were not partners in IMPRO activities e.g. people working for advisory organisations, research institutes, inspection bodies and organic dairies. In total, 26 attended the workshop. They included: 6 farmers, 3 advisors, 4 veterinarians, 6 scientists, 1 dairy representative, 1 organic inspector and 5 agriculture students.

The outline of the workshop, which took up most of a day, and was chaired by Professor Albert Sundrum, leader of the IMPRO project, was as follows:

i) introduction to the IMPRO project;
ii) project farms and levels of production diseases on them;
iii) the farm-centric participatory approach of the project;
iv) monitoring and preventive controls;
v) economic assessment of production diseases; and
vi) open discussion on future developments and challenges facing organic dairy farming.

Each of the above topics had a 20-40 minute presentation followed by a 10-20 minute period of discussion. The presentations introduced methods applied in WP2, WP3 and WP5 and included major outcomes such as:

i) the prevalence of production diseases on organic dairy farms in France, Germany, Spain and Sweden;
ii) stakeholder responses on how to deal with the great variation in animal health on organic dairy farms;
iii) distributions of systemic roles of system variables across the study farms;
iv) implementation rates of identified measures;
v) failure costs of 4 major production diseases; and
vi) stakeholder feedback on the farm-centric participatory approach.

The last agenda topic gave the participants room to comment on the presented content and to discuss future challenges and research needs with regard to animal health on organic dairy farms.

3.2 Summary of the discussions

Overall, the presentations were received positively by the participants. There was little criticism of the presented methods and results and the participants mainly commented on the content in a constructive manner.

Prevalence of production diseases in organic dairy farms

It was regarded as important to monitor levels of production diseases by means of robust and readily available indicators (based on physiological thresholds). However, it was also regarded as important to consider how these levels are achieved i.e. are low levels of somatic cell counts reached by taking preventive measures or by using antibiotic treatments – sustainability was considered an important criterion. Although not as hard to do as routinely collected herd data (animal movements and milk records), treatment frequencies were regarded as valuable additional information that should be considered in future assessments.

Fixed reference values for health in organic dairy farming were viewed critically by participants. The main reason for this was the feeling that health performance is not rewarded and, thus, is not economically affordable. Being better 'for the sake of it', without compensation, was not valued by the farmers.

Participants showed a strong urge to try to explain the differences found between the study countries in terms of levels of production diseases. Although the multi-factorial nature of the diseases had been addressed, some attendees asked for 'simple' explanations of the phenomena (some participants even offered mono-causal explanations such as herd age, treatment strategy, climatic conditions).

Looking at this positively, this behaviour can be interpreted as a thirst for knowledge with regard to risk factors and, especially, with regard to solutions. On the other hand, the reactions of the attendees showed that the search for simple explanations is often predominant. Thus, in the dissemination ahead, there is a need for reflection on how to deal with these expectations of stakeholders.

Economic evaluation of production diseases

The fact that preventive measures may not necessarily pay off, was a revelation for many participants. They were very interested in the WP5 module which can be used to estimate the profitability of preventive measures e.g. compare costs of different measures and their potential effect (reduction in failure costs). One advisor praised the economic tool coupled with discussion of health economics between farmer and advisor/veterinarian. According to him, the approach covered all areas that are crucial for success e.g. farm situation, perceptions and preferences of the farm manager and future goals.

One weak point of the WP5 module was seen as that one measure may have an effect on different diseases which are not accounted for in the allocation of preventive costs.

Future developments and challenges

There was agreement that animal health and welfare do not come for free. Thus, the question remains – who has to pay the price for it? One veterinarian emphasised that targets can only be reached with clear target values and that individual goalsetting is not expedient.

One farmer raised the question of whether relative target values or target ranges should rather be used than absolute target values to increase the suitability for all farms. It was also asked which the best level for animal health regulation is: the European legislation level; the retailer; or the farmer organisation?

One participant suggested that, rather than sanctioning farms on the basis of fixed thresholds, reference values/reference ranges should be used to allocate advice to farms in need of improvement. By doing this, all further actions would be directed to the individual farm level which is in line with the overall IMPRO results:

i) apply a participatory approach (WP2);
ii) use individual indicators and alert thresholds for monitoring (WP3); and
iii) plan preventive measures that are both effective (WP2) and cost efficient (WP5).

4 Report of outreach workshops in Spain

4.1 Organisation and structure of the workshops

The regional workshops were intended to provide information on the main results on the project for discussion and feedback. IRTA organised two such regional workshops. First, a workshop in Amorebieta, Bilbao (the Basque country) on 1 March 2016 at the ENEEK offices and, the second, in Lugo (Galicia) on 4 March 2016 at IBADER. A third planned workshop for Catalonia was cancelled due to lack of interest in taking part as well as the fact that most of the IMPRO study farms are located in North West Spain.

The participants in the workshops in Spain were chosen to represent a wide range of interests and included not only participating IMPRO farmers and their advisors/veterinarians, but also a broader audience of stakeholders.

In total at Amorebieta there were 14 participants consisting of: 5 IMPRO organic dairy farmers (one of which is also a farmer union representative), 1 researcher in organic milk, 1 researcher in climate change and dairy cattle, 1 organic council inspector, 3 farmer union representatives (also veterinarians), 1 clinical veterinarian, 1 farm school student and 1 homeopathic veterinarian (also an advisor).

At the workshop in Lugo there were 14 participants including: 1 IMPRO project participating organic dairy farmer, 5 conventional dairy farmers, 6 veterinarians (1 of which was also an advisor) and 2 animal scientists also working as advisors to farmers.

In the workshops in Spain, the sessions were structured into 5 parts:

i) introduction to the IMPRO project and the broad vision of the project. The IMPRO team members concentrated in this part on presenting the project and agenda of the workshop before letting the participants introduce themselves briefly by giving their names and occupations;
ii) farm characterisation (from the first visit). A summary of the characteristics of the farms in the project and the main differences between the study countries was presented;
iii) farm diagnosis (from the second visit). Impact matrix analysis abstraction and reflection from a certain distance was given. It allowed (especially the farmers) to remind themselves of the need to ‘leave’ the farm and look in/down from the outside at what

happens at the farm level. A summary of the main reasons why suggested measures were not implemented was also shown;

iv) health data – main results from study countries extracted mainly from D2.5; and

v) the economic tool – presentation of the cost-benefit tool that has been developed and its usefulness was shown.

Three people from IRTA presented the sessions which were recorded on audio tape for later transcription. We tried to maintain a balance between letting the group debate on their own and actively assisting them to keep focus and give equal input for participants and time distribution to each session. Discussion of the interdisciplinary groups was free in terms of when they could intervene, but focussed mainly on the results, with figures given by countries for reflection rather more than comparison. Results on health data comprised the main discussion in both workshops.

At the end of the sessions, the last IMPRO project speaker summarised the next steps in the project and thanked participants for taking part. In addition, after the event, an e-mail was sent thanking them again.

During the round of activity to organise the workshops, we received the first sign of interest about them and some participants helped in publicising the events. The coffee breaks generated a good atmosphere among participants and the IRTA group, and enabled further discussion. Five conventional farmers intending to convert to organic participated in the workshop in Lugo due to the recent increased interest in organic milk business opportunities in Galicia.

4.2 Summary of the discussions

4.2.1 Workshop 1 – Amorebieta

Animal health data results

- They were surprised that cow replacement rates in Sweden were so high, which they thought could be because of high production yields there, but they (2 IMPRO study farmers) considered the system as at the 'intensive' management level for organic farming.
- Reproductive and mastitis values given did not surprise the audience. It was discussed that, although calving intervals are a bit higher in Spain in comparison with the other countries, it is related to feeding regimes and fluctuations in body condition. Overall, figures were not very high.
- Participants were surprised by the high percentage of subacute ruminal acidosis in Spain and more information was asked to framework these figures. They suggested that this is a wide range of organic farms and these results respond to the type of management (more intensive or more extensive).
- One farmer union representative (also a farmer) was worried by how researchers (not specifically IMPRO) conceptualise the idea of health. He suggested indicators should be seen globally and not consider animal health improvement based on productivity values (i.e. interval between calvings) as the conventional industry does. He could not see the usefulness of the indicators presented for giving a picture of animal health.

Requests for information and questions asked when presenting results

- Farmer and farmer union representative: 'Have salaries and incomes in the different countries been taken into account, or working labour, because it can influence farm management and decision-making?'

- 'How is it possible such pasture management figures in the case of Sweden, considering they have big size herds, have to graze and use robotic milking systems?'
- Farmers and others asked for further data to help interpret results for lameness (why the differences between countries, how they manage the farms, relationship with hours on pasture etc.)
- A researcher asked for further data on use of antibiotics, homeopathy, etc.
- Further data requested for subacute reminal acidosis (milk yield, which farms, etc.)
- A researcher suggested the use of another indicator: urea in milk because this is not available in all milk records in Spain.
- An IMPRO study farmer requested further investigations on types of milk and differences between conventional and organic milk regarding the quality and suggested that this information should reach the customer.
- Participants wanted more information on who could access the software programme of IMPRO, under which conditions, when it would be available and how often it could be used.
- A farmer spontaneously took the opportunity to suggest the EC should take action and allow slaughter of animals 'at home' for small producers instead of having to send them to the slaughterhouse.
- The audience was unaware that, in Sweden, homeopathy and phytotherapy cannot be used by veterinarians, only by farmers if they do not replace orthodox veterinary practice. In general, they were not aware of national differences in the legislation. Users of homeopathy present (one veterinarian and one farmer) could not see the rationale behind this restriction of use.

Some general remarks

- Farmer: 'Spain has smaller herds and that makes the option of buying a robot milking system difficult to implement due to its capital cost and also for maintenance costs'.
- Union representative: 'There are two types of philosophies in organic farming: some go 'slower' and are more local more in concordance with the organic farming philosophy, while others produce with intensive management under the organic label'.
- Farmer: 'The social pillar of organic farming is the key. Being with the people and informing them and not being isolated, because consumers search for trust and we have to respond accordingly'. Veterinarian/assessor thought that consumers have many different ideas that do not match the reality: consumers do not know what they want. Therefore, information and education is very important in order for society to be conscious and aware of animal health and welfare.
- Veterinarian (clinic): 'Animal welfare should have a place in all this. For example, it is important that animal welfare is taken into account by the authorities and certification agencies. Also, there should be more farm advisory provision on welfare issues'.

4.2.2 Workshop 2 – Lugo

Animal health data results

General feedback was provided about the questionnaire and the role of the advisor in the IMPRO project by the advisor present. He felt the methodology of the impact matrix (as the feedback from the questionnaire after the second farm visit) is extremely 'Nordic' in mentality. He was convinced that people may not understand it and that it was too long to fill in. Initially, assessors were taken into account, but later they were not included in the collaboration. There is no sense in elaborating

corrective measures first, and after that not considering assessors' participation, as a technical follow up is needed to achieve success, especially in Galicia when compared with Germany. He also highlighted the current lack of technical support/specialised advisors for organic dairy farming in Spain.

Country comparison

- Participants were surprised by figures for Spain regarding the fact that their animals are older in comparison with Sweden.
- A veterinarian noted the replacement index in Sweden is very high which would imply high costs. This led him to ask for further financial figures to support this index.
- Another veterinarian said that these replacement rates in Sweden do not make sense in organic farming considering the high cost of rearing a heifer. How is it possible that Swedish farmers produce so much with so many heifers?

Calving interval figures

- Veterinarian: 'Calving intervals are longer if cows are not treated'.
- Farmer (organic): 'Cows with metritis should be allowed to recover without treatment after calving, which takes 3-4 months more'.
- Farmer: 'The amount of dry matter given to the cow is a requirement for making profit in the farm to get one calving per year'.
- Veterinarian: concluded that differences among study countries are due to differences in the management systems.

Culling rates

- A veterinarian suggested culling rates are lower in Spain due to smaller herd size. Big sized herds can afford to have higher culling rates whilst, in smaller herds, animals cannot be discarded so easily.
- A conventional farmer said that, in conventional dairying, longevity and health parameters are also applicable and desirable. A veterinarian agreed with this statement.

Mastitis

- A veterinarian suggested analysis using figures over 300,000 would be helpful but also using this figure by age and in animals at first calving. He highlighted that in Spain, things, in this respect, are not being done well.

Acidosis

- An advisor confirmed that these results in Galicia were the same as those obtained by him using the 'Obsalim method'. He explained these figures in relation to type of feeding regime and management in organic farming.
- Cause of high incidence of acidosis: a veterinarian highlighted the use of effective fibre is critical and other veterinarian mentioned that the way the feed is administered is critical. An advisor mentioned that offering dry feed, and then going to pasture, inappropriate management and type of pasture might contribute.
- A veterinarian: 'fat/protein rate measures might be affected by the instrument used in milk control (i.e. volumetric equipment for milk can decrease levels of fat and invalidate the results of the fat/protein ratio)'.

Alternative and conventional treatment remedies

- A veterinarian stated that, in Spain, there is legal uncertainty regarding its use. He wondered how to address, for example, mastitis. He suggested vaccination as a prophylactic alternative which worked in his case. However, according to him, homeopathy was not very successful.
- A homeopathic veterinarian said that there is no sense in using antibiotics if you know the animals won't be cured. She argued that homeopathy can work, but it is very complicated to choose the appropriate remedy. Mastitis cannot be cured with antibiotics, regardless of the production system (conventional/organic) and it is more expensive to use them instead of homeopathy.
- A clinical veterinarian (also an advisor) suggested that in order for the antimicrobials to work on udders, he uses them for longer periods e.g. 7 days. It is recommended for 3 days. If the treatment periods are shortened, the treatment would not be successful.
- Another veterinarian suggested 'playing with antimicrobials is common practice'. He suggested only long periods of use work (up until 10 days). The other veterinarian confirmed that curing animals takes a while and trying to be quick in treatment is counter-productive.

Some general remarks

- A farmer (conventional): higher yields in Sweden might not be only for breeds, but is multifactorial. He supported the use of Friesians in organic farming and states that, with current genetic selection, it is possible to buy Friesians for an organic system, whereas in other breeds, there is not such an option in the catalogues.
- An assessor considered that Swedish figures show the difference between organic farming and intensive organic farming as, in Sweden, farmers produce at much higher production costs. It is expected now in organic farming to have high yielding animals and this requires having less grazing time and a lot of heifers/replacements. A farmer agreed with him that the organic approach is intensive and is aimed at producing as much milk as that in conventional farming.
- A veterinarian/assessor: 'Some production diseases appear because the farm system keeps the animal far away from its nature, so management should be more focused on the animal's point of view, and not the human, to improve health'. A farmer agreed with this statement.

Feedback

There was some feedback by e-mail following this workshop. For example, a veterinarian/assessor said she was 'satisfied with the workshop but surprised about some findings from other countries'. She highlighted doubts amongst the audience regarding how organic dairy farms are managed in other countries. She showed a lot of interest in obtaining further data on homeopathic treatments.

An organic dairy farmer: 'Information was very interesting, especially that showing differences amongst other countries'. He asked for the presentation, as this data would be useful for him to analyse variation in costs of production between countries.

5 Report of an outreach workshop in Sweden

5.1 Organisation and structure of the workshop

In Sweden, the workshop took place in Uppsala on 1 March 2016 and all the workshop participants had been involved in the project in some way. There were 9 people present in person and 12 participated by streamed video. Some of these participants had been involved only in the project's WP2 and some had been involved in both WP2 and WP3.

In total, 9 advisors and veterinarians took part and 7 organic farmers. In addition, there was: 1 person from the Swedish dairy organisation; 1 person from KRAV (the Swedish organic organisation); 1 person working with organic farming on the Swedish Board of Agriculture; and 2 researchers from the Swedish University of Agricultural Sciences who were not working on the IMPRO project.

The form of the four hour workshop was as follows: a common lunch for all the participants followed by a presentation about the project and its outcomes. There was then a common discussion on the experiences from the IMPRO project and the road forward for organic dairying.

The video streamed presentation was about an hour long. The motives for, and organisation of, the IMPRO project were initially presented and then the presentation covered a brief overview of the work packages and a deeper focus on the benchmarking process (before and after) and an explanation of the project's impact matrix. A large part of the presentation was devoted to the preliminary results from WP2 and WP3.

After the presentation, participants were served coffee and encouraged to discuss the results and communicate their experiences and opinions on participating in the project. Those who took part by video were given the option to send in their thoughts, comments and reflections by e-mail.

5.2 Summary of the discussions

The benefit of doing the impact matrix was seen as it involved people who were gathered at the same time and discussed their farms. In this discussion-setting, it was possible to analyse the farmers' present goals, future goals and the road forward. In the round table discussion, issues were dealt with that usually do not come up in traditional advice situations. It was seen that it is a common mistake to only look into the 'usual' things, problems and areas and overlook those that can be very important on a particular farm. It was seen as a positive step that the participants could contribute with different views and angles to the wide areas of discussion. The general impression was that it would be a good idea to continue with something like a session on the impact matrix in the future.

A series of direct quotes relating to the IMPRO presentation were: 'the holistic approach was very valuable'; 'it has been very interesting to participate in this project'; 'by having a discussion in this structured way, you get a more objective approach'; and 'consumers' perception of animal health and welfare is important'.

6 Summary and conclusions

6.1 Summary of the national workshops

A series (6) of workshops were held in the 4 main IMPRO study countries (France, Germany, Spain and Sweden) in March and April 2016. The aim was to present and discuss the results of the project up to that date with stakeholders, some of whom had participated in the project e.g. farmers, veterinarians and advisors.

In France, workshops attended by 54 people, were held in Paris and in Rennes, organised by the National College of Veterinary Medicine, Food Science and Engineering, Nantes (Partner 3) and, in Germany, a workshop was held in Witzenhausen, organised by the University of Kassel (Partner 1) and attended by 26. In Spain, two workshops organised by IRTA (Partner 5) were held in Amorebieta and Lugo which were attended by 30 people in total. In Sweden, a workshop attended by 21 was held in Uppsala, organised by the Swedish University of Agricultural Sciences (Partner 2).

Not including staff from the IMPRO project teams, 131 people attended the 6 workshops: 45% of these were veterinarians or advisors; 21% were dairy farmers; 11% were academics or research scientists; 8% were students; and the remaining 15% were in miscellaneous categories.

The workshops lasted for most of a working day and participants were provided with food and other refreshments. Time was set aside for widespread discussion and those who took part were encouraged to keep in touch with the research of the project and to comment on it after the workshops.

6.2 Some conclusions

In all four study countries, it can be concluded that the variety of stakeholders that took part in the feedback and dissemination workshops found them both worthwhile and useful in relation to their many interests in organic dairying. It should also be pointed out in this context, that not all were necessarily advocates of organic farming.

Participants were both interested in, and somewhat surprised by, the wide range of differences both between, and within, the study countries in organic dairying practice. They also noticed the large difference in health and welfare conditions on organic dairy farms which they thought was, probably, detrimental to consumers' attitudes to organic farming.

Participants were surprised that taking preventative health measures may not result in financial benefits to the farm business. As a result, they should plan preventative health measures that are both effective and cost efficient.

Participants were somewhat confused about regulations concerning the use of 'alternative' medicines in organic dairying and, indeed, whether such medicine was effective. In one of the study countries, Sweden, it is not permissible.

The impact matrix herd health management tool developed in the life of the project was seen as useful. It was felt that it is best suited to better analyse the farm system. Despite this, the participatory approach that underpinned this tool, was much appreciated by the participants and seen as a novel and important finding from the project.