CORE Organic

CORE Organic Project Series Report no. 3

Workshop report

The process of minimising medicine use through dialogue based animal health and welfare planning



Editors: Mette Vaarst (DJF) & Stephen Roderick (Duchy College)

CORE Organic project nr: 1903

March, 2011

ANIPLAN

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The text in this report is the sole responsibility of the authors/editors and does not necessarily reflect the views of the national funding bodies having financed this project.

This project is one of the eight research pilot projects selected in 2007 for transnational funding by the partners of the CORE Organic ERA-net project. The pilot projects, which are running in the period 2007 – 2010, are:

AGTEC-Org	Methods to improve quality in organic wheat: actec.coreportal.org
ANIPLAN	Planning for better animal health and welfare: aniplan.coreportal.org
FCP	How to communicate ethical values: fcp.coreportal.org
COREPIG	A tool to prevent diseases and parasites in organic pig herds: corepig.coreportal.org
iPOPY	More organic food for young people: ipopy.coreportal.org
PathOrganic	Assessing and Reducing Risks of Pathogen Contamination: pathorganic.coreportal.org
PHYTOMILK	What makes organic milk healthy?: phytomilk.coreportal.org
QACCP	How to assure safety, health and sensory qualities of organic products: qaccp.coreportal.org

For further information see the project homepage at www.coreorganic.org

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A pdf can be downloaded free of charge from the Organic Eprints archive www.orgprints.org

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Preface

'Minimising medicine use in organic dairy herds through animal health and welfare planning', ANIPLAN, is a CORE-Organic project (Project no. 011716) which was initiated in June 2007 and completed in October 2010. These proceedings represent the final documents of the project, and include the presentations given at the final workshop, as well as a report on three of the project deliverables.

At our first workshop in Hellevad, Denmark, in October 2007, we confirmed that animal health and welfare planning builds on a process involving analysis of the situation, dialogue between the farmer and somebody from outside the farm – either one or more advisors or fellow farmers – and then evaluation after a well-defined period of time. In the project we worked with analysing the farm and herd situation using recordings and assessments from the EU-funded Welfare Quality project. The dialogue element of the project, between the farmer and the person from outside the farm, was partly based on the results of these assessments. In the last workshop in September 2010 at FIBL in Switzerland, 3 years after the project initiation, we explored how these principles had worked in practice, and how they were applied across the 7 partner countries. In the first deliverable report (4.1) entitled 'Education and advisor systems related to dairy organic farming in the participating countries', we give an overview and some concrete examples of the many different actors and institutions, which in various ways surround the farmers and potentially have great influence on the way in which the farm is planned. In the second deliverable report (4.2) entitled 'The dialogue with farmers', we present some of the interview results, analysis and reflections on farmer dialogue in relation to animal health and welfare planning. Finally, we discuss the farmers' perception on how these concepts were applied in practice, and the relevance with regard to planning and improvement on farms, presented in the third deliverable report (5.1): 'Farmer opinion on the process of health and welfare planning - Evaluating how animal health and welfare planning worked in the participating countries seen from the farmers' point of view'.

We were happy that FIBL offered us a good environment for our last workshop. We want to thank the main organisers – and in particular our colleagues at FIBL Michael Walkenhorst and Silvia Ivemeyer –for organising the workshop and the venue, the transport and the logistics. Anne Merz, FIBL, is warmly acknowledged for keeping track of every person coming and going and participating fully or partly in the workshop. We had very good organic food and drinks at FIBL – it kept us going through late afternoon and evening workshop sessions – thank you! Our hosts at Herzberg – the hotel where we stayed and had good food and calm surroundings for the nightly group work and document preparations - are warmly thanked for providing such a great atmosphere, as well as the excellent organic, home-made food.

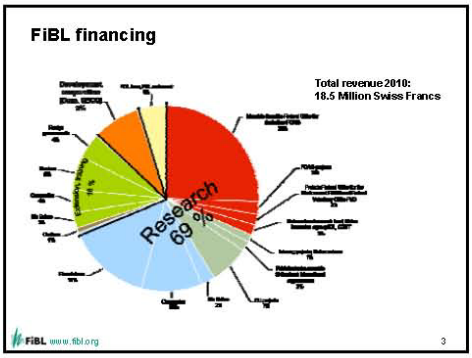
Tjele and Cornwall, February 2011

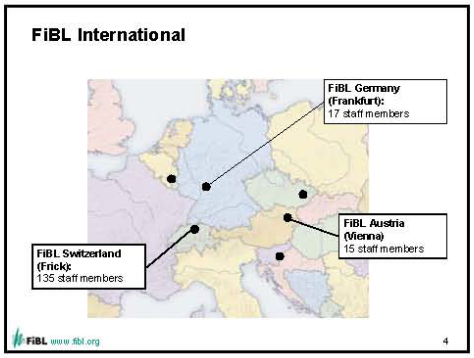
Mette Vaarst & Stephen Roderick
Editors

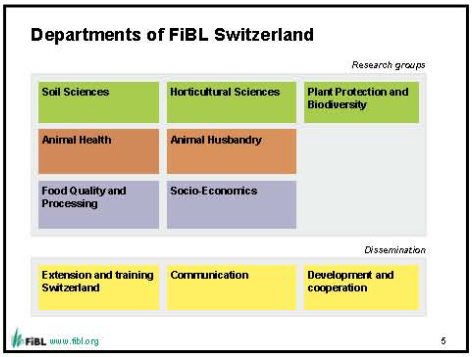
Activities of FIBL

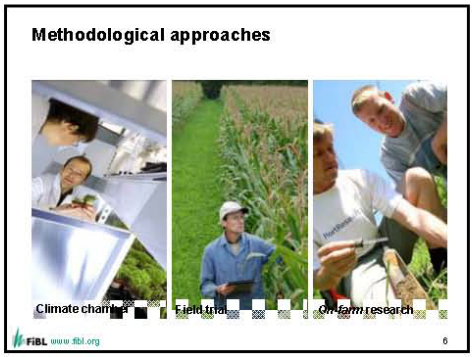
Thomas Alfoeldi

FiBL

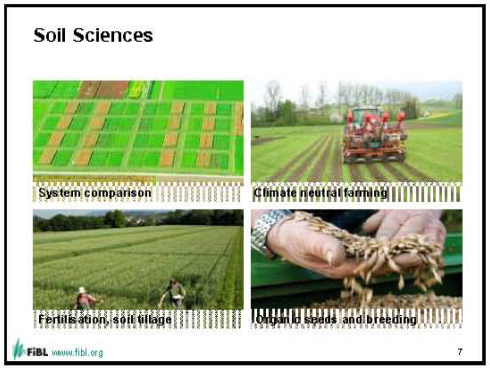








www.fibl.org


Soil Sciences
System comparison
Climate neutral farming
Fertilisation, soil tillage
Organic seeds and breeding
FiBL www.fibl.org
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Horticultural crops: Practice-oriented research
Viticulture and vinification
Fruits and berries
Vegetables
Ornamental plants
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Plant protection: Problems and solutions
Direct regulation: plant protection agents, forecasting systems
Pests: e.g. aphids
Diseases: e.g. late blight
Indirect regulation: vegetation, biodiversity
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Animal health research
Reduction of antibiotics
Reduction of homogenous feed
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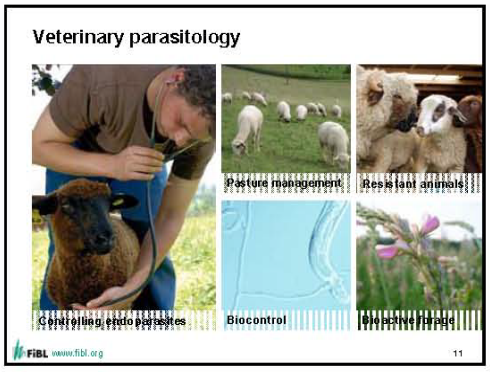
Veterinary parasitology
Pasture management
Resistant animals
Controlling endoparasites
Biocontrol
Breeding for resistance
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Food quality and safety
Food quality and health
Processing
Food safety
Evaluating new technologies
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Socio-economics

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Extension

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Development and cooperation

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Part 2: Key figures from the Swiss organic sector

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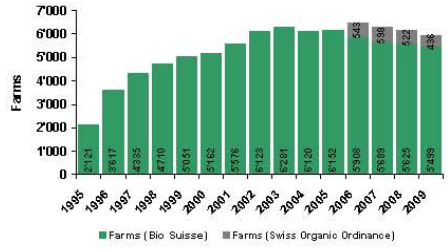
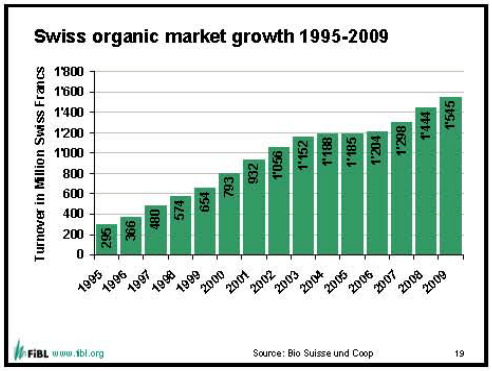
Development of the number of organic farms in Switzerland 1995-2009



FiBL www.fibl.org Source: Bio Suisse 18


Swiss organic market growth 1995-2009
Turnover in Million Swiss Francs
1'800
1'600
1'400
1'200
1'000
800
600
400
200
0
295
366
480
574
654
793
932
1'056
1'152
1'188
1'185
1'204
1'298
1'444
1'545
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
FiBL www.fibl.org
Source: Bio Suisse und Coop
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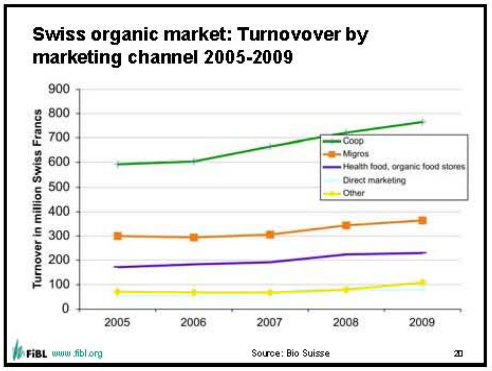
Swiss organic market: Turnover by marketing channel 2005-2009
Turnover in million Swiss Francs
900
800
700
600
500
400
300
200
100
0
Coop
Migros
Health food, organic food stores
Direct marketing
Other
2005
2006
2007
2008
2009
FiBL www.fibl.org
Source: Bio Suisse
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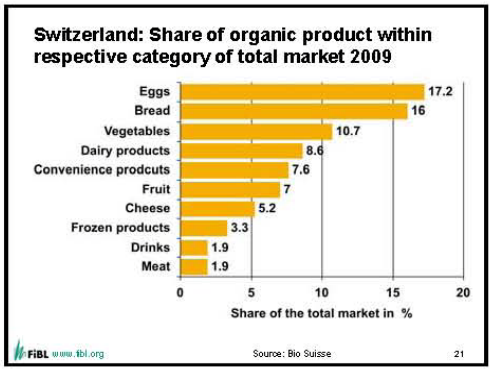
Switzerland: Share of organic product within respective category of total market 2009
Eggs 17.2
Bread 16
Vegetables 10.7
Dairy products 8.6
Convenience prodcuts 7.6
Fruit 7
Cheese 5.2
Frozen products 3.3
Drinks 1.9
Meat 1.9
0
5
10
15
20
Share of the total market in %
FiBL www.fibl.org
Source: Bio Suisse
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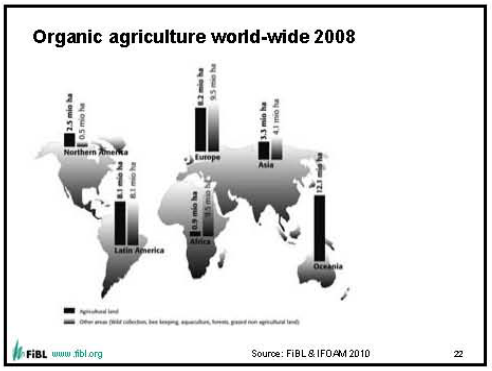
Organic agriculture world-wide 2008
Northern America
Europe
Asia
Latin America
Africa
Oceania
FiBL www.fibl.org
Source: FiBL & IFOAM 2010
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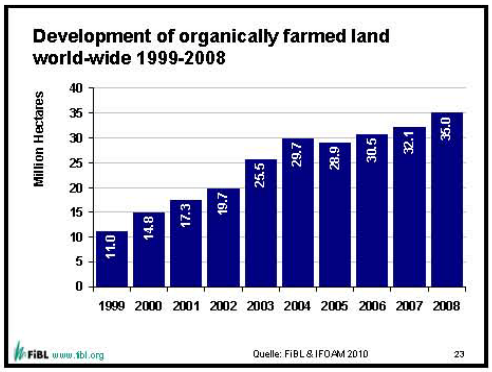
Development of organically farmed land world-wide 1999-2008
Million Hectares
40
35
30
25
20
15
10
5
0
11.0
14.8
17.3
19.7
25.5
29.7
28.9
30.5
32.1
35.0
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
FiBL www.fibl.org
Quelle: FiBL & IFOAM 2010
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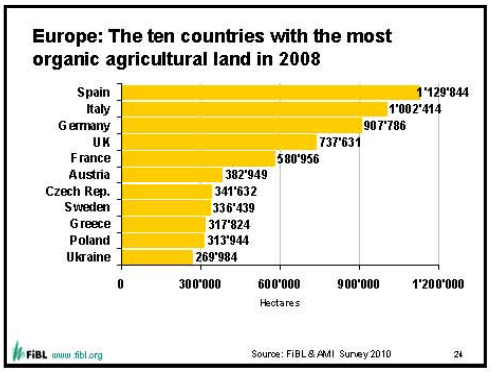
Europe: The ten countries with the most organic agricultural land in 2008
Spain 1'129'844
Italy 1'002'414
Germany 907'786
UK 737'631
France 580'956
Austria 382'949
Czech Rep. 341'632
Sweden 336'439
Greece 317'824
Poland 313'944
Ukraine 269'984
0
300'000
600'000
900'000
1'200'000
Hectares
FiBL www.fibl.org
Source: FiBL & AMI Survey 2010
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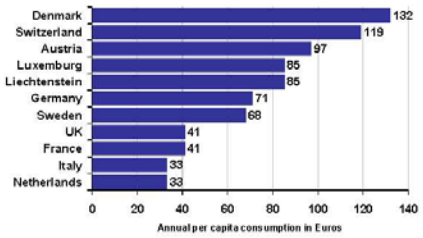
The European market for organic food and drink: The countries with the highest per capita consumption 2008



FiBL www.fibl.org Source: FiBL & AMI Survey 2010 25

Conference centre

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Agricultural research in Switzerland

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FiBL Milestones

- 1973: FiBL established as private foundation
- 1977 - 1981: Management of IFOAM World Secretariat
- 1977: Organization of the 1st Scientific IFOAM Conference "Towards a Sustainable Agriculture" in Sissach, Switzerland
- 1977: Establishment of the IFOAM Standards Committee, headed until 1997 by Otto Schmid
- 1977: In addition to research, expansion through extension and inspection services
- 1982: Establishment of the first chair for organic agriculture at Kassel University in Germany by the then FiBL director Hartmut Vogtmann
- 1999: Establishment of bio.inspecta AG inspection company

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FiBL Milestones (continued)

- 2000: Organization of the 13th Scientific IFOAM Conference *«The World Grows Organic»* in Basel
- 2000: Establishment of FiBL Germany (in Frankfurt and Witzenhausen, Germany)
- 2003: Co-founder of the International Society of Organic Agriculture Research (ISOFAR)
- 2004: Establishment of FiBL Austria in Vienna, Austria
- 2004: Establishment of Bioinstitut in Olomouc, Czech Republic
- 2008: FiBL director Urs Niggli becomes member of the World Board of the International Federation of Organic Agriculture Movements (IFOAM)
- 2010: FiBL International is founded

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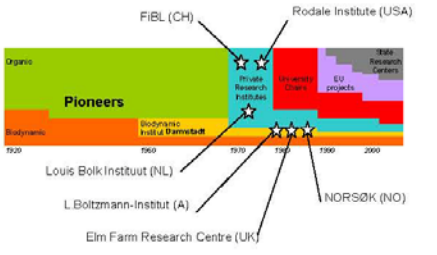
History of organic farming research



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CORE Organic research Current activities and future perspectives

Urs Gantner

CORE organic

CORE Organic research
Current activities and future perspectives

Frick, 28 September 2010

Urs Gantner

Head of Research and Extension
Swiss Confederation
Federal Office for Agriculture

CORE organic II

History and future of CORE Organic

2004-2007 CORE Organic ERA-NET

2007-2009 Collaboration continued
- Network extended → now 22 countries
- Developed strategy with long term component

2010-2013 CORE Organic II
- EU funds for a second ERA-NET
- 3 calls, first one launched: www.coreorganic2.org

2013-∞ CORE Organic III or Joint Programming or ..?

Network's strategy

A vision for long term collaboration

"enlarge and improve organic agriculture's role in fulfilling European public demands in terms of high quality products delivered by farming and food systems which combine sustainability with animal welfare and rural development." **and....**

....a strategic objective for transnational coordination

"To enhance the quality, relevance and utilisation of resources in research in organic farming and food systems and its contribution to the development and integrity of the organic sector "

CORE organic

... one of the reasons to lance Core organic ...

... small research communities, often scattered and fragmented both geographically and institutionally

➡ *need for gathering the dispersed expertise into a critical mass, to maintain and increase the competitive quality and relevance of research.*

CORE organic

CORE Organic I
- 8 projects
- 11 countries
- 45 partners
- 8,277,000 euros

PATHORGANIC

QACCP

PHYTOMILK

POPY

Farmer Consumer Partnerships

COREPIG

AGTEC-Org

CORE organic

... Aniplan ... *the example for gathering the dispersed expertise and increasing the competitive quality and relevance of research*

- Previous collaboration of researchers in networks
  - NAHWOA (1999 – 2001)
  - SAFO (2003 – 2006)
- Issues
  - Health and welfare of organic livestock
  - Focus on exchange of knowledge

CORE organic

- CORE organic invests in research collaboration based on existing and newly created national projects with the same issue under diverse european conditions:
  - More than 20 dairy-on-(organic)-farm-researchers
  - More than 130 organic dairy farmers
  - More than 9'000 organic dairy cows
  - 7 european countries
- Investment creates an active and effective research network
  - overall aims and principles of health and welfare planning
  - training in assessment and advising strategies
  - discussions about and agreement concerning methods, data sets, data transmission and storage
  - joint international publications
- Investment lead to results in a short time

... how to keep the research collaborations alive ...?

CORE organic II

www.coreorganic2.org

11 new countries
Belgium (ILVO & LV)
Czech Rep. (Ministry)
Estonia (Ministry)
Spain (INIA)
Ireland (Ministry)
Latvia (LSIAE)
Lithuania (Ministry)
Luxembourg (FNR)
Poland (Ministry)
Slovenia (Ministry)
Turkey (Ministry)

11 countries of CORE Organic I
Austria (Ministry)
Denmark (ICROFS & DFIA)
Finland (Ministry)
France (Ministry & INRA)
Germany (Ministry & BLE)
Italy (Ministry)
Netherlands (Ministry)
Norway (RCN)
Sweden (Formas)
Switzerland (Min. & FiBL)
UK (Ministry)

CORE organic II

CORE Organic II research topics for the first call

Deadline for pre-proposals 15 October 2010

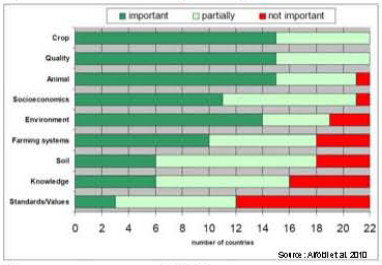
Invitation letters for submission of full-proposals 30 November 2010
Closing date for full-proposals 31 January 2011
Contract negotiation June – July 2011
Start of projects From September 2011

- Cropping: Designing robust and productive cropping systems at field, farm and landscape level
- Monogastric: Robust and competitive production systems for pigs, poultry and fish
- Quality: Ensuring quality and safety of organic food along the whole chain

Next call January 2012

CORE organic II

Importance of research ares as perceived by 22 countries



Source : Alföldi et al. 2010

CORE organic II

Research gaps formulated by 22 countries (summarised)

Research area	Research gaps (number of nominations by partners)
Crop production and soil	Plant protection (17); Plant nutrition (15); Breeding, varieties (14); Weed control (7); Soil fertility (7)
Animal husbandry	Feeding (13); Animal health (9); Production systems (7); Animal welfare (4); Robust breeds (4)
Food quality	Processing (13); Health and Nutrition (9); Food safety (7); Quality influencing factors (6)
Socio-economics	Sector development (13); Market development (10);
Environment	Climate change (11); Assessment of environmental performance (10)
Farming systems	Resource use (11)

Source : Alföldi et al. 2010

CORE organic II

Indicative funding for the first call

Source: www.coreorganic2.org

Country	Cropping	Monogastric	Quality	Total per country
Austria	0.1	0.1	-	0.2
Belgium (Flanders)	0.1	0.1	-	0.2
Czech Republic	0.03	0.03	0.01*	0.06
Denmark	0.4	0.4	0.4	1.2
Estonia	0.09	-	-	0.09
Finland	0.075	0.05	0.075	0.2
France	0.15	0.075	0.075	0.3
Germany	0.5	0.3	0.2	1.0
Ireland	0.03	-	-	0.03
Italy	0.55	0.3	0.35	1.2
Latvia	0.02	-	-	0.02
Lithuania	-	-	0.1	0.1
Luxembourg	0.2	0.1	0.1	0.4
Netherlands	0.15	0.2	-	0.35
Norway	0.4	-	0.2	0.6
Slovenia	0.1	-	0.05	0.15
Spain	0.2	-	-	0.2
Sweden	0.25	0.25	0.25	0.75
Switzerland	0.15	0.125	0.125	0.4
Turkey	0.07	-	0.03	0.1
UK	0.239	0.119	-	0.358
Total million euros	3.704	1.780	1.815	7.918

CORE organic II

Challenges within Core Organic

- Low available resources:
  - (a) Additional efforts of countries needed;
  - (b) Other resources of applying institutions and / or other sources of funds most welcome.
- Funding models
  - Real common pot versus virtual common pot versus mixed mode
- Focusing research areas
  - 22 countries with different
    - views,
    - needs,
    - approaches (bottom up vs. top down, broad vs. narrow, ..)
- Are we (funders, researchers, reviewers, ..) really innovative ??

Future of CORE Organic ?

2013 - ∞ CORE Organic III or Joint Programming or ..?

Gathering the dispersed expertise ... is a MUST

Working together, for the common cause, for your additional benefits ... is BENEFICIAL

Collaborating to get funds ... is a MUST

- **National research will stay important**
- **EU Research within FP 7, FP 8, ... (TP Organics)**
- **Joint Programming: common strategic research agendas, common vision, putting resources together, .. ?**
- **Core Organic III ? – Yes, but as an autonomous network**

Thank your for your attention

Your Swiss potatoes

ANIPLAN: Minimising medicine use in organic dairy farms through animal health and welfare planning

Mette Vaarst

CORE Organic

ANIPLAN: Minimising medicine use in organic dairy farms through animal health and welfare planning

Participants

- **Denmark:** *Lindsay K. Whistance & Mette Vaarst*
- **Austria:** *Christine Leeb, Elisabeth Stöger, Elisabeth Gratzer, Christoph Winckler & Johann Huber*
- **UK:** *Pip Nicholas & Stephen Roderick*
- **Netherlands:** *Gidi Smolders*
- **Switzerland:** *Michael Walkenhorst & Silvia Ivemeyer*
- **Germany:** *Jan Brinkmann & Solveig March*
- **Norway:** *Britt I.F. Henriksen & Cecilie Mejdell*

ANIPLAN

Minimising medicine use

in

organic dairy herds

through

animal health and welfare planning

Project structure

WP 1. Coordination and knowledge transfer

principles for animal health planning in organic dairy farms and assessing theuse of health plans.

animal based parameters for evaluation of animal health and welfare and development

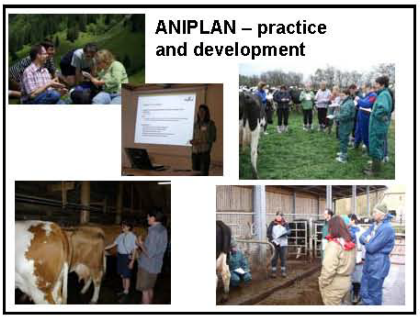
WP4. Communication about animal health and welfare and disease prevention in advisory systems and farmer groups.

WP 5. Analysing the effect of minimised use of medicine through animal health promotion

On-farm studies

Dk:	• 15 farms; farmer groups + individual planning
Austria:	• 40 farms; individual planning (+ 1 farmer group)
UK:	• 20 farms; farmer groups & discussion group
Ch:	• 15 farms; farmer groups
Nl:	• 10 farms; assessments and feed back discussion
D:	• 39 farms; individual planning process
N:	• 6 farms; individual planning

ANIPLAN – practice and development



On farm research & development

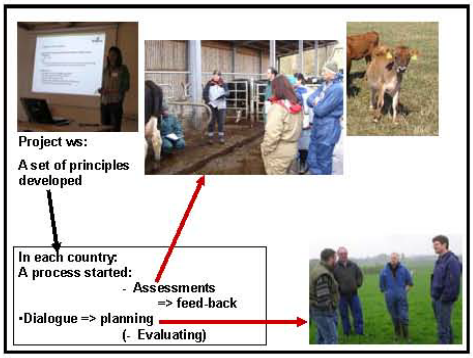
Strong links to end-user environments

Objective

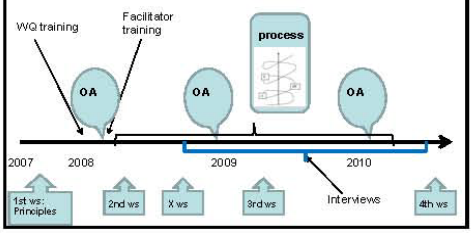
- To minimise medicine use in organic dairy herds through active and well planned animal health and welfare promotion and disease prevention.

Intermediate objectives

- Develop animal health and welfare planning principles
- Application of animal health and welfare assessment based on the WelfareQuality parameters in different types of organic dairy herds across Europe.
- Develop guidelines for communication about animal health and welfare promotion in different settings.



Research process



Vonne Lund in memorial. Her work an inspiration for the future

Bo Algers

Vonne Lund in memorial
Her work – an inspiration for the future

Bo Algers
Department of Animal Environment and Health
Swedish University of Agricultural Sciences

SLU

Vonne Lund
4 July 1955 - 3 June 2009

Achievments

Agronomist
Participated as a student in the
"First nordic post graduate course in ecological Agriculture"
Editor for a nordic magazine on research in organic agriculture
Thesis in animal ethics and animal welfare

Vonne Lund:

Ethics and animal welfare
in organic animal husbandry
- An interdisciplinary approach

Awarded best thesis by the
Internationale Gesellschaft für
Nutztierhaltung, Switzerland.

Papers in thesis:

Lund, V., Röcklinsberg, H. 2001. Outlining a concept of animal welfare for organic farming systems.
J. Agr. Env. Ethics, 14: 391-424.

Lund V., Anthony R., Röcklinsberg H. 2004. The ethical contract as a tool in organic animal husbandry.
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J. Agr. Env. Ethics,17: 157 – 179.

Vonne Lund´s co-authors:

Helena Röcklinsberg – Faculty of theology, Uppsala University
– Dept of public health and caring sciences, UU
Raymond Anthony – Department of philosophy, Purdue, West Lafayette
Bo Algers – Department of animal environment and health, Swed. Univ. Agr. Sci.
Sven Hemlin – Dept of management, politics and philosophy,
Copenhagen Business School
– Centre for research ethics, Sahlgrenska Academy, Gothenburg Univ.
William Lockeretz – Friedman School of Nutrition, Science and Policy,
Tuffts University, Mass.
James White – School of social work and family studies, Univ. Of British Columbia

"The power and majesty of nature in all its aspects
is lost on him who contemplates it merely
in the detail of its parts, and not as a whole."
Plinius (23-79 A.D.)

Beroaldus (Ed.) 1476, *Historia Naturalis*, Bk VII, Ch. 1

Achievments

Agronomist
Participated as a student in the
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Editor for a nordic magazine on research in organic agriculture
Thesis in animal ethics and animal welfare
Senior researcher at the Veterinary Institute in Oslo

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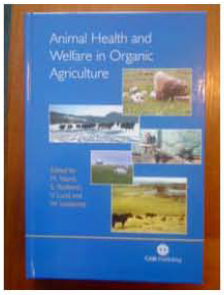
Editor and author of books



Future challenges:

The philosophical framework of organic farming
in relation to animal welfare. The natural life – is it a
precondition for animal welfare and health? Does it have
negative "side effects"?

"Naturalness" and the ability to express "natural behaviour"

What is natural behaviour?

"Normal" behaviour?

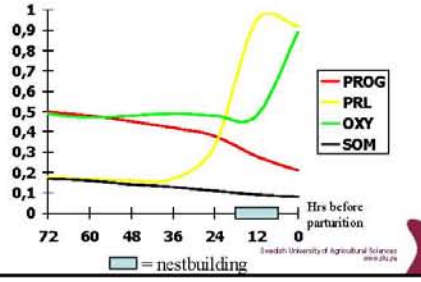
What is normal? – What the animal does most?

Behaviour in nature?

Natural behaviour in pigs!

It is all about motivation!

The release of hormones at nestbuilding in pigs (Castrén et al., 1992)



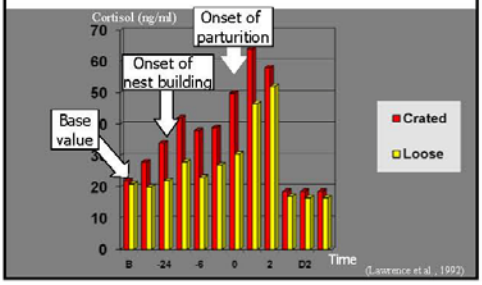
Nest building sow with access to straw

Swedish University of Agricultural Sciences www.slu.se

Crated sow without access to straw

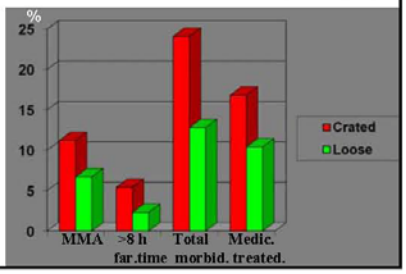
Swedish University of Agricultural Sciences www.slu.se

Cortisol plasma koncentration in gilts in two different housingsystems.



Morbidity in crated (n=1238) and non-crated (n=654) sows.

(Bäckström, 1973)



Natural behaviour – a definition:

Natural behaviour is the behaviour which the animal is strongly motivated to perform and which, when it is performed, gives the animal a functional feed back.

(Algers, 1990)

Swedish University of Agricultural Sciences www.slu.se

With this definition follows…

Me;
That not all natural behaviour is "good".

Vonne;
That man has responsibilities in relation to how he/she manages the animals in his/her care!

Swedish University of Agricultural Sciences www.slu.se

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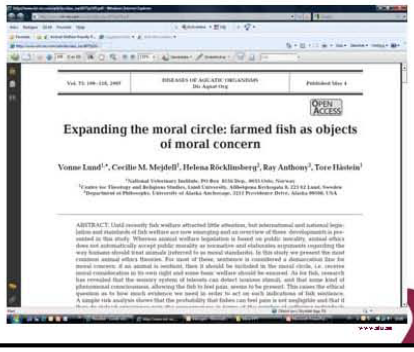
Editor and author of books

Research e.g. in Cattle, Fish, Slaughter
Active in networks on ethics an animal welfare and initiated the Nordic network of agriculture and food ethics.



Expanding the moral circle: farmed fish as objects of moral concern

Yvonne Lund[1,*], Cecilie M. Mejdell[2], Helena Röcklinsberg[3], Ray Anthony[3], Tore Håstein[1]

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Editor for a nordic magazine on research in organic agriculture
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Senior researcher at the Veterinary Institute in Oslo
Editor and author of books

Research e.g. in Cattle, Fish, Slaughter
Active in networks on ethics an animal welfare and initiated the Nordic network of agriculture and food ethics.

Sustainability, holistic approach and respect for nature were characteristics of her engagements.

Animal welfare science – Working at the interface between the natural and social sciences.

Yvonne Lund, National Veterinary Institute, Oslo, Norway
Grahame Coleman, Animal Welfare Science Centre, Monash Univ., Australia
Stefan Gunnarsson, Swedish University of Agricultural Sciences, Skara,Sweden
Michael Calvert Appleby, The Humane Society of the USA, Washingotn, USA
Katri Karkinen, University of Joensuu, Joensuu, Finland
Applied Animal Behaviour Science, 2006, 97: 37-49.

Challenges of interdisciplinary work:

- Methodological
- Cultural
- Communication problems

Animal welfare includes
- scientific
- ethical
- economical
- political

dimensions

How do
- academic leaders
- scientific publishers
- funding bodies
- academic education

cater for this?

Several universities have animal welfare programmes or -centres.

Do they embrace all these aspects of animal welfare?

What is "interdisciplinary"?
Merely a buzz-word?

Multidisciplinary
Parallell or sequential work from a disciplinary-specific base.
Interdisciplinary
Joint work but still from a disciplinary-specific base.
Transdisciplinary
Joint work using a shared conceptual framework drawing together disciplinary-specific theories, concepts and approaches.

We use to think that if, in the example of animal welfare,
ethology
physiology
pathology
are involved, this is interdisciplinary science.

However, the subject example
Animal welfare or Organic agriculture
do not exclude the action of man
nor its consequences for man
why social sciences are highly relevant
and it is only when the boundaries between natural and social sciences are transcended that our research truly will be across disciplinary boundaries and play a significant role in society.

An example of across disciplinary boundaries science is the use of consumer – demand theories to quantify the value that animals place on environmental resources.

First used in human micro-economics it was adopted by Dawkins (1983) for the study of animal behaviour.

The elasticity in taking an increase in cost on the opportunity to perform a certain behaviour (access a certain resource).

Arenas such as EurSafe now create
opportunities for truly transdisciplinary science.

We must learn how to
translate information from one discipline to another,
understand the language used in each discipline (e.g. "demand"),
communicate so that information is recieved properly
(e.g. peer review v.s. books)

"Successful collaboration (over discipline boundaries – *my add.*) requires openness and willingness to respect and learn from other disciplines." (Lund et al., 2006)

Vonne was like that and let us all be inspired by her!

"The power and majesty of nature in all its aspects
is lost on him who contemplates it merely
in the detail of its parts, and not as a whole."

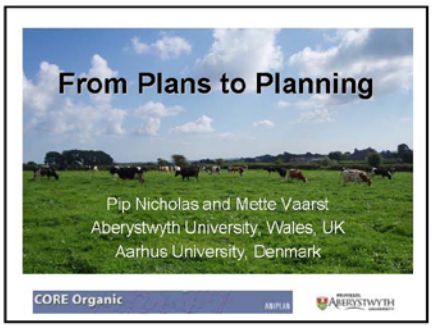
Plinius (23-79 A.D)

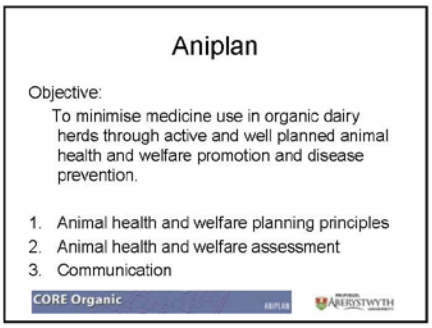
Vonne and Ragnar just married 8 May 2009

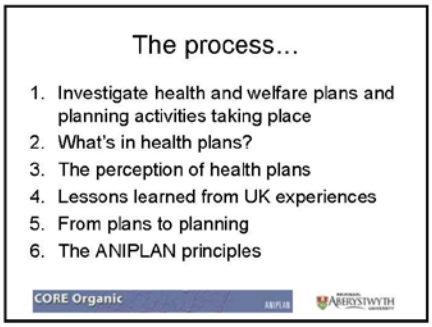
Thank you for your attention!

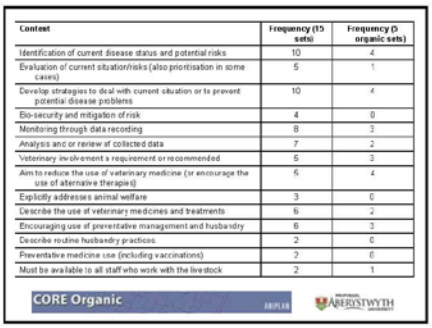
From Plans to Planning

Pip Nicholas and Mette Vaarst









Issues highlighted

Organic lacks:

- Analysis and review of recorded data
- Bio-security

General:

- Financial aspects (important to farmers)

CORE Organic ANIPLAN ABERYSTWYTH

Issues with UK health planning and plans

- Distinction between health planning (beneficial to farm) and health plans (benefit to someone else(?))
- Data collection and review generally poor in UK
- More lateral thinking on tools for health planning (benchmarking for instance)

CORE Organic ANIPLAN ABERYSTWYTH

Review conclusions

- Health plans in widespread use in UK
- Effectiveness of health plans for improving health and welfare questionable
- Farmers do not like written health plans but industry does
- Data not being collected and reviewed
- Novel tools/techniques needed to encourage participation in health planning process

CORE Organic ANIPLAN ABERYSTWYTH

From plans to planning

- Need to learn from experiences (good and bad) of UK
- Focus on the planning process but recognise the importance of the plan itself
- Principles for health and welfare planning that are transferable

CORE Organic ANIPLAN ABERYSTWYTH

ANIPLAN Partner animal health and welfare planning principles

1. Continuous development and improvement
   - Identify current status and risks (using animal and resource based parameters)
   - Evaluation and target setting
   - Promotive, preventative and responsive strategies and action
   - Review
2. Farm specific
3. Farmer ownership (setting targets, accounting for aspirations, setting planning agendas)
4. External person(s) should be involved (to provide unbiased advice/support)
5. External knowledge
6. Within framework of organic principles (systems approach)
7. Written documentation
8. Acknowledge existing positive aspects of health and welfare also

CORE Organic ANIPLAN ABERYSTWYTH

A health planning process should aim at continuous development and improvement, and should incorporate health promotion and disease handling, based on a strategy including

- **current status + risks (animal based + resource based parameters)**
- **evaluation**
- **action**
- **review**

CORE Organic ANIPLAN ABERYSTWYTH

Farm specific

CORE Organic ANIPLAN ABERYSTWYTH

Farmer ownership

CORE Organic ANIPLAN ABERYSTWYTH

External persons should be involved

CORE Organic ANIPLAN ABERYSTWYTH

External knowledge

CORE Organic ANIPLAN ABERYSTWYTH

Organic principles framework

CORE Organic ANIPLAN ABERYSTWYTH

Written

CORE Organic ANIPLAN ABERYSTWYTH

Acknowledge good aspects

CORE Organic

Relevant persons should participate in a planning process (suggested principle 9).

CORE Organic

External persons
External knowledge
Evaluation of condition
Acknowledge good aspects

Planning process
Farm specific
Organic principles framework

Farmer ownership

'Animal health and welfare plan' = what the farmer plans to do and how

Report
Recommendations

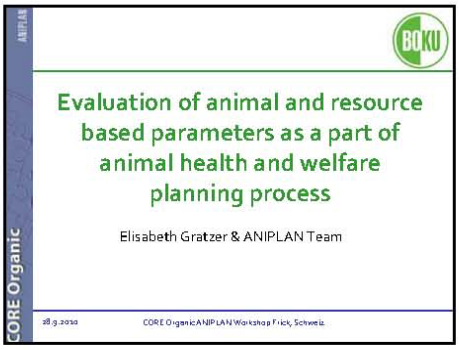
CORE Organic

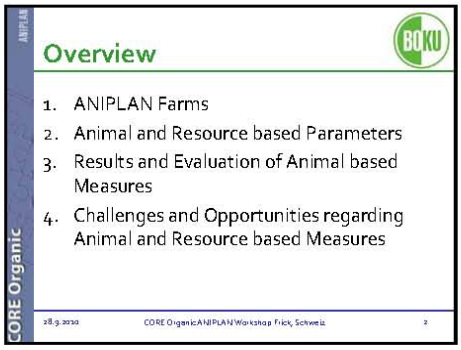
Thank you for listening and we would welcome discussion!

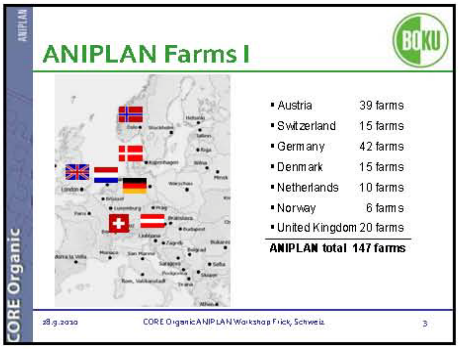
CORE Organic

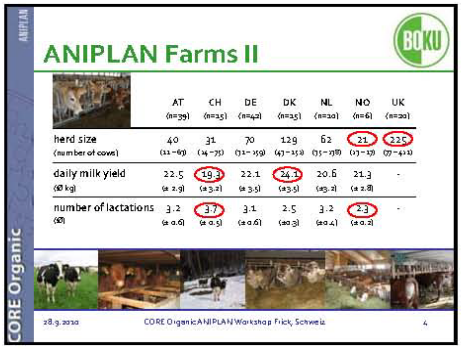
Evaluation of animal and resource based parameters as a part of animal health and welfare planning process

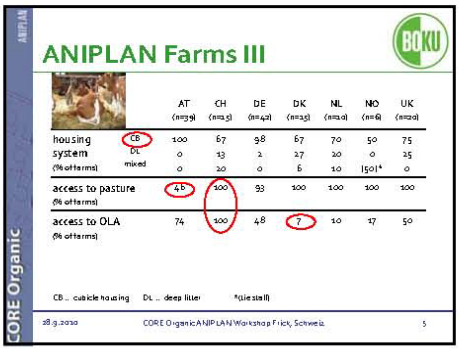
Elisabeth Gratzer & ANIPLAN TEAM

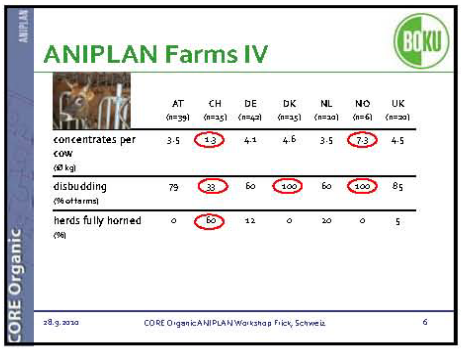












Animal Based Measures

1. Human-animal-relationship
2. Behavioural observations (social behaviour and behaviour around resting)
3. Individual scoring (e.g. body condition, lameness, integument alterations)
4. Treatment records
5. Data of milk recording scheme

Resources & Management

1. Housing environment (design of feeding places/ lying area, surface of alleys, ...)
2. Management (calving management, feeding, hygiene routines, ...)
3. (Observation of milking routines)

Year 0 vs. Year 1

	AT (n=39)	CH (n=15)	DE (n=28)	DK (n=8)	NL (n=9)	UK (n=17)
% of lean cows	+ 3.5	- 4.5	- 3.7		- 5.1	- 15.0
y0	5.5	8.1	8.2	1.0	8.7	15.1
y1	9.0	3.6	4.5	0.1	3.6	0.1
% of lame cows					- 7.7	+ 13.1
y0	25.7	14.3	13.2	36.7	23.7	26.1
y1	28.4	14.9	13.9	36.8	16.0	39.2
% of severely lame cows	+ 3.8					+ 6.7
y0	8.2	2.4	5.3	7.9	7.7	6.4
y1	12.0	2.2	3.7	10.7	5.1	13.1

Year 0 vs. Year 1

	AT (n=39)	CH (n=15)	DE (n=28)	DK (n=8)	NL (n=9)	UK (n=17)
% of animals with dirty udder			+ 6.3			+ 50.8
y0	30.7	14.1	36.7	5.1	33.6	44.2
y1	31.1	14.7	43.0	5.2	34.9	95.0
% of animals with dirty hindquarter	+ 5.5		+ 19.1	+ 7.7		+29.6
y0	54.5	36.2	38.8	18.6	68.6	69.6
y1	60.0	40.4	57.9	25.7	64.1	99.2
% of animals with dirty lower hind legs	+ 6.8	+ 7.7		+ 20.1		+ 14.4
y0	73.1	64.3	84.3	70.8	85.0	85.2
y1	79.9	72.0	81.7	90.9	84.8	99.6

Year 0 vs. Year 1

	AT (n=39)	CH (n=15)	DE (n=28)	DK (n=8)	NL (n=9)	UK (n=17)
% of cows with hairless patches		- 10.2	- 5.3		+ 7.0	-11.2
y0	31.1	16.7	12.9	55.1	38.2	27.6
y1	27.7	6.5	7.6	51.6	31.2	38.8
% of cows with lesions			- 3.9			
y0	13.6	3.4	5.1	7.6	5.7	5.8
y1	11.8	1.3	1.2	5.6	9.0	3.3
% of cows with swellings						- 9.0
y0	5.6	2.3	7.3	7.5	5.5	14.6
y1	6.9	0.1	4.5	7.9	5.6	5.6

Year 0 vs. Year 1

	AT (n=39)	CH (n=15)	DE (n=28)	DK (n=8)	NL (n=9)	UK (n=17)
% of cows with hairless patches			- 3.8	- 8.1	- 3.5	-11.9
y0	29.4	10.9	5.3	19.8	36.5	17.0
y1	29.6	8.5	1.5	11.7	33.0	5.1
% of cows with lesions						
y0	11.5	2.1	2.4	2.3	1.2	0.8
y1	9.6	1.6	0.3	1.7	3.5	0.2
% of cows with swellings			- 7.6			
y0	4.7	2.6	16.5	4.6	11.3	0.8
y1	3.9	1.3	8.9	5.2	8.2	1.1

Feasibility – Clinical examination I

- sample size vs. absolute desired precision

classes of absolute precision	AT (n=39)	CH (n=25)	DE (n=42)	DK (n=13)	NL (n=10)	UK (n=20)
0 – 0.05	16	12	9	0	0	0
0.06 – 0.1	20	2	21	1	1	6
0.11 – 0.15	3	1	12	10	8	12
> 0.15	0	0	0	4	1	2

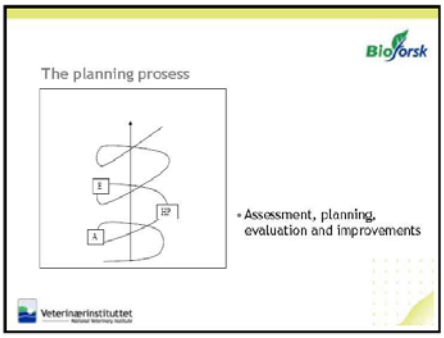
Evaluation of parameters - Opportunities

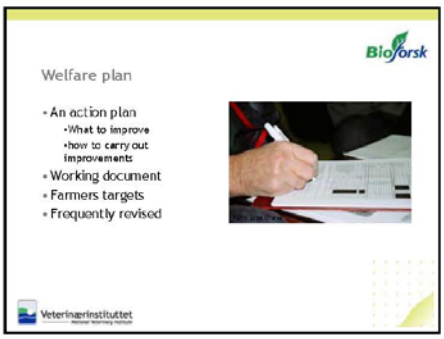
- Whole picture of the farm
- Direct outcome of welfare of animals
- Accepted by/interesting for farmers
- Comparison to other farms
- Quantifiable Data → Evaluation of Improvement of Herd Health and Welfare

Thank you for your attention!

Welfare planning in organic dairy calf production

Britt I. F. Henriksen, Cecilie Mejdell and Berit Hansen





Developing a calf health and welfare protocol: Learn from other projects and practical experience

- Organic cow comfort, Norway
- Calf life 100, Denmark
- Welfare Quality
- Calf protocol from Canada
- Experiences in Sweden

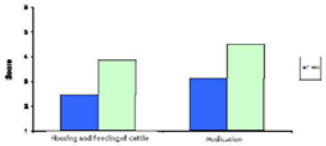
Veterinærinstituttet

Developing the calf-welfare protocol

- A meeting with calf health and welfare experts in Norway
- Visit to Austria - introduction to Welfare Quality for beef calves
- Questionnaire sent to veterinary practitioners
  - Their views on the health and welfare situation for organic calves - advantages and critical points

Veterinærinstituttet

Veterinarians' judgement of own knowledge of the rules for organic production



Compare veterinarian with experience with few (green color, N = 70) and many (blue colour, N = 44) organic farms.
Score 1 = very little knowledge and score 5 = very good knowledge.

Veterinærinstituttet

Important health parameters for calves in organic dairy production - veterinarians' view of the situation

Mortality	87	4,20 (1,25)
Treatment when injured or ill	97	3,73 (1,45)
Navel infections	97	3,61 (1,00)
Respiratory diseases	97	3,60 (0,97)
Deficiency diseases	94	3,60 (0,99)
Joint infections / lameness	97	3,52 (1,02)
Digestion problems	100	3,48 (0,97)
Clean and dry animals	101	3,48 (0,92)
Skin and coat condition	100	3,46 (1,00)
Body condition and growth	97	3,18 (1,02)
Health card registration keeping	83	3,16 (1,40)

- 1 = very bad
- 6 = very good

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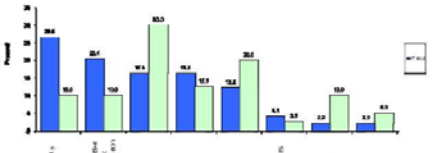
Most critical point for organic calf welfare - veterinarians' view

F = vets having experience in few organic farms (blue)
M = vets having experience in many organic farms (green)



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Developing a calf-welfare protocol

- ANIPLAN-calf workshop (Fokhol 2008)
  - Discussion of parameters
  - Test on farms
- Protocol sent to ressource persons, revised, and tested by two persons on five farms (feasibililty, time consumption, inter observer agreement)
- Final protocol

Veterinærinstituttet

The calf welfare protocol

- A checklist for calf welfare assessment
- Max 2-3 hours on the farm
- Animal based and resource based parameters
- Includes calf management, behaviour, health, environment, housing, feeding, care
- 2-step evaluation
- Score 1-3 (good, satisfying, unsatisfying)

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ANIPLAN-calf protocol

1) Production records

2) Health records

- **Annual health report**
- **General health data**
- **Individual health data**
- **Herd health data**

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ANIPLAN-calf protocol

3) Behavioural assessment

- **Qualitative behaviour assessment in group housed calves (QBA)**
- **Assessment of human-animal relationship (chest measure. Only behaviour of calves, not humans, were scored)**

4) Clinical score

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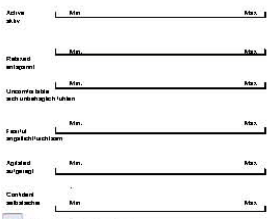
Qualitative behavioural assessment in group housed calves (QBA)

Duration: 15 min
Minimum 2.5 min. per observation point
First observe the calves, then make a score (calves "body language")



Francoise Wemelsfelder
Welfare Quality

Veterinærinstituttet

Clinical score

NB: Every calf, or at least 15 calves is to be assessed
Score 1, 2 or 3 for every calf.

1 = Good, action unnecessary;
2 = Satisfying, but action necessary; over time
3 = Unsatisfying, action immediately;

Earring no.																				
Body condition																				
Respiration, including coughing																				
Nasal discharges																				
Ocular discharges																				
Umbilical disorder																				
Diarrhoea																				
Locomotion/lameness																				
Cleanliness																				
Skin lesions																				
Fur quality (Shiny, dull, lousy, mainess, patches)																				
Overall impression of health																				

Comments:

General impression of calf herd health:

Veterinærinstituttet

ANIPLAN-calf protocol

5) Housing

- **Calving pen**
- **Pen for sick animals**
- **Individual pen (<1 week old)**
- **Pen for group housed calves with, and without milk**
- **Calves outdoors**

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5. Housing

Questions to farmer/stockperson are marked

[illegible]

1 = Good, action unnecessary
2 = Satisfying, but action necessary over time
3 = [illegible]

5.1 Calving pen

	1	2	3	Comments
[illegible]				
[illegible]				
[illegible]				
Space enough to performe natural behavior				
Access to fodder				
Access to clean water				
Draught				
Light				
Quality of air				
Also used for sick animals?				
When is cow moved into pen?				
Routines for supervision at calving				
When are cow and calf separated?				
[illegible]				

[illegible]

Routines of umbilical disinfection				
[illegible]				

Veterinærinstituttet

ANIPLAN-calf protocol

6) Feeding routines

- Colostrum
- Feeding of milk

High focus! How much, how often!

(Questions about roughage, consentrates and water - Housing-lists (5))

Veterinærinstituttet

Experiences so far

- After testing the protocol on 9 farms:
  - Important with experienced / well trained assessors
  - Protocol sometimes not detailed enough (remarks has to be written down) or too detailed
  - Feasible within two hours
- Calf welfare planning on three farms
  - Visits once a year is not enough to keep attention
  - Farmers appreciated the written report from the farm visit
  - Farmers wanted closer follow up - stable schools?

Veterinærinstituttet

Welfare planning in Norway

- The Norwegian Cattle Health Services is developing cow herd health and welfare planning
  - Meeting in September
  - Eager to implement elements from ANIPLAN calf assessment, for both organic and conventional farming
- Stable schools: Norwegian Cattle Health Services finally ready to try out this method

Veterinærinstituttet

Thank you!

Project group

- National veterinary institute:
  - Vonne Lund († 2009), Cecilie Mejdell (project leader) and Petter Stanghov
- Bioforsk Arctic farming:
  - Inger Hansen og Berit Hansen
- Bioforsk Organic:
  - Britt Henriksen

Financial contribution:

The Norwegian Research Council (CORE Organic1) **Norwegian Animal Protection Alliance**
County Governor of **Bioforsk**

Veterinærinstituttet

ANIPLAN - A discussion

Becky Whay

Becky Whay

ANIPLAN

A discussion

University of BRISTOL

2

Planning

- ANIPLAN – "*continuous development is needed within the farm to reach the goal of good animal health and welfare in organic livestock farming*"

3

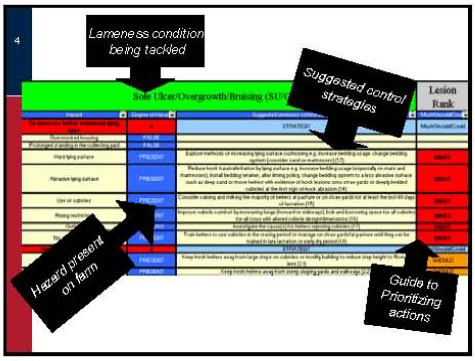
Planning

The project emphasises "planning" as a process to overcome the static health plan trap.

The need for Health planning to be "dynamic" not an archive document.

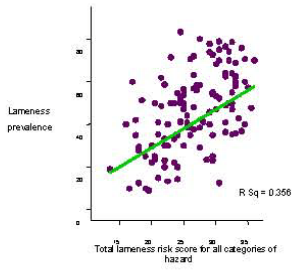
No matter how large the document it may only reflect the most easily measured diseases and welfare outcome measures – it is also hampered by reflecting a point in time and being reliant on farm records

4



5

Relationship between hazards & lameness prevalence



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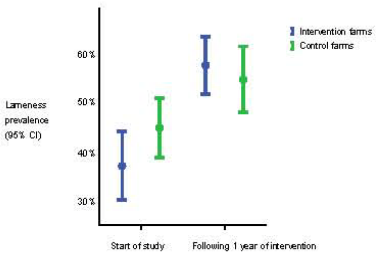
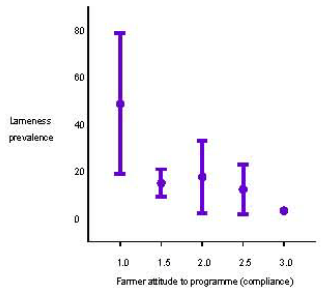
Lameness prevalence in heifers before and after intervention



7

Effect of compliance with the lameness control programme



8

Planning

- Is the gaol to achieve better planning or to achieve a change in practices…. leading to health and welfare improvement.
- There can be a disconnect between the intention to make a change (awareness) and the implementation (behaviour change)

9

Discussion Point

- Does the emphasis on "planning" mask the main purpose – to encourage action?

10

Outcome Measures (Disease & Welfare)

- ANIPLAN – "*the process of planning must include knowledge about the status within a given herd as background for taking decisions and planning future improvements as well as evaluating already implemented measures*"
- Measures that are standardized, reliable, feasible, valid, sensitive to change…. so farmers can be benchmarked, receive feedback and change can be measured and reported over time

11

Working Horses – Lameness Project

Community run project

- Facilitators from within each community run exercises to consider their problem and the actions they can take.
- There is no formal lameness scoring (outcome measurement) carried out by the communities.

13

Planning & Community Monitoring

14

Result

- The intervention was successful in reducing the severity of lameness in study horses working in Jaipur.
- This reduction was greater in the intervention group than the control group.

15

Discussion Point

- Do farmers need "standardized" outcome measures?

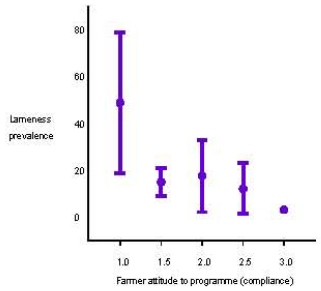
16

Advice

- ANIPLAN – "*respectful communication between the owner of the herd and other farmers as well as animal health and welfare professionals (veterinarians and advisors) is paramount*"
- Need communication that empowers farmers and encourages change

17

Effect of compliance with the lameness control programme



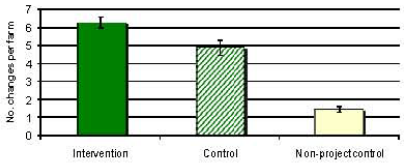
Healthy Feet Project

Working together to reduce cattle lameness

19

20

Number of changes implemented



21

Result

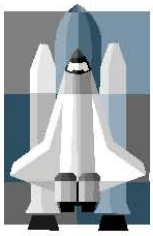
- Time was an important component in the reduction of lameness with greater reductions occurring later in the project when we had moved away from a purely advisory approach to a more facilitatory approach.
- The initial advice did, however, underpin the lameness management decisions made by farmers.

22

Discussion Point

- Advisory approaches and farmer owned approaches – are they in conflict with each other?

The Future – ANIPLAN helping to improve animal welfare



The Future – ANIPLAN helping to improve animal welfare

- Example from "Healthy Feet" Project
- Levy Board – Dairy Co to make approach available to all UK dairy farmers.
- Model is to train vets to facilitate and use the supporting tools developed during the project.
- Those trained will sign up to using the approach on "X"farms – intention is to sell it as a service.
- Challenge – to transform advisors into facilitators

25

Discussion Point

- How can the approaches developed through ANIPLAN (and the learnings gained from ANIPLAN) help improve farm animal welfare in the future?

Dialogue towards animal health and welfare planning

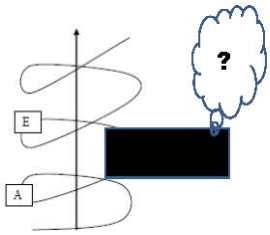
Mette Vaarst

CORE Organic ANIPLAN

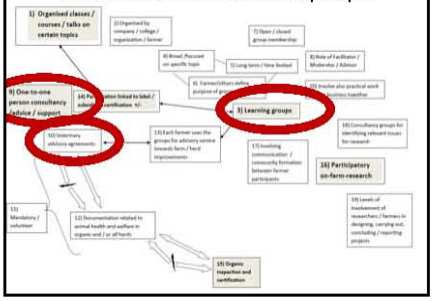
Dialogue towards animal health and welfare planning

Mette Vaarst
Work Package 4

What was in the 'black box'?



The dialogue we talk about = the conscious process with an aim and that can fulfull the ANIPLAN principles



In the following …

- What did we do in ANIPLAN?
  - Communication with farmers
  - Research efforts to find out about it
- Communication related to the principles

- Discussion …

On-farm studies

Dk:	• 15 farms; farmer group + individual planning
Austria:	• 39 farms; farmer group + individual planning
UK:	• 20 farms; farmer groups & discussion group
Ch:	• 15 farms; farmer groups
NI:	• 10 farms; on-the-spot discussion after assessment
D:	• 42 farms; individual planning
N:	• 6 farms; individual planning

Research effort & data

- Processes at our workshops
- Interviews of facilitators and advisors so far in NI, A, Ch, Uk & Dk
- Questionnaire asked to farmers after the project: how did the project work?

Different approaches: one-to-one dialogue and FFS approaches

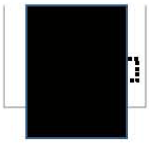
- The principles apply to all types of dialogue
- The challenges and practices can be different

Before the process …

The personal relationships AND / OR the professional relationship:

- How did the farmer choose the approach?
- How did the farmers choose whom she / he wanted to involve?
- How did the persons who were involved choose to be involved?

A continuous process is 'a natural framework for a dialogue'



-Dialogue takes place at all steps of the process

- When the dialogue is initiated it is important that the scene is set and everybody has made their expectations clear and explicit

Farm specific

Relevant to the farmer => learning takes place in the farm context

Learning happens when it is relevant for the learner Then the farmer can take ownership

Farmer ownership

The farmer owns the farm – who else can take action?

Without farmer ownership:
the dialogue may turn into monologue

'External knowledge'

- Must be translated into the farmer's own world if he/she should understand it
- Here, all critical points should be made clear

- Experience:
  - Data has to be explained and discussed: what does it mean, and what does it tell? How can it be interpreted?
  - Challenge: takes more time than to put it into an envelope (Joint farmer meeting where the data presentation is explained and discussed)
  - Take care of the formulation not to offend; some areas are sensitive

Dialogue: The meeting …

… between 'Farmer ownership' and 'External knowledge' + 'External persons'

- **The major challenge: how to ensure farmer ownership and bring new perspectives without overruling?**
  - **Does the farmer trust the data?**
  - **What if the farmer focuses on the 'wrong things'?**
  - **What if the farmer chooses silly solutions?**
  - **Does the external persons listen respectfully to the farmer?**
  - **Are roles and responsibilities clear?**
- **How to reach the 'unreachable'?**

Learning happens in the meeting between 'inside knowledge' and 'new'

A way of seeing a solution…

- **When doing assessments and making reports: the external person(s) should be absolutely clear on what he/she/they think**

- **The farmer takes ownership when considering all inputs and choosing – and the external persons must respect this**

Organic principles framework and acknowledge good aspects

- **Appreciative dialogue**
- **Supports the farmer ownership: give inputs in respect for the goal and let the farmer choose and accept the choices**
- **The organic principles framework is setting overall goals => dialogue should develop in common understanding**

Written = the PLAN

- Based on farmers' own commitments and results of the dialogue => NOT written recommendations or 'advisor statements'
- Short and clear
- Common memory: Making sure that those who were present agree on what was decided

Relevant persons should participate in a planning process (suggested principle 9). Experiences which led to this suggestion:

- The dialogue did not lead to action if relevant persons were not included
- Can be difficult when many persons are involved; maybe feed-back processes and 'two-level-dialogues' can take place
- Difficult in a farmer groups if not participating in all meetings
- Fairness

External persons

- One-to-one dialogue
- Farmer groups
- When involving one or more external persons, roles and expectations must be explicitly clear

The ANIPLAN principles can be practiced in face-to-face dialogue and in farmer groups

- The two approaches does not have to exclude each other and have different advantages
  - One-to-one-dialogue e.g:
    - Co-analyse a specific problem with the farmer
    - Give expert advice on a problem
    - Facilitate the farmer to reflect on a problem
  - A group e.g.:
    - Making something work in practice,
    - Being innovative
    - Co-analyse the farm situation

Special challenges and 'positive side effects' from farmer groups

Different types of groups - different aims and dynamics

Stable School model: one year and close

- Intense learning

Farmer groups like e.g. Dutch 'Hans Dirksen model': long lasting groups

- Learning cycle more times
- Potentials for collaboration

In ANIPLAN: Farmer Field School approach

Facilitation

- The most difficult task as a facilitator is to de-code yourself from being an advisor
- As a facilitator you must trust yourself and others

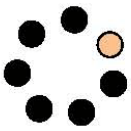
(Facilitation and 'decoding' can be relevant both in face-to-face dialogue and in groups)

Lameness has come up a number of times in the discussion and they usually arrive at something sensible. They do consider things that I just 'oh-no' but as soon as you intersent it just disrupts the whole dynamics. And I've seen meetings almost fall apart just because I have said a little bit. I shut up and then the meeting recovers.

British facilitator, December 2009, interview about Stable School facilitation (the facilitator is at the same time well-known as a lameness expert)

Learning together (...in groups)

Legitimate peripheral participation *(Lave and Wenger)*
=> later 'duality' *(Wenger)*



Equal participation: Everybody learns from the process

Not necessarily symmetric in each situation; one can be exposed

Everybody active and contributes – but varying over time

Makes tacit knowledge explicit

Equality and respectfulness

During group meeting:
One farmer and farm in focus
Other farmers give input

The whole process:
All farmers take host and guest (*advisor*) roles
Common learning: the development on each farm
Consciousness
Respect; trust

Farmer group approaches: building social capital

- Social capital: Everybody must be willing to sacrifice something – for the long term benefit of the group and everybody in the group including oneself
- Creating networks
- Engage with other actors
- Bring about change; raising voices
- Negotiation and to make life more meaningful / understand / learn together: *Moving out of poverty is not action – it is interaction!* Economic poverty not the only form of poverty e.g. in North-West Europe

Planning to take action => empowerment - no matter which approach

- Encourage to master own life situation
- Learning => shapes identity
- Normally facilitated by a professional
- Built on the idea of 'under-privileged who needs to be empowered'
- North-western Europe context => take action, focus on farming and animal husbandry beyond regulations
- Aiming at leading the person(s) through processes where they analyse their situation and find solutions and learn that 'I can do it'

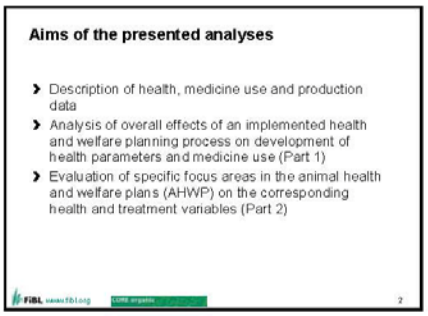
Experience from ANIPLAN

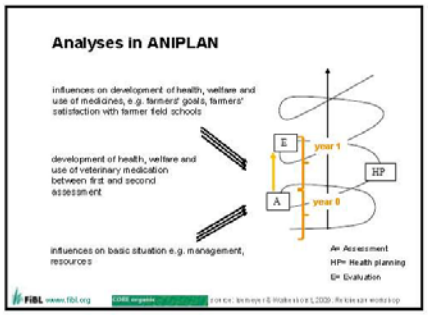
1. The ANIPLAN principles form a framework for respectful and relevant dialogue and communication towards planning
2. It works (only) when the farmer takes ownership and action and decides which action to take – facilitation or advice on request
3. Major challenges are related to the meeting between 'the farmer (ownership)' and 'external'

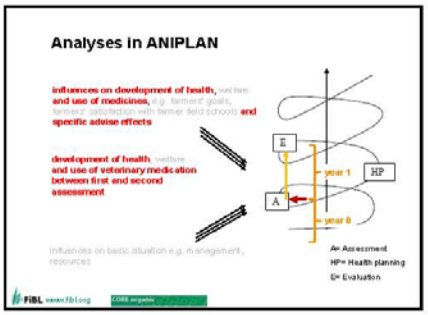
Thank you for your attention

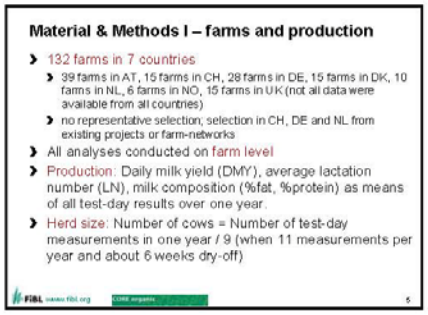
Effects of health and welfare planning on medicine use and health parameters in ANIPLAN herds

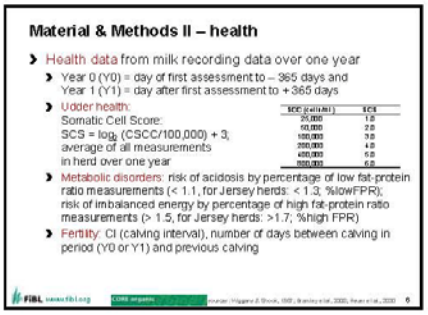
Michael Walkenhorst, Gidi Smolders and Silvia Ivemeyer











Material & Methods III – medicine use

- Treatment data from farm records or national databases, calculated as treatments per cow and year
  - Veterinary drugs included: antimicrobials, hormones, non-steroidal antiphlogistics and infusions
  - Different sources:
    - AT, DE, NL, UK, CH - farm records and veterinary bills
    - DK, NO - national central databases
  - Sum of all treatments and differentiated to the categories:
    - Udder treatments (mastitis during lactation and dry-off)
    - Metabolic treatments (milk fever, acidosis, digestive disorders)
    - Lameness treatments (claws and legs)
    - Fertility treatments (parturition problems, retained placenta, endometritis, ovarian cysts and lack of heat)
    - Other treatments (for example parasites, injuries,…)
  - A new treatment was defined as having an interval of at least 7 days between two treatments of the same disease.

Material and Methods IV – planning

- Health and welfare planning by farmer field schools or one-to-one advice. Different processes in different countries, but all according to the ANIPLAN principles.
- Selected focus areas for the planning process:
  - Metabolic
  - Udder
  - Lameness
  - Fertility
  - Welfare
  - Calfs
  - Harvest
  - Other

One to one advice

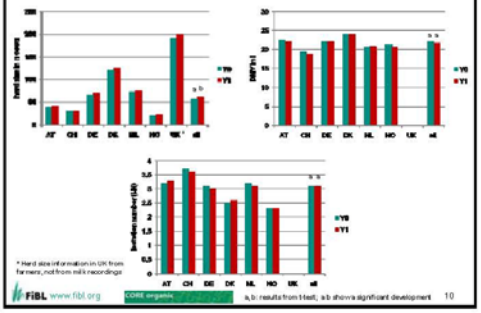
Farmer field schools

(two focus areas per farm)

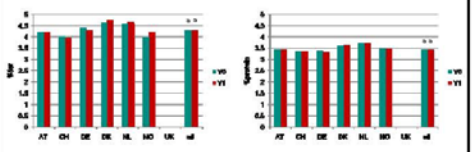
Material & Methods V - Statistics

- Univariate
  - Analyses of development from Y0 to Y1 by t-test or Wilcoxon-test for paired samples
  - Analyses of specific effects of advices by t-test and Wilcoxon-test, respectively, for unpaired samples
- Statistical models

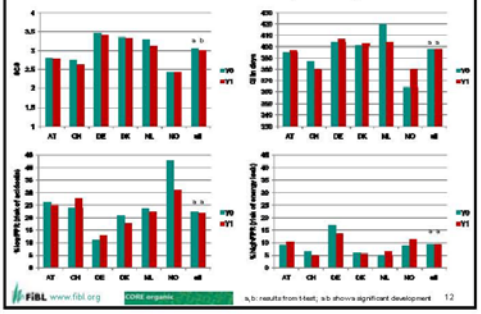
Herd characteristics in Y0 and Y1 (means)

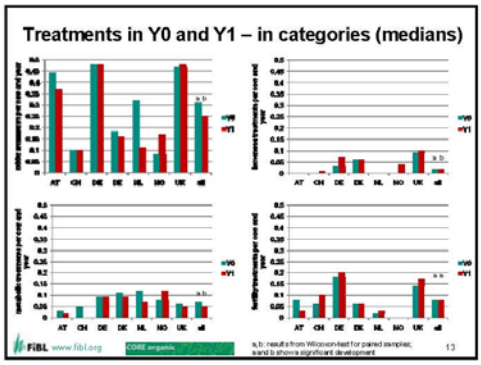


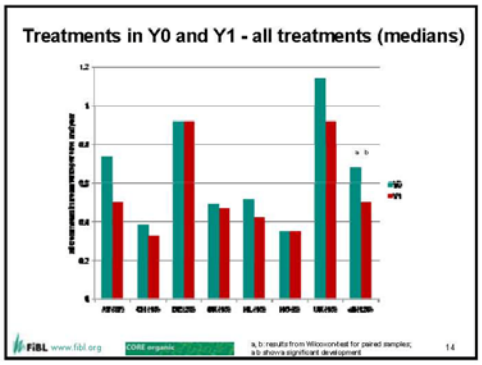
Milk composition in Y0 and Y1 (means)



Health situation in Y0 and Y1 (means)







Results Part 1

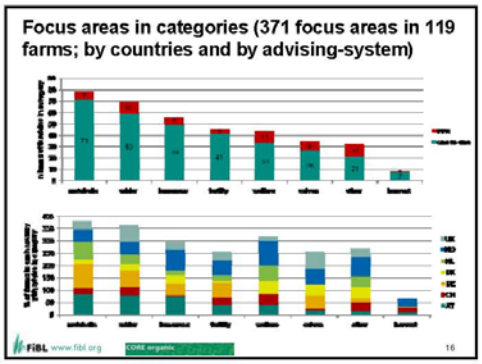
No significant changes were determined for:

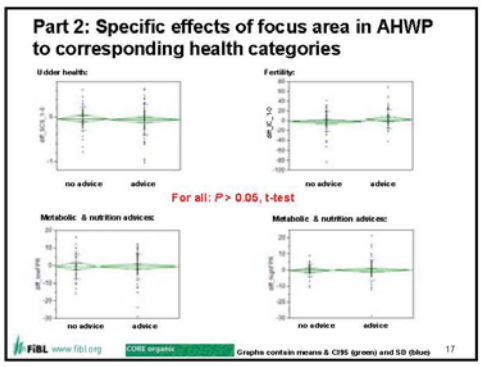
- Milk yield, average lactation number
- Milk composition and risk for metabolic diseases
- Calving interval
- Amount of treatments in categories fertility and "others"

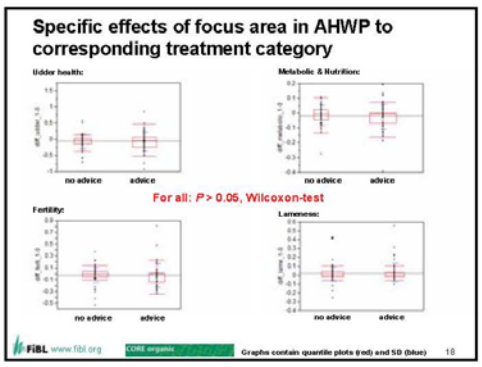
Significant changes

- Slight increase of herd size
- Improvement of udder health (SCS)
- Decrease of udder and metabolic treatments
- Slight increase of lameness treatments
- Decrease of all treatments

15







Results Part 2

- No specific effects of focus areas in AHWP on the corresponding health and treatment areas

Discussion

- No specific effects of focus areas on health or medicine use in the related area
  - short term follow-up
- Better chance for finding specific effects may be achieved by
  - longer period of observation
  - analyses if advices were implemented in the farms
- To minimize medicine use focussing on udder treatments could be effective caused by the high amount of udder treatments on the sum of all treatments.

Overall effect on medicine use

- Planning principals
- Farmers' general motivation in project topic

Conclusions

- Reduction of medicine use despite of different advising systems and conditions in the several countries
- Advising systems following the same principles
- Reduction of medicine use combined with same health and production level and same average lactation number

Role and risks of antibiotics in future European livestock production

M. Hassing

Role and risks of antibiotics in future European livestock production

M. Hassig
Prof. Dr. med. Vet. MPH FVH Dipl. ECVPH & ECBHM

Section for Herd Health, Department for Farm Animals, University of Zurich, Switzerland

Antibiotic restistance

- In 2001 70% of the antibiotics used in the US are given to food animals in the absence of disease
- 2010:
  - MRSA (methicillin-resistant Staphylococcus aureus)
  - VRSA (Vancomycin-resistant Staphylococcus aureus)
  - VRE (vancomycin-resistant enterococcus)
  - ESBL (Extended spectrum betalactamase): E. coli, Klebsiella
  - NDM-1 (New-Delhi-Metallo-Beta-Lactamase) resistent to Carbapeneme: E. coli, Klebsiella
- Transfer from animal use to humans or human hospitalism?

Public concern or from science to public

- Erreger aus dem Stall
  - Mit Sorge beobachten Wissenschaftler einen neuen Stamm multiresistenter Staphylokokken den Schweine auf Menschen übertragen haben
    - Süddeutsche Zeitung (D) 27.08.2010, Seite 1 / 2 8107 8174520 aus Science

Actual situation in Switzerland


swissmedic

ARCH-VET

Bericht

GESAMTBERICHT
2009

Der Bericht ist online verfügbar unter:

Gesamtmengen

Vertriebsmengen (in kg)	2006	2007	2008	2009
Sulfonamide	27'334	29442	29'504	29'413
Tetracycline	15'664	17404	17'390	16'250
Penicilline	13'156	13'181	13'873	13'258
Aminoglykoside	3'724	3'722	3'721	3'544
Makrolide	3'236	3'553	3'775	3'557
Polymyxine	1'987	1'810	1'713	1'676
Trimethoprim	2'083	2'018	1'858	1'752
Cephalosporine	446	481	501	513
Fluoroquinolone	343	385	433	427
Amphenicole	202	232	253	271
Lincosamide	104	106	97	75
Pleuromutiline	6	154	21	33
Andere*	24	25	21	19
Gesamtergebnis	68'309	72'511	73'160	70'789

ARCH-VET 2009, Swissmedic, 2010

Applikationsart und Zieltiergruppe

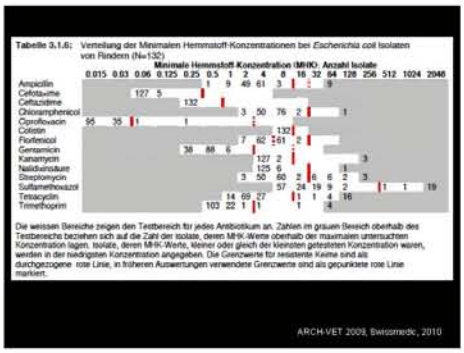
Applikationsart	Heimtiere	Nutztiere	Gemischt*
Intramammär		*5'190*	
Trockensteller		1'464	
Laktierend		3'726	
Oral	*881*	*50'284*	*309*
AMVs		48'176	
Andere	881	5'167	309
Parenteral	*5*	*2'235*	*7'709*
Topisch/extern	*77*	*934*	*164*
Total (kg)	964	61'643	8'182

ARCH-VET 2009, Swissmedic, 2010

Präparate für Nutztiere

Vertriebsmengen (in kg)	2006	2007	2008	2009
Sulfonamide	26'605	28'735	29'056	28'909
Tetracycline	15'017	16'749	16'721	15'615
Penicilline	8'288	8'385	8'883	8'432
Aminoglykoside	1'107	1'092	1'038	938
Makrolide	3'217	3'529	3'751	3'532
Polymyxine	1'980	1'804	1'706	1'669
Trimethoprim	2'012	1'953	1'786	1'711
Cephalosporine	131	152	169	215
Fluoroquinolone	283	328	372	368
Amphenikole	107	133	166	176
Lincosamide	70	70	62	43
Pleuromutiline	6	154**	21	33
Andere*	9	7	4	1
Total Nutztiere	58'833	63'092	63'734	61'643

ARCH-VET 2009, Swissmedic, 2010



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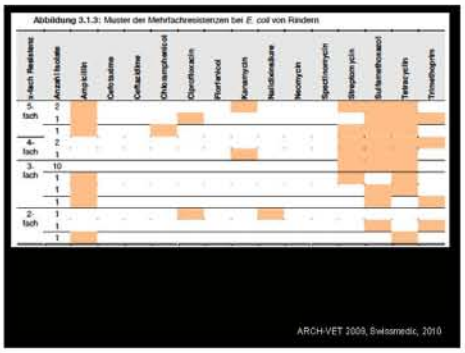

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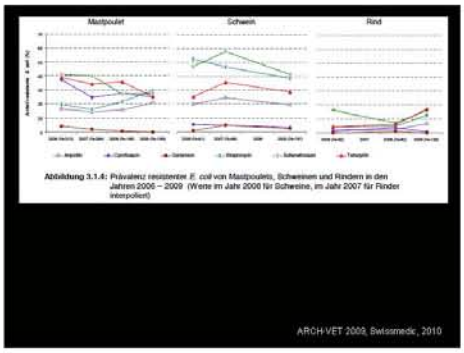
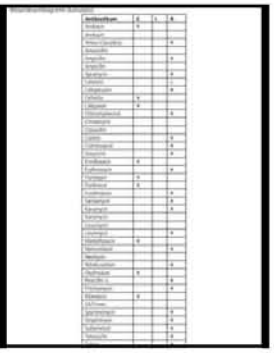
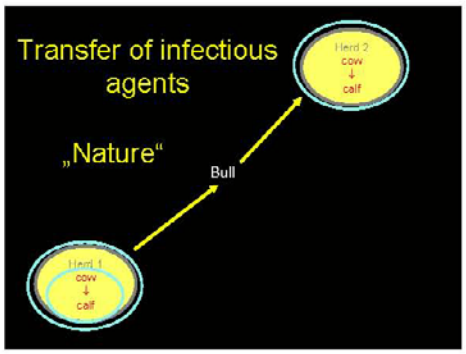
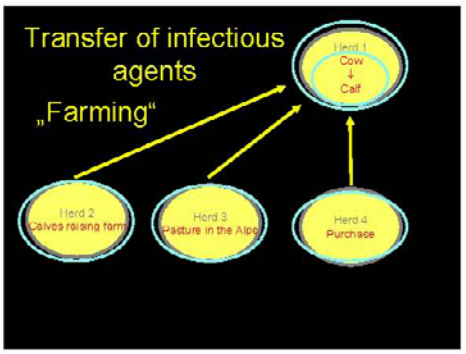


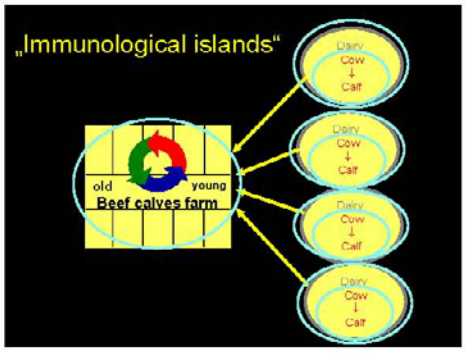
ARCH-VET 2009, Swissmedic, 2010

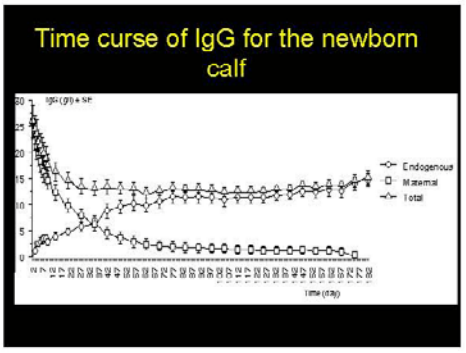
How it looks like... (the daily horror)

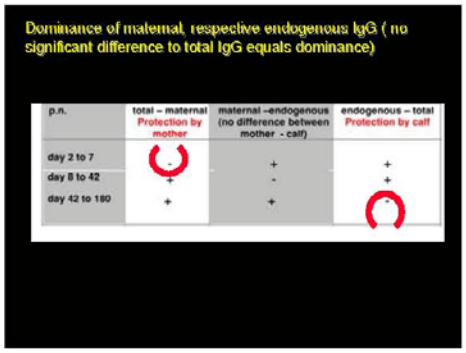


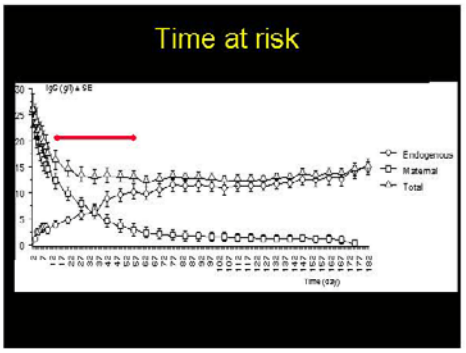

Transfer of infectious agents
„Nature“
Bull
Herd 2
cow
↓
calf
Herd 1
cow
↓
calf

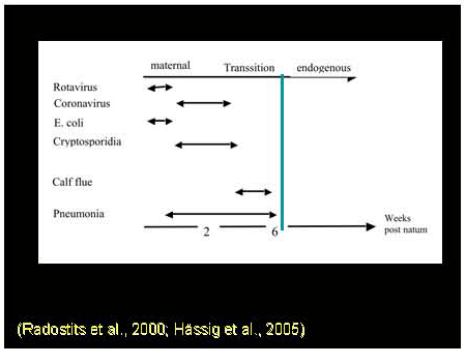

Transfer of infectious agents
„Farming“
Herd 1
Cow
↓
Calf
Herd 2
Calves raising farm
Herd 3
Pasture in the Alps
Herd 4
Purchase


„Immunological islands“
old
young
Beef calves farm
Dairy
Cow
↓
Calf


Time curse of IgG for the newborn calf
Endogenous
Maternal
Total

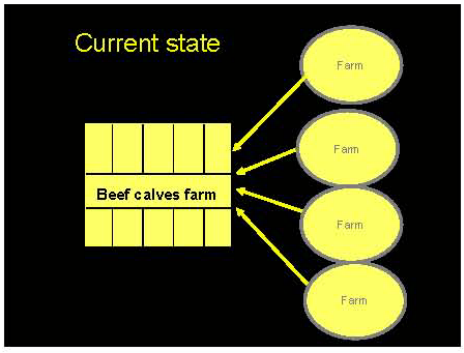

Dominance of maternal respective endogenous IgG (no significant difference to total IgG equals dominance)
p.n.
total – maternal
Protection by mother
maternal –endogenous
(no difference between mother - calf)
endogenous – total
Protection by calf
day 2 to 7
day 8 to 42
day 42 to 180

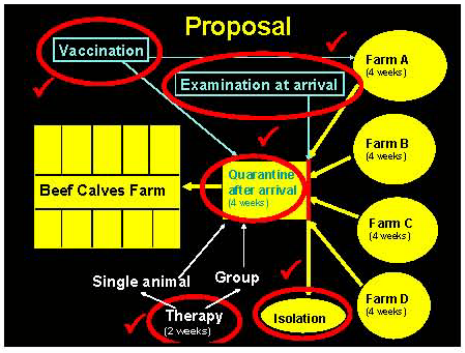

Time at risk
Endogenous
Maternal
Total

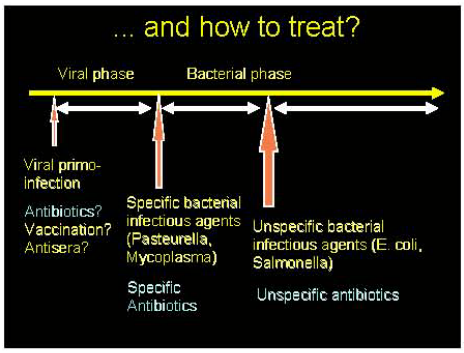


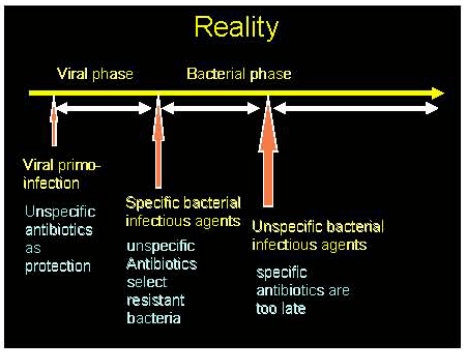
Conclusion for beef calves

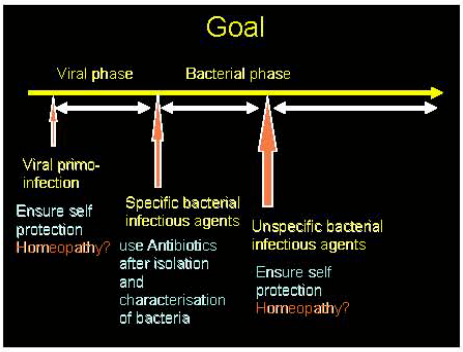
- Infection time span is longer
- Shorter maternal protection
- Later self protection










Goal
Viral phase
Bacterial phase
Viral primo-infection
Ensure self protection
Homeopathy?
Specific bacterial infectious agents
use Antibiotics after isolation and characterisation of bacteria
Unspecific bacterial infectious agents
Ensure self protection
Homeopathy?


„Absense of evidence is not evidence for absense "
Martin Reed, Astronom
Thank You for Your attention

Education and advisor systems related to dairy organic farming in the participating ANIPLAN countries

Mette Vaarst, Gidi Smolders, Britt I.F. Henriksen, Stephen Roderick, Christine Leeb, Michael Walkenhorst, Christoph Winckler, Elisabeth Gratzer, Elisabeth Stöger, Johann Huber, Jan Brinkmann, Solveig March, Silvia Ivemeyer, Cecilie Mejdell, Berit Hansen, Pip Nicholas and Lindsay Kay Whistance

Introduction

This chapter is the report of ANIPLAN's deliverable 4.1 titled: 'Evaluation report on the state of the art regarding advisor systems, education of farmers and advisors and farmer groups in the participating countries'. The seven participating countries (UK, Switzerland, Austria, The Netherlands, Norway, Germany and Denmark) had widely different approaches to advisory systems and education. This is important to consider when integrating the outcomes of the ANIPLAN project into the various systems in different countries.

In the project group, we aimed at developing principles which can be thought into every European country. We hypothesised that farmers would be stimulated by many different types of dialogue, depending on how they prefer involvement on their farms, and therefore we aimed to develop principles which can be applied to different settings, .e.g. dialogues between an advisor and an organic farmer, or in various farmer group approaches. In this report, the various approaches to and conditions for advisory services and education surrounding the organic farmers are discussed, with examples from the participating countries on how the existing structures work and what the advantages and challenges are. Hence, the aim of the report is to discuss how the principles of ANIPLAN can be applied across a range of scenario regarding advisory services and attempts to guide improvements in organic herds.

Materials and methods

Project framework

The project 'Minimising medicine use through animal health and welfare planning' (ANIPLAN) was carried through from June 2007 to November 2010 as a CORE Organic project involving 7 different countries: Austria, Switzerland, United Kingdom, Norway, The Netherlands, Germany and Denmark. All participating institutions in this project had a strong on-farm research and development background, and all project activities were carried out in private dairy herds adopting an action research approach. The project aimed at developing concepts for active animal health and welfare improvement through interactions and conscious efforts between the farmer and his/her advisors, project participants, or fellow farmers. The fundamental organic principles provide guidance for the improvements, and the farmer ensures that these were realistic to implement under specific regional conditions.

Project participant consultations and joint mapping

Understanding the structures of each country's advisory and knowledge transfer systems is an important part of analyzing the feasibility of the concepts developed in this project. In a series of workshops various group discussions and joint mapping took place. Each country was represented by 1-4 researchers, and they had the responsibility to represent their country specific environments. Insight and information from these project meetings and workshops are partly reflected in project reports (Vaarst & Roderick 2008 & 2009), and partly through tape recordings and meeting notes as a part of the data collection process.

Results: different approaches to farmer planning processes

Our framework of understanding advisory services and education

A complex pattern of services and opportunities for the organic farmers emerged during the discussions among partners and with different institutions, advisors and companies. Based on this, figure 1 was constructed and will serve as our framework for mapping the various approaches to animal health and welfare planning of organic farmers in the participating countries. In our mapping we focus on basically four different approaches: organized learning classes, one-to-one advice, learning groups and on-farm participatory research approaches.

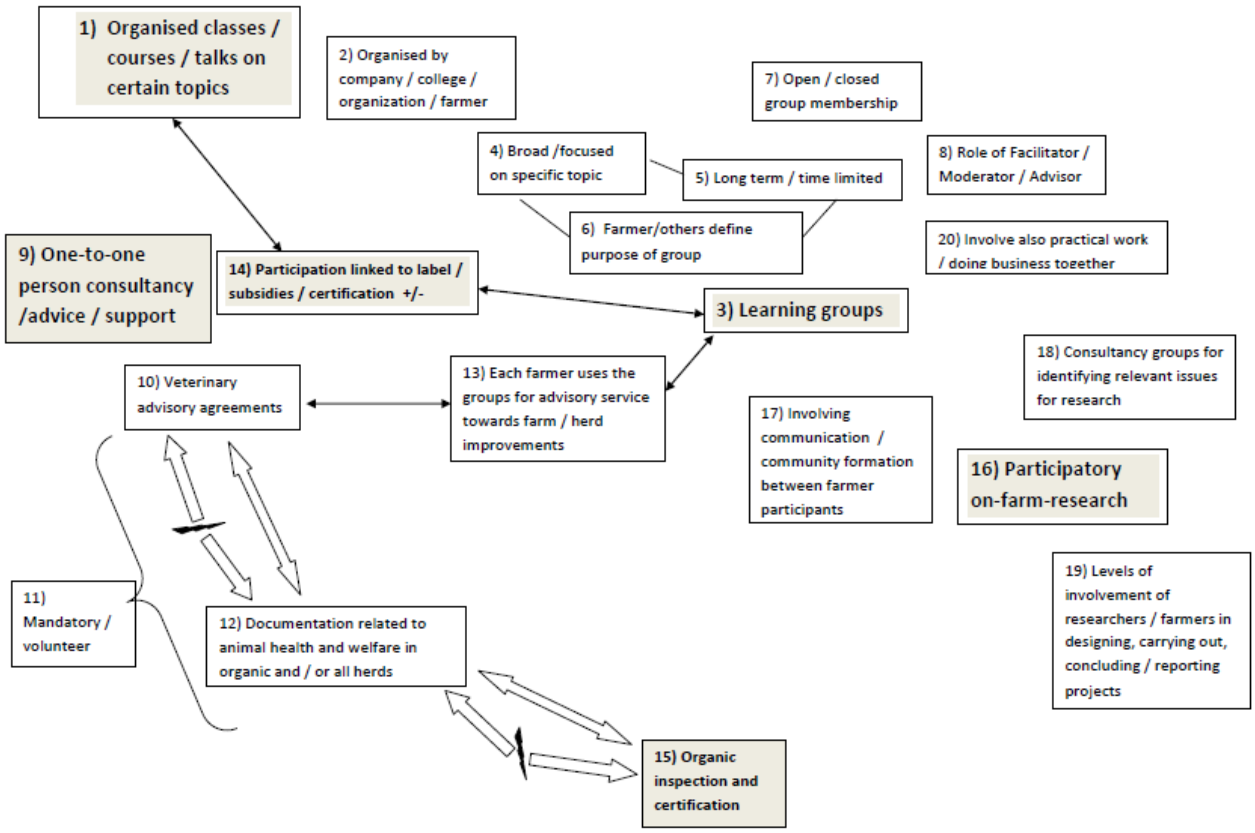


Figure 1. An overview of different approaches to learning and advice that may influence the health and welfare of organic dairy herds, drawn from the 7 countries participating in the ANIPLAN project.

Organised farmer classes

In all participating countries, different types and options exist for farmer education and inspiration (1 in Figure 1), with evidence of significant variation between countries, and in particular with regard to knowledge transfer approaches for organic farming. One example has been the way in which Elisabeth Stöger in Austria has been working in classes of organic farmers, who are stimulated to improve the health and welfare status of herds. Most classes focus on certain topics – e.g. calf health or homoeopathic treatments – and are organized by FIBL Austria and various organizations in Austria, as well as farmer groups in the different regions, as joint efforts.

An example of classes organized with the involvement of companies (2 in Figure 1) is the Dutch Caring Dairy program series of one day farmer group meetings on different topics, which can be defined as 'short term learning groups', but also as 'classes', since the group members are new to each other at every meeting (Smolders, 2009[1]), as described in the Dutch case description below. Some farmers who know each other and have become 'sparring' partners in their daily practice choose sometimes to go to the same meeting and hence maintain a consistent discussion between themselves. A dairy company pays a premium for a certain level of participation in these classes or meetings. This may be a motivating factor for the farmer to attend, although it may be argued that the resulting change would only happen if the farmer is sufficiently inspired for change, and the solutions are realistic and achievable.

Learning groups

A wealth of different approaches to farmer learning group approaches (3 in Figure 1) exists. The case study of the Netherlands below demonstrates how a variety of farmer groups in combination can reach very many farmers. Interviews of farmer group facilitators pointed to how different farmers are attracted to different types of farmer groups (if they are attracted at all). Some types of farmer groups expose and very much involve the farmer and have the aim of fulfilling the farmers' aim and commitment to change and to follow advice (13 in Figure 1). Other groups leave the farmer relatively 'protected from exposure', and leave the discussions on a relatively general level. The aim of these groups seems to provide inspiration by providing a choice of knowledge options.

The attraction of many study groups is the access to 'experts' who come and discuss issues with the group members. In some cases this may involve an external person assessing farms or undertaking a benchmarking activity related to the subject, which allows the farmers to judge their own farm in comparison with others.

The British 'Healthy Feet' project is an example of a farmer group approach with a goal of reduced lameness in dairy herds, which had been identified as critical by the dairy sector. This involved a significant effort by the project group to create a common identity among the participating farmers e.g. by producing car stickers and information materials with a logo, which bound the farmers together and which were intended to stimulate their efforts in relation to the goal.

There were differences across countries with regard to the period that farmer groups operated, and whether these were intended to be for a fixed term or ongoing (5 in Figure 1). In the Netherlands, as illustrated below, several types of farmer groups and ways of bringing farmers together exist. Some of them are mostly aiming at farmers being inspired. Others aim at giving farmers, who want to change, concrete guidance, advice and ideas.

The so-called stable school approach is an example of a farmer group type which is based on commitment and active participation from all participating farmers. This type of farmer group is described in detail in Vaarst et al. (2007[2]). It is a type of facilitated farmer-to-farmer advice where a closed group of fellow farmers are asked to give the host farmer advice on two areas

[1] Smolders, G. Improving animal welfare by assessing college's farms; in: Vaarst, M. & Roderick, S. 2009. The process of researching animal health and welfare planning. Workshop report from the ANIPLAN meeting in Norway in April 2008.

[2] Vaarst, M, Nissen, T, Østergaard, S, Klaas, I, Bennedsgaard, TW & Christensen, J 2007, 'Danish Stable Schools for Experiential Common Learning in Groups of Organic Dairy Farmers', Journal of Dairy Science, 90, 2543-2554

which the host farmer himself has selected, and the group exists for a one-year period. In these cases, the observations and experiences of everybody in the group are exchanged as an important part of the activities, whereas in groups where a farm walk occurs without discussion, the host farmer may remain unaware what criticisms, positive or negative, fellow farmers had made and, more importantly, what advice they would offer.

A contrast to this is the long-lasting groups of the private consultant, Hans Dirksen, in the Netherlands. Some of these groups have existed for up to 15 years, but with some farmers leaving and newcomers coming in. This group approach also contains a great deal of exposure among the farmers in the groups, and the farmers allow fellow-farmers to have insight into their economic figures and involve them in discussions regarding changes that may be made on the participating farms.

None of these groups can be said to form communities of importance for local decision making or entering into policy making (17) other than in the sense that some dairy companies stimulate group formation and continuous education as a part of their 'dairy company identity', and hence a part of a marketing strategy. This is different from the situation where farmer groups work with environmental management and ecosystem services, where delivery of public goods may be the aim.

One-to-one approaches
The existence and extent of one-to-one advice for farmers varies considerably across countries. In Norway an extensive cattle health advisory system exists across the whole country, providing farmers with a significant support resource (see case-study below). In other countries, such as the UK, such a system does not uniformly exist and often farmer advice relies on the strength of the relationship between individual veterinary practitioners and farmers through a commercial arrangement. A requirement for specific organic farming knowledge amongst advisors was a common response across countries.

In all countries, the role of private companies as advisory service providers appears to be evident and proliferating. Judgment cannot be made here with regard to the quality of advice, but the linking of this advice to particular commercial products e.g. animal feeds, was also a common theme, as was the very specific focus on certain husbandry aspects e.g. feed, rather than whole farm, integrated advice.

Veterinary advisory agreements and formal health plans
In some of the participating countries, more or less mandatory contracts with veterinarians exist, such as in some parts of Switzerland, in Austria (in the form as a 'check list' involving the veterinarian on yearly basis) and in Denmark, where organic farmers recently have been included in a national program where they have to have to receive advice a certain number of times every year, or participate in a so-called Stable School group. In some countries, veterinarians play a role in the certification of farmers in one way or another (e.g. in Denmark, the veterinarian now can give the farmer 'a yellow card' which means that the farmer has to receive more veterinary visits on the farm). The role of advisors who are inspectors is questionable; however it was not discussed in depth in the various interviews conducted as part of the project and therefore not elaborated upon here.

Documentation and formal animal health and welfare planning
Formal health plans have been common place in the UK for more than a decade and a legal requirement for organic farmers. This has not been the case in other countries, and this country case study prompted an early project conclusion that the emphasis must be on

planning as an active process rather than ‘having a plan’. In turn, this active planning process was linked to the set of principles discussed elsewhere in various ANIPLAN documents and reports. The format of formalized health plans can be organized in several different ways, some of which are highly stimulating for the farmer and reflect actions which the farmer takes full ownership over. Conversely, many plans appear to be merely paper exercises and bear little resemblance to the actual farm health planning process.

Debio, the certification body in Norway, have included a short checklist on animal welfare in their inspection visits to Norwegian organic dairy farms, in order to get an impression of the animals’ welfare on the farm. The outputs from these evaluations can be used as part of the farm health plan, as well as a means of identifying systems that are failing to reach the desired standards of welfare. The AssureWel programme in the UK is a new programme to include animal welfare assessments into organic certification, which in turn will be linked to farm advice and knowledge support.

On-farm research

Research directly involving farms and farmers at various stages from planning to conducting and evaluating research results has or is taking place in most of the research institutions which participated in or were connected to the ANIPLAN project. All partners carried out research on farms, indicating a strong connection to the farmer environment, and feeding the results back to farmers and hence directly influencing the development of each of the participating farm.

However, different approaches and levels of involving farmers in research were evident, and in many projects farmers were not directly involved in project planning although they were involved in data generation and communication about the results. The Organic Studies Initiative at Duchy College, Cornwall, UK had experience of direct involvement of farmers in designing trials based on an identified need e.g. the provision of home-grown protein crops as part of the organic diet, as well as the use of animal welfare assessments as part of the farm health planning ‘toolkit’. In the Netherlands government funded facilitated networks had as a major aim to identify research topics relevant for farmers, which was organized in a manner that served as sources of inspiration for research development.

The cases of Norway and the Netherlands

Below, two cases of Norway and the Netherlands are presented to illustrate how the different approaches to learning and advisory services are combined and are discussed in relation to the practical implementation of the ANIPLAN health planning principles.

Advisory systems in Norway related to animal health and welfare improvements

Britt I.F. Henriksen

The Norwegian Cattle Health Services

The main advisory service for dairy farmers in Norway embracing both animal health and welfare is the Norwegian Cattle Health Services. Norwegian Cattle Health Services collaborates with veterinarians trained in preventive health, and special advisors in feeding, milk quality, technology and buildings from TINE dairy company.

Norwegian Cattle Health Services offers several services. One is within health management in the herd. This service can be restricted to a specific problem, e.g. how to reduce the incidence of mastitis in the herd. It is also possible to get a general contract, with regular farm visits and continuous follow-up on the herd health situation. There can be plans for preventive strategies for farmers with new buildings or new production methods. They also offer several courses

and advise for groups of farmers.
From next year (2011) the Norwegian Cattle Health Services hope to be able to offer assistance in developing health and welfare plans, and welfare planning via stable schools. It is probably through this platform veterinarians will be involved in improving animal health and welfare in organic as well as conventional herds.

Veterinarians in private practice

Although most of the formal health services goes through the Norwegian Cattle Health Services, veterinarians in private practice (not engaged through NCHS) sometimes make agreements with farmers about regular visits to the farm for evaluation of status and advice on animal health and welfare improvements.

The Norwegian Agricultural Extension Service (Norsk Landbruksrådgiving)

The Norwegian Agricultural Extension Service is comprised of 44 extension groups and approximately 26.000 members. The primary task of the Agricultural Extension Service is giving advice based on local research regarding all kinds of crop production. They have especially trained persons giving advice for organic farmers. Earlier there were separate extension groups for organic production, but this is now more or less merged into one.
The Norwegian Agricultural Extension Service offers both one to one advice and arranges group meetings on different issues. For example, in areas with many dairy producers the topic for a group meeting can be related to health and welfare.

Box 1. The Norwegian framework of advisory services for farmers who aim at improving animal health and welfare in their herds, described by the Norwegian partner from Bioforsk, Britt I.F. Henriksen.

Development of extension services in Dutch dairy farming

Gidi Smolders

Dutch (organic) dairy farming the last decade changed considerably: a decreasing number of conventional dairy farms, larger farms especially in animal numbers and a higher productivity with more animals and more milk quota per worker. Although most farms in the Netherlands still are family farms[3], an increasing number employs workers outside the family. A growing part of dairy farms (10% now) uses an automatic milk system to have more freedom in working hours. Organic dairy farming is a small proportion of all dairy farms (about 1.5%) and is developing the last 25 years (see table 1). While in conventional dairy farming growth is the keyword, in organic dairy farming there is a split between those that are driven by milk quotas and others who wider ambitions that include offering space for care, nature, dairying, farm shops or even exploiting windmills.

Development of farmer's advisory systems

The old Dutch knowledge system, focussed on productivity, low cost price and international competition changed because of changes to society driven subjects such as wildlife, nature conservation areas, animal welfare and environment. Funds for research and extension from the agricultural sector decreased. Agricultural advice service was privatized and funds from the Ministry of Agriculture, Nature and Fisheries taken away. The OVO-triptych[4], with research, advice and education was organized mainly by the Ministry of Agriculture, Nature and Fisheries abolished in the last 20 years. The OVO-system was a model in which innovation was generated in research, transferred into knowledge and disseminated to farmers and agricultural education. Beside the need to decrease the costs and make advice more effective, there was a need for farmer driven knowledge systems. One of the consequences was the dismantling of the agricultural advice service as a bracket and translator between

[3] On dairy and arable farms 1-2 people are working, of with 80 -95% is family labor (source Berkhout en Bruchem, 2010). Landbouw economisch bericht 2010, LEI-rapport 2010-013,

[4] OVO is abbreviation of Onderzoek, Voorlichting en Onderwijs (research, advice and education)

research and practical farmers. In the same period applied research was privatized and joined with scientific research under Wageningen University and Research, focussing on research and less on advice and counselling. Because researcher not always communicated clearly with farmers and since advice was not an applied researchers priority anymore, new ways were found and new players appeared in development and spreading knowledge in the agro-sector (Poppe, 2009, Klerkx, 2009). Commercial advice firms took over advice and counselling as an information product and not as a by-product by goods sold to the farmers (i.e. feed producers, veterinarians, banks, accountants, producers of farm equipment). Innovation agents try to play a roll as connecting and guiding partner in the innovation process. They sharpen the aims and questions of innovating farmers, they search, select and connect parties to close knowledge gaps and they facilitate the interactive learning process, not as experts but as a director (régisseur) of the process. Innovation agents can be portal sites (an example is Biokennis), consultants (Stimulant), network agents (Melkveeacademie), system instruments (Bioconnect) and education agencies (Groene kenniscooperatie). There is an increasing number of innovation agents/agencies for nearly all agricultural sectors to cover the needs. If they have to be paid by the farmers there is a danger of losing independency and focusing on normal consultancy services. The Dutch Ministry for Agriculture (temporary) financially supports innovation agents initiatives which connect to the policy aims of the Ministry of Agriculture, Nature and Fisheries in different ways: voucher systems for innovative farmer initiatives, network groups of conventional and also especially for organic farmers.

Table 1. Development of organic and conventional dairy farms in the Netherlands in the last 25 years[5]

System	Organic				Conventional			
Year	1985	1995	2005	2009	1985	1995	2005	2009
# dairy farms	15	100	321	320	38200	31400	23500	20800
# dairy cows (*1.000)	.5	4	16	20	1920	1710	1470	1490
#cows/staff	30/1.7	32/1.6	50/1.4	62/1.2	41/1.6	46/1.6	61/1.4	74/1.1
Kg milk/cow/305d	5400	6000	6300	6600	5600	7300	8270	8542

Current types of farmer groups, learning classes, advisory service and participatory on-farm research in the Netherlands

Farmer groups

- **Long lasting farmer groups**, some over 10 years, and no or little change of members. One example is the groups of private consultant Hans Dirksen (described in Vaarst et al. 2010 ibid.), focusing on issues the farmers plan in the beginning of a new year. Economic and environmental issues every year and important topics or topics expected to become important are include in the yearly program. Farmers provide all farm figures needed and comment on it, guided by the facilitator or an expert. Always the same facilitator with skills on main issues and specialists invited to explain and advice if needed. Group members know each other very well and know each others' farms and family. Meeting every month except in summer, on farms of the group members. Farmers are financial supported by the Ministry of Agriculture, Nature and Fisheries by getting vouchers for knowledge development and advice.

[5] Data from different sources: Centraal Bureau voor Statistiek, Landbouwcijfers, Ecomonitor, CRV-jaarstatistieken Nederland 2009 (Arnhem, maart 2010).

- **1-2 year network groups** focussing on one common issue. Individual farmers announce the formation of a group focussing a certain problem and asks other interested farmers to join the group and helping to find solutions (Wielinga et al, 2008, NN, 2009). If an application describing the problem, the way to find solutions and the expected result is approved by the organisation (Netwerken in de Veehouderij), the group gets some finances to cover organising costs and a non expert facilitator is appointed to the group to organise and guide the process, invite experts and makes reports. Members don't know each other very well and meet on each others farm. 20-25 dairy related groups where supported each year in the last 5 years. Organic farmers could reflect to this program or to a program especially for organic farmers (see below)
- 1-3 year **organic** network group focussing on set issues with members leaving and joining the group (antibiotic free, strategy, breeding, stable systems, family herd). The board of the organic dairy committee announces every year a series of possible issues to from farmers groups. The most popular groups are supported by money and a non expert facilitator to organise meetings and the process and experts if needed. Popular groups last for a longer period, while members leave and new members joining in, less popular groups are stopped after a year. Farmers determine the agenda (within the issue) of the meetings, sharing farm data and experiences and visit each others farms. Farmers don't know each other well and meet 3-4 times a year.
- In the **melkveeacademie** program, advice could be individual and group wise. The program is supported by farmers unions and government and organized by facilitators. Individual peer farmer to farmer advice is arranged by the program to list the peers and their expertise/experience. Advice is farmer/farms based and asked for. In large group meetings (100-150 people) experts, possibly farmers, give their opinion on important and/or hot topics. Farmers are free to take part in meetings, do not know each other and don't exchange farm data.

<u>Classes and farmer groups meeting once</u>

- In **one time farmer groups** or series of one time farmers groups focussing on one topic guided by experts (caring dairy, animal welfare) farmers are asked to join the group of 8 – 10 farmers. The aim to join the group could be specific information about the topic to implement on the farm or a monitoring report. On host farms, experts share expertise and interact with farmers in the practical setting of the farm. The host farmer provides farm data and the group members comment on that and on the management of the farm, coming up with points to improve on the farm. Farmers do not know each other and meet only once in that setting, so trust is very important. In the Caring Dairy program series of one day farmer group meetings take place on different topics, with most if not all new group members every meeting (Calker et al, 2005).

<u>Individual advice ('one-to-one advisory service')</u>

- **Independent person to person advice** and a farm specific advice for organic farmers can be delivered by private advisers specialised in certain aspects of the farm. Farmers may have a durable relation with an adviser or only once on a specific aspect (e.g. nature conservation, legislation, building, community plans, expanding plans or plans cease farming). Advisers are paid by the hour.
- **Dependent person to person advice** and farm specific advice for organic farmers can be delivered by private advisers connected to feed companies, banks, accountants, veterinary services, builders and manufacturers/suppliers of machinery and equipment. Farmers ask for advice and pay sometimes direct and sometimes indirect in the price

of the goods (feed, machinery/equipment). Frequency of advice is different: advisors of feed companies and veterinarians have more frequent relations with farmers than other professionals. Especially advisers of feed companies are acknowledge as good advisers [Rotgers, 2009]

Research interaction and on-farm participatory research

- In short research and advisory projects (animal welfare) farmers are asked to take part in group meetings because the farmer or the farm has specifications needed in research. Meetings are organised by experts acting also as facilitator. Farmers profit by being informed about the state of art and/or implementation of improvements on the farm. Meetings are on a host farm which provides management data and receives comments from other group members and the expert. Farmers don't know each other and groups last the project live. Another example of an advisory project is "Organic, motor for conventional" where groups of conventional farmers are joined by 1 or 2 organic farmers. Aim of the group with fixed membership, meeting 4 times a year during 2 years, is to see what aspects of organic farming could be implemented in conventional farming. A facilitator/professional advisor organises the meetings, at participating farms, and farmers determine the program and might include experts.

Box 2. The history and extent of various approaches involving farmers and farm development activities in The Netherlands, as described by the Dutch partner Gidi Smolders.

The ANIPLAN principles in the landscape of organic education and advice

The organic dairy sector has developed differently in European countries over the past decades. In most of the participating countries, the structural development of farming has led to increased farm and herd size, often with the same amount of staff or fewer (in some countries e.g. Denmark, to an increasing extent with foreign farm workers), and increased economic pressure in terms of lowering of milk and meat prices, and in some countries in combination with increased prices of farm land and feed stuff, transport and labour.

This project dealt with various approaches aiming at continuously improving and developing each herd and farm system into a system which meets the needs of the animals in as many ways as possible within the economic and other constraints. Meeting the animals' needs is the only path to creating the basis for good animal welfare. A number of approaches and issues highlighted in this report include examples of confrontation between the farmer and 'others' in a dialogue. In addition to this, there are other sources of inspiration for the farmers, in terms of farmer magazines, internet pages, demonstration farms or open-farm events and informal networks (e.g. old farmer college class mates, family networks, local community networks and others).

In some countries, there are various types of regulation and mandatory systems involving the production of a plan or going through certain types of inspection, all aiming at keeping a certain level of farm conditions which are deemed to be acceptable e.g. to society or consumers. Some of these systems also include confrontation between farmers and 'others', but this contact is in some cases experienced as intrusive, illogical and not in the farmer's interest, and in some cases it is intended that it should also add to the positive efforts on the individual farm to meet animal health and welfare needs, as well as bio-security needs. All these voluntary and mandatory systems add to the external knowledge, which interacts with the farmer's own perception and decisions.

In the ANIPLAN deliverable report 5.1, Leeb et al (2011) concluded that most farmers perceived that the 8 ANIPLAN principles could be most relevant when applied within existing advisory structures in the participating countries. Based on the above, we conclude

that many structures can provide scope for the application of these principles. However, experiences suggest that for each of these principles there are associated issues that arise, and these are summarised below.

In addition, there are other associated issues that require highlighting:

- Each farmer has to be able to choose different pathways to increase knowledge, search inspiration and become provoked, stimulated and helped in the efforts to improve the herd, the farm and the lives of the people involved in the farm. Some activities aim at inspiring the farmer with an open mind, and some activities aim at help the farmer by going closely into dialogue about the needs of identified improvements.
- There is no definitive approach to dialogue with or between farmers; it all depends on the actual situation, the persons involved and the previous experiences on the farm and it will most likely vary over time for the same farm. All types of dialogues can contribute positively and be inspiring but their success will be dependent on levels of motivation to change.

Principle	Additional considerations
P1: A health planning process should aim at continuous development and improvement, and should incorporate health promotion and disease handling, based on a strategy including ▪ current status + risks (animal based + resource based parameters) ▪ evaluation ▪ action ▪ review	The farmer should lead the process and assure that it is continuous, and then drawing on different sources of knowledge and inspirations. Not all advisors will be continuously and permanently involved, and this is up to the farmer. However, the involved persons should work together with the farmer / staff / family in a process of joint evaluation, planning and reviewing the health and welfare situation in a herd.
P2: Farm specific	The farmer is confronted with many sources of inspiration which are not particularly farm specific. In a conscious animal health and welfare planning process, the farmer must seek advice and dialogue specifically for his/her farm and focus should be on the specific context and condition of the farm.
P3: Farmer ownership	The farmer has to be conscious about what he/she wants and needs and be explicit about this, and the dialogue should give the room for the farmer to express needs and expectations. Initiative and conclusions should be formulated by the farmer.
P4: External person(s) should be involved	Advisors, inspectors, so-called experts and fellow farmers are all external persons, and in all countries advisory structures include dialogue with external persons.
P5: External knowledge	Can be farm specific data and assessments created by external persons, or can be information given in farmer magazines which inspires the farmer to take initiatives. The important issue here is that the farmer constantly seeks new insight and knowledge.
P6: Organic principles framework (systems approach)	This proved to be a challenge in many countries, where no special focus or knowledge about ‘organic dairy production’ seem to exist among the majority of people engaged in farmer advisory services.
P7: Written	It is important to create a common memory and to emphasise key characteristics and prescriptions. It is also important that it is the farmer’s own conclusions and commitments, and not a list of advice given by somebody else.
P8: Acknowledge good aspects	This seems to be very rarely covered, even in the form of analysing how previous actions have been implemented and their effects.
P9: Include all relevant people in the process	This was identified during the project as an issue to be concerned about, particularly where a farmer or manager participates in a planning process but others involved in caring for the herd are not consulted, involved or even informed.

The dialogue with farmers

Interview results, analysis and reflections on farmers, dialogue in relation to animal health and welfare planning: deliverable 4.2 of the ANIPLAN project

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Summary

This report covers the project outcome Deliverable 4.2 'Analysis completed after a joint effort to identify possibilities in each country as how to facilitate the best possible dialogue regarding animal health and welfare' as part of the European CORE Organic project 'Minimising medicine use in organic dairy herds through animal health and welfare planning.' The work was intended to understand the processes and was analysed from the perspective of the key animal health and welfare (AHW) planning principles developed as part of the project. The analysis was completed on transcripts of interviews of facilitators and advisors who had participated in the ANIPLAN project, some of them as partners in the project group.

If animal health and welfare planning is to gain widespread use among organic farmers, communication between farmers and between farmers and advisors and other actors in the organic farming environment is crucial. Whilst other forms of communication regarding the role and benefits of AHW assessment systems, such as benchmarking, may be the motivational catalyst needed to encourage engagement in the process, a creative dialogue with the individual farmer is necessary when identifying goals and planning means to reach the desired goals. In order to understand how this dialogue works in practice, and what issues arise, a series of interviews were conducted in all of the ANIPLAN participating countries, involving persons directly involved and those with other experiences. The analysis of the interviews was based on a theoretical framework concerning learning, knowledge and empowerment and a functional framework based on the animal health and welfare principles developed as an output from the ANIPLAN project.

The key conclusions were:

- The farmer should take the responsibility to plan and advisors and colleagues should encourage and enable the farmer and facilitate the active process of planning. Only when the farmer owns the problem and the solution will it be possible to improve the herd through daily practices. Dialogue is the key in this process, either between farmer and an outsider, such as an advisor, or between farmers in a group. In both cases, there may be need for facilitation rather than the traditional approach of advisor as teacher.
- The role of the advisor is traditionally viewed as an 'expert', but in light of the need for farmers to be facilitated to take ownership, we conclude that the advisor should act as an expert giving specific advice only on request from the farmer. It is also recognised that an expert role can be played by farmer groups as well as animal health and welfare professionals.
- When data is used in health planning, it is paramount that the farmer understands the data and how it was derived, and that there is a common understanding between the farmer and advisor or other colleagues involved in the health planning dialogue. This understanding can be enhanced by ensuring that dialogue is taking place at the same time as data collection protocols are being developed. Further, if data recording is conducted by an external person, the dialogue regarding the data and its role in health planning needs to be a part of the ongoing planning process and not just when formulating the health plan.

A scientific publication will be produced from the results of this study of dialogue in health planning.

1. Introduction to this report

This report covers the project outcome Deliverable 4.2 'Analysis completed after joint effort to identify possibilities in each country as how to facilitate the best possible dialogue regarding animal health and welfare' as part of the European CORE Organic ANIPLAN project 'Minimising medicine use in organic dairy herds through animal health and welfare planning' [6].

If animal health and welfare planning is to gain widespread use among organic farmers, communication between farmers and between farmers and advisors and other actors in the organic farming environment is crucial. Whilst other forms of communication regarding the role and benefits of AHW assessment systems, such as benchmarking, may be the motivational catalyst needed to encourage engagement in the process, a creative dialogue with the individual farmer is necessary when identifying goals and planning means to reach the perceived goals. In order to understand how this dialogue works in practice, and what issues arise, a series of interviews were conducted in all of the ANIPLAN participating countries, involving persons directly involved and those with other experiences. The analysis of the interviews was based on a theoretical framework concerning learning, knowledge and empowerment and a functional framework based on the animal health and welfare principles developed as an output from the ANIPLAN project.

This report is a part of the outcomes from the European CORE Organic project 'Minimising medicine use in organic dairy herds through animal health and welfare planning'. The project was initiated in mid-2007 with the aim to investigate active and well planned animal health and welfare promotion and disease prevention as a means of minimising medicine use in organic dairy herds. The project group attempted to meet this aim through the following activities:

1) Development of a set of animal health and welfare planning principles for organic dairy farms under diverse conditions based on an evaluation of current experiences.
2) Animal health and welfare assessments, based on the parameters developed in the Welfare Quality project (Welfare Quality®, 2009), were applied to different organic dairy herd systems across Europe. The outputs from these assessments are described by Gratzer and co-authors (2010). These assessments were reported to participating farmers and their responses to this process are reflected in part in the evaluation of dialogue reported here.
3) Guidelines for communication about animal health and welfare promotion in different settings were developed for existing animal health advisory services or farmer groups such as the Danish Stable School system and the Dutch network programme (Wielinga et al, 2008). These guidelines were developed from interviews and workshops involving project partners and various stakeholders in some of the ANIPLAN partner countries. This guidelines and the underpinning research process are described in this report.

This report combines inputs and discussions between the ANIPLAN project partners, as well as interviews and workshop reports, primarily compiled by the coordinator of the project.

[6] This is deliverable 4.2, which is titled: 'Analysis completed after joint effort to identify possibilities in each country as how to facilitate the best possible dialogue regarding animal health and welfare'.

Interviews with a range of stakeholders in some of the involved countries (The Netherlands, Austria, Switzerland, UK and Denmark) focused on how dialogue with farmers were included and perceived as part of the health planning process instigated during the course of the project.

The focus is primarily on dairy cow health and welfare, but we also draw on experiences from other sectors where relevant. Furthermore, we have focused not only on conscious and formal health planning initiatives but also included experiences from other advisory service and research initiatives, which aim at improving a situation in livestock herds.

In the following, the starting point developed within the ANIPLAN project will be presented in terms of the initial principles for a 'good planning process'. The methodology section provides an overview over the theoretical framework behind the analysis of the dialogue process. The results and discussion go through experiences and aspects of the dialogue process both in relation to the planning process in general, and in relation to the experiences in farmer groups. In the project, the 'Stable Schools' approach was tested and examined as a model for farmer groups, as discussed in the section on experiences with groups.

2. Methodology

2.1 The framework for analysis

2.1.1 The nature of the dialogue processes in the ANIPLAN project

Basically, two types of dialogue were examined throughout the ANIPLAN project: individual farmer planning and the farmer group approach. The description of how the planning process was conducted in each of the seven participating countries is explained in details in the project report on deliverable 5.1. In practice, there was a wide variation in the manner in which dialogue took place on the participating farms. The analysis of how the dialogue occurred within each of the two approaches is based on how these 1) fitted with the ANIPLAN principles and 2) the theoretical understanding of the nature of dialogue.

Clearly, dialogues involving farmer groups differ in nature from dialogue which involve individual farmers and their advisors. The common and distinguishing characteristics of these two types of dialogue are explored here.

2.1.2 The ANIPLAN principles

In the ANIPLAN project the aim was to develop a model for animal health and welfare planning which can be implemented in all different types of farming environments, e.g. large scale dairy farming as well as alpine, smallholder and diverse farming systems. The principles are closely linked to dialogue (see results and discussion), which catalyses this process. The dialogue is required in order to achieve a balance between farmer needs, animal needs and the wider societal perception of health and welfare whilst also satisfying the multiple objectives of organic farming. Different actors represent these different views, and in groups of farmers, different experiences and viewpoints are exchanged and enrich the group in a common learning and development process. Based on these considerations, the key principles were developed in October 2007 (Box 1) with the aim of them being implemented as part of a continuous process (Figure 1).

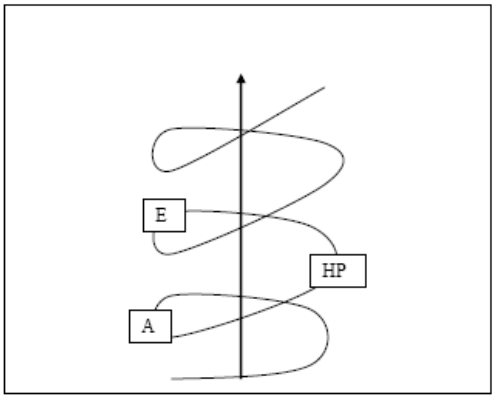

Figure 1. Representation of animal health and welfare planning as a continuous process based on assessment (A), planning (HP) and evaluation (E).

1. A health planning process should aim at continuous development and improvement, and should incorporate health promotion and disease handling, based on a strategy including
    - current status + risks (animal based + resource based parameters)
    - evaluation
    - action
    - review
2. Farm specific
3. Farmer ownership
4. External person(s) should be involved
5. External knowledge
6. Organic principles framework (systems approach)
7. Written
8. Acknowledge good aspects

Box 1. The original eight principles for animal health planning process developed at the start of the ANIPLAN project.

2.1.3 The theoretical framework

The analysis is based on an understanding that dialogue leading to action can be viewed from a number of theoretical viewpoints, including issues about learning and empowerment. The learning framework is based primarily on the idea of legitimate peripheral participation, as described by Lave and Wenger (1991). Empowerment is understood as strengthening of identity and increasing ability to master one's own situation, and in particular with regard to social capital (e.g. Vaarst 2009), and specifically in relation to the issues of farmer group approaches, such as Communities of Practice (Blackmore, 2010). The concept of social capital based on the ideas described by Munene et al. (2005) and Bebbington (2002) are also considered.

2.2 Interview methodology

All interviews were performed by the first author, and in some cases with participation of the national ANIPLAN partners. The selection of the interviewees was very much based on the national ANIPLAN partner's network and focus, and was limited in scope by the time and logistical issues associated with working across 7 countries.

The interviews and material in the different countries are listed below:

The Netherlands: One focus group interview with 5 researchers with experience in on-farm research; Participation in one farmer group meeting and visit to 3 farms; Individual interviews of 6 facilitators and/or persons with experiences with different types of farmer group approaches

Austria: One focus group interview with 6 advisors in relation to a Stable School course (one of whom were from Bio-Austria and also interviewed individually); Individual interviews with organizations engaged in advisory service and animal health inspections: Bio-Austria, Agricultural Chamber and The Animal Health Service; Individual interviews with 4 ANIPLAN partners who had experiences with on-farm research, working with farmer groups, 1 Stable School facilitator and one who set up farmer courses.

UK: Informal interview with one experienced scientist engaged in participatory research; informal experience exchange with a group of organic advisors who participated in a course organized by IOTA; group focus interview of stakeholders in Soil Association; individual interviews of 2 facilitators who were also researchers of FFS-groups or farmer learning groups.

Switzerland: Focus group interview with 6 advisors in different Swiss advisory structures; individual interviews with two project partners who both are facilitators in Stable Schools.

Denmark: 10 individual qualitative interviews of facilitators of 'Stable Schools' (different set-ups); Interviews of farmers and farmer groups earlier reported (Vaarst et al., 2007)

Germany: Interview with the two project partners who were the advisors of farmers wanting to improve,

The focus of the interviews was very much on issues related to farmer group communication, using the interview guide shown in Figure 2. Different approaches to advisory services and farmer education, as well as participatory research initiatives, were also covered in situations where the interviewee had experience with these approaches.

The interviews were performed as semi-structured, qualitative research interviews (Brinkmann & Kvale, 2008) with individuals or in focus groups that had been involved in the ANIPLAN project. All the interviews were performed without a translator as such, with one Dutch interview and three Austrian interviews as well as one Swiss group focus interview performed in collaboration with the national ANIPLAN partner who helped in case of language difficulties.

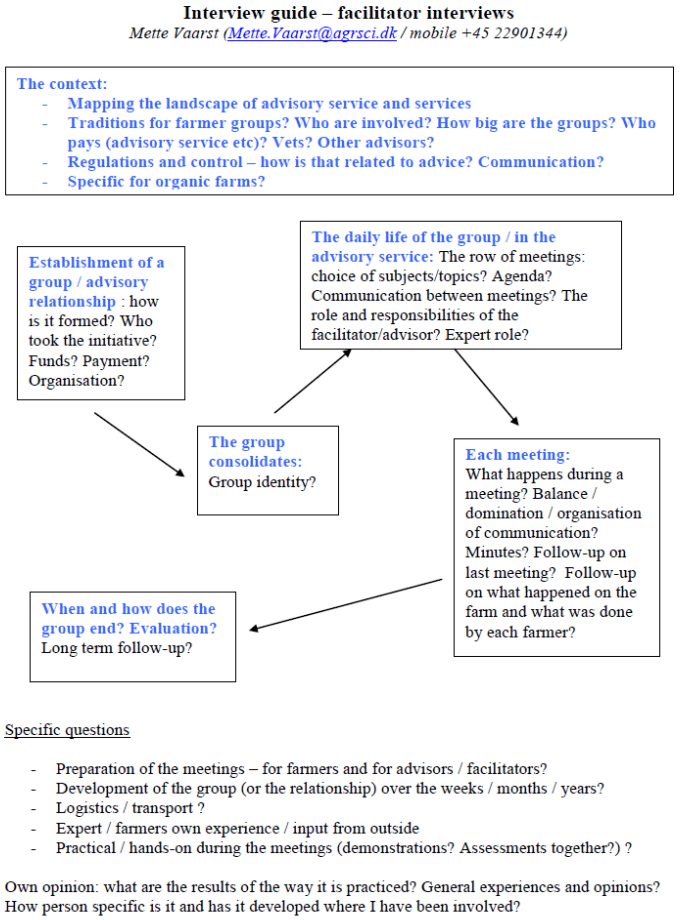

Figure 2. The interview guide used in interviews of facilitators and stakeholders about communication with farmers in different types of farmer groups.

2.3 Analysis of interviews

The interviews were very different in nature, and as such it was not possible to perform standardized analysis techniques such as the grounded theory methodologies or discourse analysis. Most of the interviews were taped (a small percentage were not taped, but notes were written during and after the meeting) and transcribed as either quotations or summaries. Themes were identified and ordered across countries, but it is important to emphasize that the various interviewees did not have the same experiences or the same roles, and hence this may have affected the themes raised in interviews. For example, only two female facilitators raised gender issues associated with the participation of male and female farmers in the dialogue. This does not necessarily mean that these issues were not important in other contexts or countries.

3. Results and discussion

3.1 The importance of dialogue in the health planning process

3.1.2 Moving from a plan to planning

In the example in Box 2 below, the process on the Austrian participating farms is described. This process involved a number of different people in assessing the condition on the farms, going through the results of welfare assessments and facilitating and enabling the farmers with regard to the planning process, and in particular focusing on what they wanted to do on their farm. It emphasizes that the dialogue is very central throughout the whole process.

In Austria, the process which had taken place on all farms started with an assessment using the WelfareQuality framework including a farm management questionnaire which allowed the farmer and the assessor to talk about many aspects of the farm. Generally, there was much communication already linked to the assessment, which altogether took 10-12 hours on most farms. One of the assessors described how he had explained to the farmer what he would do at his arrival on the farm, and by lunchtime they had gone through the questionnaire and talked about many aspects of the farm. Before he left the farm, he would also always share some of his main findings with the farmer. This assessor found the communication related to the feed-back of the results particularly important: '*Just to send them something that is also a kind of lack of valuing people. I think you have to go there again and to bring them the results. They get so much paper with the post, MAYBE they will read it, …. , but even I had to think about how can I explain this…. They must know how it comes to these results – if not, it is zero information then, in a way. Even if it's just half an hour or an hour – you have to go through these different points. But – just to send them results then, that wouldn't be enough,…[…]… if they don't have the explanation it will just be useless for them…they won't change just because they have a sheet of paper, and even when you write 'just call me', they won't call me anyway – you have to sit with them. Talk talk talk, explain it again and again and ask what are their opinion. We brought so many things on paper, but the talking between the lines is important… '*

The feed-back report was, in other words, explained and discussed in details with the farmers after each assessment. The report was used as a framework for the written animal health and welfare plan. It consisted of 8 pages (including the front page with a photo from the farm). On each page, there was a table with results dealing with one topic: udder health, claw health, etc.

Under each table there was space to describe the actual situation, and besides this, to describe what the farmer committed him- or herself to do to improve the situation. The farmer was encouraged to write notes during the discussion and the agreed measures for the selected focus areas. In this way, all results were carefully explained to the farmers, but the farmers should only choose some few areas where they felt motivated to improve something before the next visit. Also farmer ownership was ensured, as all goals and measures were written down by the farmers themselves. This document, including the animal based results and the handwritten notes served also as the health plan and as a common memory of what the farmer had committed him- or herself to do.

Box 2. An example of the process as it was performed in Austria in a dialogue between the project partner and the farmers

The health planning process is viewed as a continuous process which involves observing, interpreting, acting and evaluating. This process is a learning cycle as described and used in various ways in relation to problem based learning or learning in practice theories, e.g. as described by Kolb (1984).

This places the dialogue not as a single event but in a continuum. The dialogue weaves the process together in a learning cycle, where common learning and reflection takes place. The dialogue is an important part of learning, and learning happens when observing, acting and evaluating the changes.

3.2 Involvement of external person(s)

The involvement of individuals in the development of health plans who are not directly involved in the farming activities on a particular farm can occur at a number of levels. These 'external persons' can represent various skills and perspectives. An inspector can be regarded

as an external person with external knowledge although not entering into a planning dialogue, and certainly not taking part in a process that may lead to change over a significant time period. However, there are examples to the contrary.

One Norwegian partner reflected over the role of being a part-time district veterinarian and a part-time inspector and how this enabled a dialogue about the inspection results which made it easier for the farmer to include outputs from the inspection into the farm health plan. So, the inspection becomes more relevant to the farmer. In other situations where this dual role does not exist, incorporation of inspection outputs without dialogue can result in the farmer being unable to respond effectively, via the health plan, to the inspection.

The role of the external person(s) should be clear in each situation. Previous work on the health advisory service in Denmark (Vaarst et al., 2002) demonstrated that farmers used their advisors differently depending on the purpose of the involvement: in some cases the farmer wanted expert advice to solve a specific problem, but did not want the advisor to be generally involved in the development on the farm. In other cases, the farmer wanted and needed a 'sparring partner' who was continuously involved in the daily farm management. This is clearly two different ways of involving an external person, and they will be asked to contribute to the dialogue in two different ways. Not all advisors are ready for either of these two completely different styles of being an advisor, and that is a professional choice made by the advisor. On the other hand, the farmer must make the choice which type of advice and dialogue he or she wants. It is paramount for the success of the process that the mutual expectations between farmer and advisor are explicitly agreed on. Otherwise, as several experiences demonstrate, this'mis-match' leads to frustration and stagnation.

Clearly, a fruitful dialogue can only happen if there is trust between the dialogue partners. Some interviewees had experiences with the trust process which requires time and is closely aligned with some demonstration of the benefits of the relationship. Negative experiences, such as those associated with increased bureaucratic burden on the farmer, can also be influential. Building trust with regard to health planning can also be influenced by negotiation on how to interpret health planning tools, such as data, and how much mutual understanding there is in this respect. This is related to the farmer ownership over the process.

Colleagues, or fellow farmers, can also be involved as the external persons. The advantage of involving colleagues is that they are frequently the best placed to understand the complexity of the farm. Groups of colleagues also represent a significant knowledge and experience base that can potentially contribute greatly to the solving practical problems. This is demonstrated by an experience highlighted by a Norwegian facilitator with experience of the Stable School approach: "*As veterinarian you may know what they should do, but not how – and the other farmers know how*."

Involvement of an external person creates necessary learning by exchange of observations and sharing reflections at the borderline between the 'inside' and the 'outside' of the daily farm practice. To enhance this impact it may be necessary to be explicit what both farmer and external persons expect from each other.

3.3 The requirement for farmer ownership

Further to the issue of being explicit about roles in dialogue, it is important that the farmer takes the lead in the process, is central and key to how individuals are involved and takes responsibility for changes, thereby taking ownership of the process. Experiences suggest that farmer ownership is vital if changes and improvements are to happen and are to be sustained.

They may need sparring, coaching and help to organise changes, but only they can actually carry out the changes in practice. This requires ownership not only over the farm, but over the decisions.

This ownership process and function means ownership in identifying the issues, setting goals and acting relevantly, in order to ensure the most sustainable long-term improvement. If the farmer is not ready to take this ownership, then they should be empowered to do so. Empowerment is understood as facilitating a process where people are enabled to take responsibility for their own lives and actions. It is a concept which comes from social work and sciences, building on the idea that special groups of underprivileged people needs to be empowered to have confidence in their own ability to master their life situation.

Under North-Western European farming conditions, increased bureaucracy, economic pressure and expectations from different stakeholders are potential constraints which may require farmers to take ownership over decisions that lead to positive changes in accordance with the wishes of the farmer rather than being merely compliant with, and potentially victim to, these pressures.

In situations where there are more than one person involved in the farming practice, there is a risk that the ownership of the process is not focused on those who have the most, or shared, impact on implementation. In order to create change, there needs to be full involvement (ie ownership), and this may include more than just the farm owner i.e. other family members and employees. Family-run farms often involve people from more than one generation and therefore present potential different interests in changing farm structures or management routines.

Across the various farms involved in the ANIPLAN activities, married couples play differing roles and responsibilities but in most interviews there was reference to 'the farmer and his wife' and rarely 'a farmer and her husband'. In Switzerland, Norway and Austria, an emphasis on the importance of involving the whole family was identified and discussed.

The involvement of both husband and wife was specifically discussed in an interview with a Dutch facilitator, who had made an observation: '*But some [advisors] – if they call a farmer and the wife takes the phone they will immediately ask to talk with the husband. I do not do that – I start talking to the wife, and if I need to talk to the husband, she will know'*, and furthermore that including the wife in the meetings meant that more things were said because the husband often was more reticent about some issues: '*… if this coach is sitting at the kitchen table with the farmer and his wife, then the best moment is when the farmer goes to the toilet, because then she talks, and that is a lot more than he would tell, so most like these meetings most where the wife is present'*.

In the Netherlands, the so-called Dairy Academy had engaged with a number of farmers who would serve as coaches for colleagues, if they needed to discuss new initiatives or needed help or sparring to solve some problem. All these coaches were men, and the interviewee remarked: *' I don't know maybe how to sell the female coaches because all these dairy things they are all male in Holland.'*

In some countries quite dramatic changes over recent decades have resulted in increasingly larger farms with more people involved (e.g. Germany, UK and Denmark). Here, the persons conducting daily farm tasks work may not be the main decision maker. This may create conflicts and underlines the importance of involving all relevant individuals within group

situations or ensuring knowledge exchange among farm employees if only one or few participate in a farmer group. Conversely, participation of many persons from one farm - and in some cases with conflicting views - may not be prove efficient and can potentially negatively impact on group dynamics. Experiences from Danish Stable Schools has raised the issue of inconsistent participation in groups, with some farm staff being replaced by others at different group meetings, with negative connotations for trust and common learning.

It has been proposed that a further principle be added to the original ANIPLAN principles stating the need for all relevant persons taking action, responsibilities and decisions on the farm be involved in the health planning processes which aim at changes, and ways to this involvement must be identified in each case. .

3.4 The need for external knowledge

The term 'external knowledge' can be interpreted as:

1) Knowledge or information about the farm, which is not solely developed by the farmer and/or a result of his or her interpretation, but describes aspects of the farm based on factorial knowledge (e.g. measurements like somatic cell count in the milk or number of disease treatments) or evaluations or assessments performed by people from outside the farm.
2) Sources of external knowledge which serve as inspiration and stimulation for the farmers e.g. technical information on specific aspects of farming obtained from journals, the internet or other dissemination and media tools.

A number of the advisors and facilitators interviewed who had had experience of discussing their own observations and assessments with the farmers emphasized the importance of demonstrating this to the farmer. In Denmark, the project partner had taken photos of housing system during the completion of assessments and used these to illustrate welfare related issues to the farmer. This was a very strong and clear demonstration of certain issues that may have influenced particular welfare parameters or outputs, especially with regard to the housing system. However, the interviewee felt that this particular source of external knowledge needs to be delivered in moderation, with evidence selected strategically, so as to avoid excessive criticism. An Austrian project participant would always take the farmer to the places where he had found something which he did not find optimal, so that the issue could be clearly demonstrated to the farmer.

Learning takes place when it is relevant to the learner, and when reflection is involved. Reflection can take place in each individual, but is often greatly enhanced in situations where more people with different skills, experiences and knowledge come together and interact. In the reflection process, the learners interpret and negotiate meanings. This process leaves everybody more informed and skilled to meet the challenges which they are surrounded by.

3.5 The need for a health plan to be a written document

Many of those interviewed stressed that preparing written plans was not a very easy process and it was a general experience that farmers seldom read the reports. However, in The Netherlands, a farmer group approach gave the farmers the task to write down their "*moments of enlightenment"* associated with the group that they had attended, and this gave the whole group of about 12 farmers a "*whole and rich picture"* of all the things that had happened in the group.

One of the starting points in the project was a conclusion that 'the animal health and welfare plan as a document' did not have any value in terms of stimulating to improvements on the

farm, unless it was connected to an active planning process. This puts into perspective a variety of obligatory advisory services (such as in parts of Switzerland and animal health plans, such as in United Kingdom. N.B In Denmark, the introduction of regulations pertaining to veterinary advice was introduced towards the end of the ANIPLAN project).

In Austria, compliance checklists are managed by the Tier Gesundheits Dienst TGD service, covering housing, feeding, disease levels and other aspects of the herd health. Often the local veterinarian is involved in the process of assessing the farm, talking to the farmer and giving advice, and there is a great variation between vets as to how they do this in practice, and how much dialogue is involved in the process. One of the Austrian interviewees had previous experience from farms where these checklists did not lead to dialogue, and was seen mostly as a formality.

A negative experience of having a formal check list without a process was described by one of the Austrian interviewees who had experience with how the health service occasionally did their inspections: *They come to the farms, they don't even go into the housing, they just go – they have to go to the farmer and they go to the kitchen and make their crosses –and it's not so that the vet goes with the farmer to check just one animal – they have a sheet and – you make the crosses and then you can put it online or on paper and – ok, if you are the main vet of this farm you should know the problems of the farm, but if you go there for insemination you don't see the problems, all the problems. You don't check it – but just to make crosses on a sheet and then they have to pay for it, and the only result they get is that they can do injections after that, it's the legitimation.'*

The interviewee who represented the Health Service had also very positive experience on how it worked, and he emphasized that the farmers and veterinarians were actually encouraged to take the opportunity to make a process of planning and dialogue when going through the forms. It is one of the intentions of the checklist to stimulate the dialogue and give the process practical importance, but according to interviewees, this does not always happen, and it is only a formal requirement that the checklist is updated.

Various forms of animal health plans exist in UK, and they are often detailed documents dealing with all aspects of the farm with notes on what action the farmer should take. As part of the ANIPLAN project, Nicholas and Jasinka (2007) analysed the requirements of health planning agreements practised within 15 different British organisations. All covered assessment and monitoring of health status, risk of disease, development of disease prevention strategies and management, in combination with other aspects such as analysis of collected data or encouraging the use of alternative medicine. However, in many cases the link is often not apparent between the plan and the advice or communication from advisors, as is the case with the Austrian system discussed above. Atkinson & Neale (2007) stated that large and complicated documents are often not used by the farmers in practice. Nicholas & Jasinka (2007) also mentioned studies in the UK showing that farm records were rarely reviewed in relation to developing the animal health and welfare plan, even when recorded. Pocock (2005) emphasised that to merely have the plan is not sufficient.

Across Europe, the amount of bureaucracy related administration that a farmer has to deal with has increased dramatically over the past decades, particularly with regards to record keeping associated with quality control, subsidies and legislative requirements e.g. related to prevention of animal cruelty or environmental effects of agriculture. This was highlighted in the interviews as being a significant distraction to the practical aspects of farming and a negative factor with regards to the acceptance of health plans. With regard to the application

of animal health plans in Britain, many farmers do not value existing health plans, and the assessments on which they are based can be of poor quality (Bell et al., 2006; Burke, 2006; Huxley, 2005).

In conclusion, more or less obligatory health plans in terms of checklists and documents which are necessary for inspection have proved to be less effective than they were intended. They are frequently perceived as being bureaucratic in nature rather than as useful guidelines for the farmer. Introduction of a process element, and in particular dialogue, was an early conclusion from the ANIPLAN project regarding the potential for health plans to be seen as more than just a regulatory requirement.

3.2 Characteristics of farmer groups

3.2.1 Providing a social outlet

Many of the interviewees said that many farmers were lonely and that joining a group provided a social outlet. Perhaps the changing social structures in many parts of Europe mean that groups are increasingly meeting the needs once provided by village and neighbour networks.

In the participating countries, a number of different types of farmer groups existed, with different aims, backgrounds and practices. Some farmer groups are initially based on farmers' need with an objective and desire to exchange experiences, knowledge and learn things together. One example of such groups could be the Danish so-called 'ERFA-groups'

In Denmark, the ERFA or 'Farmer Experience Exchange Groups' have been used for decades. These are often groups of 10-15 farmers from similar farms (e.g. dairy farms with a certain housing system and/or breed), which meet on regular basis on each others' private farms. The group would normally be run by an agricultural advisor, who acts as a form of coordinator and professional expert in the field. Often, an external specialist expert (e.g. in farm economy, buildings, feeding etc.) will be invited and give a lesson on a certain topic. This approach is very different from the FFS in that it involves one or more 'experts', and because it focuses on a topic rather than the specific farm and identification of potential areas for improvement. In The Netherlands, 'Dairy Academy groups' have been formed to serve as a platform for dialogue with research institutions and research to identify future research needs.

3.2.2 The concept of Stable Schools

The Farmer Stable School concept developed when a large group of Danish organic dairy farmers faced a common goal to phase out antibiotics from their herds. This was a complex goal which could be reached in several ways, but with very little experience of how best to achieve this through participatory means. In order to establish a good common learning environment the concept of Farmer Field Schools (FFS) was adjusted to Danish organic farmer conditions. Farmer Field Schools (FFS) is a concept for farmers' learning and empowerment through knowledge and experience exchange. The concept was developed and used in Indonesia as a sustainable way of learning and developing farming for small-scale rice farmers. This learning approach, which is based on innovative, participatory and interactive learning, has been adopted in many 'developing country' situations. In the Danish project, ideas were built from experiential learning and action research. The results from the Danish experience of Stable Schools show that crucial changes took place during the project period and these successes can be partly attributed to the farmers' ownership over the common goal and the advice from the group based on the articulated goals for each participating farm. The farmers' change process towards a common goal may be viewed as an equal common learning process.

When discussing the success of the various groups, it is important to consider the original purpose of the group. For example, some farmer groups may be formed by an advisory organisation to disseminate knowledge, or by dairy companies to ensure that their producers have high standards of animal health and welfare, hygiene and/or production, or in some cases as a loose social gathering of farmers with the aim of gaining and sharing common knowledge. In the Stable School approach, 5-6 farmers meet periodically, in rotation, and over a set period of time to discuss specific problems, as well as to present success cases, with the aim of other farmers providing advice. The process has a facilitator who does not offer advice (Vaarst, 2007; Vaarst et al., 2007). The Stable School approach was a key element of the ANIPLAN project to test the role of communication in farmer groups as a means of contributing to the health and welfare planning process.

3.2.3 Facilitator experiences with Stable Schools

Interviews were conducted with some of the facilitators of ANIPLAN Stable Schools. Some expressed concern that farmers may offer advice to others that is incorrect and even potentially harmful, and in such cases, an 'expert' intervention' is justified. However, whilst this concern also existed among some facilitators in Denmark, practical experience working with this approach has demonstrated that farmers themselves tend to be very knowledgeable and give different views and experiences which, taken together, resulted in a more balanced discussion (Vaarst et al., 2007). The emphasis on farmers' own responsibility and ownership over the process is crucial. A Danish facilitator (not particularly connected to ANIPLAN) described 'decoding' from the expert role as being the most challenging and difficult role, and this is particularly true when the facilitator also acts as an advisor outside the Stable School environment. This situation might be best avoided if a facilitator does not also have an advisory role. Some facilitators said that they sometimes steer the discussion by asking questions that they find relevant. A British facilitator, who was a well-known expert in lameness and leg disorders, worked as facilitator in two farmer groups using the Stable School approach, and told *"Lameness has come up a number of times in the discussion and they usually arrive at something sensible. They do consider things that I just 'oh-no' but as soon as you interject it just disrupts the whole dynamics. And I've seen meetings almost fall apart just because I have said a little bit. I shut up and then the meeting recovers"*.

One Danish facilitator of Stable Schools also participated in a group as the last person to contribute in each round of verbal contributions from farmers. When doing so, experience suggests that it is important to do this in the same manner as other farmer contributors i.e. add additional comments rather than repeating what others have said, or starting to speak against some of the other group participants' advice. This places the facilitator more as equal in the group, and not as the one with 'the expert knowledge'. Some facilitators said that they use their professional skills and knowledge when formulating the meeting agenda together with the host farmer.

3.2.4 Farmer involvement and ownership

Ownership has been identified as the critical element in the successful development and implementation of animal health and welfare planning (Lisborg et al., 2005; Vaarst et al., 2007). Therefore, it is critical that if this is to be achieved through a group process, participants should be motivated to involve themselves fully and not have any feeling of compulsion. Learning only takes place through the participants' active participation and joint reflection. The success of each group is dependent on this active participation by everybody. If one group member fails to fully participate, the dynamic and equality within the group is threatened. Farmers who are not really motivated to implement change are more likely to become reluctant participants and recipients of the group process.

Sometimes, one farmer can stop the process in a group, by refusing to be open about his or her own farm, especially the difficult issues. A Dutch facilitator had had the experience with a well known and large scale farmer, who had signed up with a group. To quote from the facilitator "*and he said to me, I am not going to talk about my difficulties in that group – I don't want them to know. And I asked 'well what is the big deal? What can happen? We are not going to present the figures with the names, so what is the big deal? Think about it'. And well, he turned over. But the one with the biggest ego was the one who said 'no' – and he was a kind of the chairman of the group".*

'*They did not want to talk about these social personal aspects of leading their farms, so there also I had to kick their ass because that is also a part of work. But we managed it, and it was a very interesting process.'* They found out that it was an important part of farm activities and they changed from not wanting to talk about it to actually getting a lot out of it.

Different traditions and perceptions within the various farming communities and regions exist with regard to the openness and mutual trust with which farmers communicate with each other. Based on the ANIPLAN project participants' experiences there are likely to be regional variations in the tradition of openness with regard to farmers sharing knowledge and information with other farmers (Vaarst & Roderick, 2009). The degree to which this occurs may be influenced by previous history of personal and business contact between individual participants, and the nature of this contact i.e. either positive or negative. Some farmers who have participated in Stable Schools have explicitly expressed afterwards that it was an advantage that they had had little or no previous contact with the other group members (Lisborg et al., 2006).

3.2.5 Who pays, and for what?

In the different countries, there are differences in the method of payment of advisors and some farmers may be unwilling to pay an expensive advisor who facilitates rather than advises. Some farmers perceive that they pay for 'expert knowledge' and not just for a 'good process' not even in cases where they obviously benefit greatly from the latter. In a number of countries funding opportunities exist for training and education programmes, which also include the establishment of farmer groups. However, the availability of advisors – both agricultural and veterinary – is very different between countries, and as discussed elsewhere in this report, advisors who are knowledgeable about organic animal husbandry are in short supply. In some countries, most farmers use advisors who are privately employed e.g. in companies or in private veterinary practices, whereas in others, established advisory systems exist partly supported by organisations, general membership or the government.

Some facilitators had problems with their role because they also wanted to be experts: '*They could choose their groups – and then they saw that there was a group about animal health and they said 'well I know a lot about animal health – I would like that network' – but I thought that I am so busy with the role of facilitator that I would hire some experts and I like to split the role. But I think that in the study groups – I am not sure but I think that the facilitator also has the role of an expert.'*

4. Further discussion: Practical guidelines on successful communication in farmer groups

The following guidelines have evolved in part from the general responses received from those interviewed, but also through detailed workshop discussions between ANIPLAN participants. Throughout the project, experiences with animal health and welfare planning have been collected along with experiences from colleagues who in some ways have also been involved

in farmer dialogues. These collective experiences have enabled an improved understanding of the developed principles better from a range of different perspectives.

4.1Clear and concise guidelines

The purpose of the dialogue and process must be agreed on. It must be clear for everybody who participates in the dialogue process that the farmer has the responsibility to conclude what he / she wants to do on the farm. The role of external persons must be clear, and not mixed e.g. between inspector and advisor. It must be clear for everybody what is expected from who.

4.2Clarity and purpose of data

Any data used in the planning process must be explained and understood by all involved, including the conclusions that are drawn from the data. Otherwise there is a risk that the data will not be used appropriately, and the person who is not familiar with the data, may be alienated from the process and unable to participate in meaningful dialogue about the data.

4.3 Clear and concise written communication

Meeting notes should be a true reflection of the outcomes based on the farmers' conclusions and important points from the discussion which led to the farmer's conclusions. The written documents are the common memory which will create the foundation for evaluation of the effects of the actions, and therefore it is important to agree on them. All meeting notes should therefore be confirmed.

4.4All relevant persons should participate in the planning process (proposed principle 9)

On many farms, there are several people involved in the decisions and in the practical actions. They should all somehow be involved in planning dialogue. Although it may not always be possible for all to be actively involved in group participation, the key outputs and decisions need to be effectively communicated to those who are likely to influence the impact of implementation. Equally, the views of all relevant persons need to be considered in the dialogue process.

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Farmer opinion on the process of health and welfare planning in Austria, Denmark, Germany, Norway and Switzerland

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Background

This report serves as a deliverable from the ANIPLAN project, with the original title 'Evaluation report on state of the art regarding animal health and welfare planning in the participating countries' (Deliverable 5.1). We chose to focus on the farmers' perspective in each country, and ask the farmers who had participated in our project how they perceived the process of animal health and welfare planning. We did that using a questionnaire which each participant used in an interview with the farmer, asking some specific questions with the aim to evaluate how the farmers had experienced the ANIPLAN approach. We found that this focus was important as a supplement to other outcomes from the project, such as reduction of medicines (Ivemeyer et al., 2011) and improvement of animal based parameters (Gratzer et al., 2011). Furthermore potential scenarios for implementation of this concept into practice can be developed from the farmers responses.

Method

This questionnaire (Annex 1) was developed during the Workshop in Reichenau 2009 based on a presentation by Rahel Kilchsberger (FIBL Switzerland) on "Qualitative research methods" and a discussion on the topic as well as on an existing questionnaire used by the German partners during a previous project on the implementation of health and welfare plans (March et al., 2007). The questionnaire was conducted by the national project partners in Austria, Denmark, Germany, Netherlands, Norway and Switzerland during the final visit as semi-qualitative interviews where the answers in most cases were written down during the conversation, taped in Denmark and given as written feed-back in Norway.
The small sample size of questionnaires in most of the countries (Norway (2),,the Netherlands (10), Switzerland (11) and Denmark (12)) needs to be taken into account, when discussing the results. Furthermore the various situations and experiences across countries and the different people performing the interviews have to be considered, however, the questionnaire was jointly developed and discussed during the Workshop in Reichenau.

Results

1. Perception of farmers regarding content and aim of the project

In the opening question, the farmers were asked to give their impression on the content of ANIPLAN, by answering the question: "What was this project about?" The selected quotes illustrate that a number of farmers perceive that the project was about on-farm assessment to stimulate improvement:

- "look what is good and bad on farm (and should be improved)" (NL)
- "gives good information about cows and stable" (NL)
- "external person opening your eyes" (NL)
- "stimulating farmers to improve health and welfare" (NL)
- "to find practical parameters for assessing animal welfare in dairy production" (NO)
- "to find the bigger picture of the health and welfare status on my farm" (DK)
- "to help us understand our own influence on the cows and how we can be better animal caretakers" (DK)

2. Evaluation of the general concept and the inclusion of animal based parameters

Furthermore farmers were asked to give their opinion on the general concept, defined as the continuous process of assessment, feedback, planning and reevaluation. Especially in Austria (1.4), Germany (1.5), Switzerland (1.7) and Denmark (1.8) the concept seemed to be well received by farmers. The importance of the inclusion of animal based parameters as part of the process was scored similarly high (Table 1).

Table 1 Ranking of importance of animal based parameters and general acceptance of the approach (1=very to 5= not at all) across countries (AT= Austria, CH=Switzerland, DE= Germany, DK=Denmark, NL= Netherlands, NO=Norway) as mean (min- max)

	AT (n=38)	CH (n=11)	DE (n=28)	DK (n=12)	NL (n=10)	NO (n=2)
How important are animal based parameters in your animal health and welfare planning strategy?	1,4 (1 - 3)	1,7 (1 - 3)	1,5 (1 - 3)	1,6 (1 - 3)	2 (2 - 2)	3 (2 - 4)
	AT (n= 39)	CH (n=11)	DE (n=28)	DK (n=12)	NL (n = 3)	NO (n=2)
Did you like the concept of the project?	1,4 (1 - 2)	1,7 (1 - 3)	1,5 (1 - 2)	1,8 (1 - 3)	2 (2 - 2)	2,5 (2 - 3)

3. „Good“ and „not so good“ aspects of the project

Using open questions, farmers were asked to list aspects of the project, which were specifically “good” or “not so good”. 235 terms or answers in total were given by 99 farmers for ‘good’ and 101 farmers gave 121 answers for ‘not so good’. The first author grouped these answers into categories, which were given the headlines as indicated in Figure 1 and 2, respectively. The categories clearly are very different in nature, some directed towards the concept of the project and some towards the approach (e.g. using farmer groups). The most common (43% of all answers) “good” aspect was the aspect of the “whole concept”, meaning the process of assessment, identification of challenges, discussion of solutions and reevaluation as a measure of effectiveness. To a lower but similar degrees quality of advice (11%), benefits of an external person(14%), relatedness to practice (8%), a good atmosphere (9%) and the possibility to compare the own situation with the data of similar farms as “benchmarking” (10%) was mentioned by farmers.
The following quotes are illustrating the answers in more detail, and show the broad range of thoughts which the farmers relate to this question:

- “other people have similar problems, that we can tackle together” (CH)
- “a link between research and practice“ (CH)
- “no “translation” of the advice given necessary” (CH)
- “arguments are based on the animal instead of the usual economic argumentation – this is blatantly different to the „normal“ agricultural advisory situation” (CH)
- “challenges are documented, it is possible for us to recognise weaknesses of the farm” (AT)
- “project person is a carrier of information, coach, moderator” (D)
- “to learn more about the behaviour of our cows. We look at our cows in a different way now” (DK)

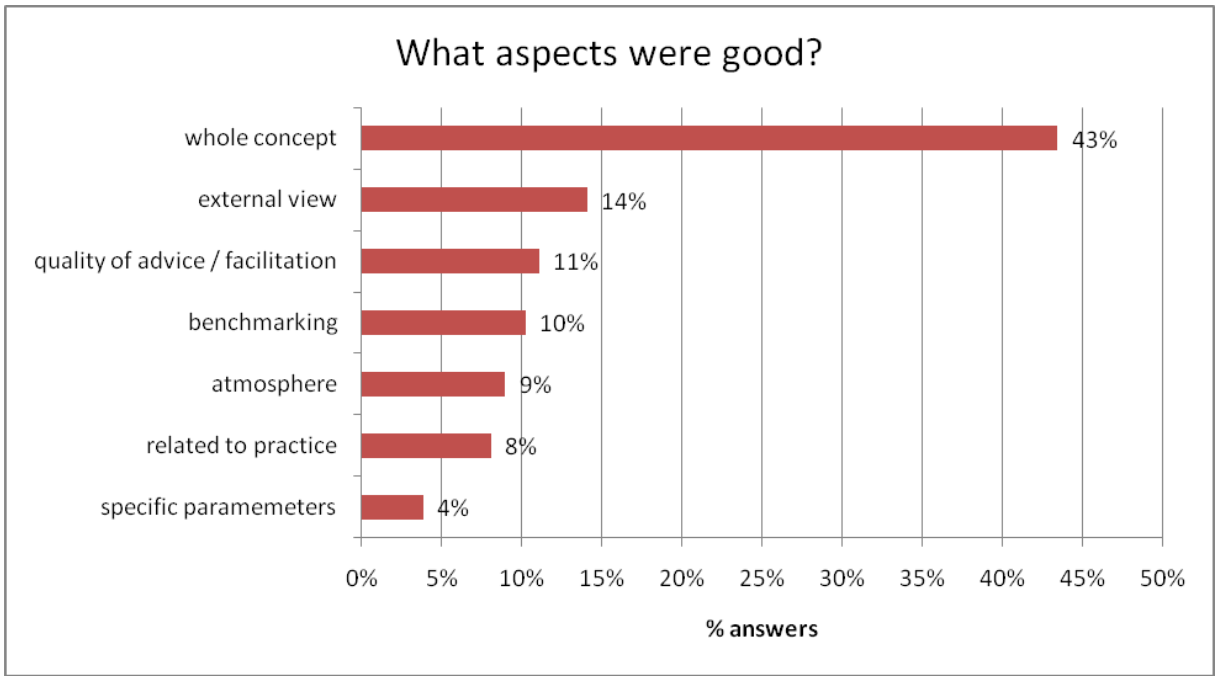

Figure 1: Distribution of answers in categories regarding the question: "What aspects were good?" 99 farmers, 235 answers (AT, CH, DE, DK, NL, NO included)

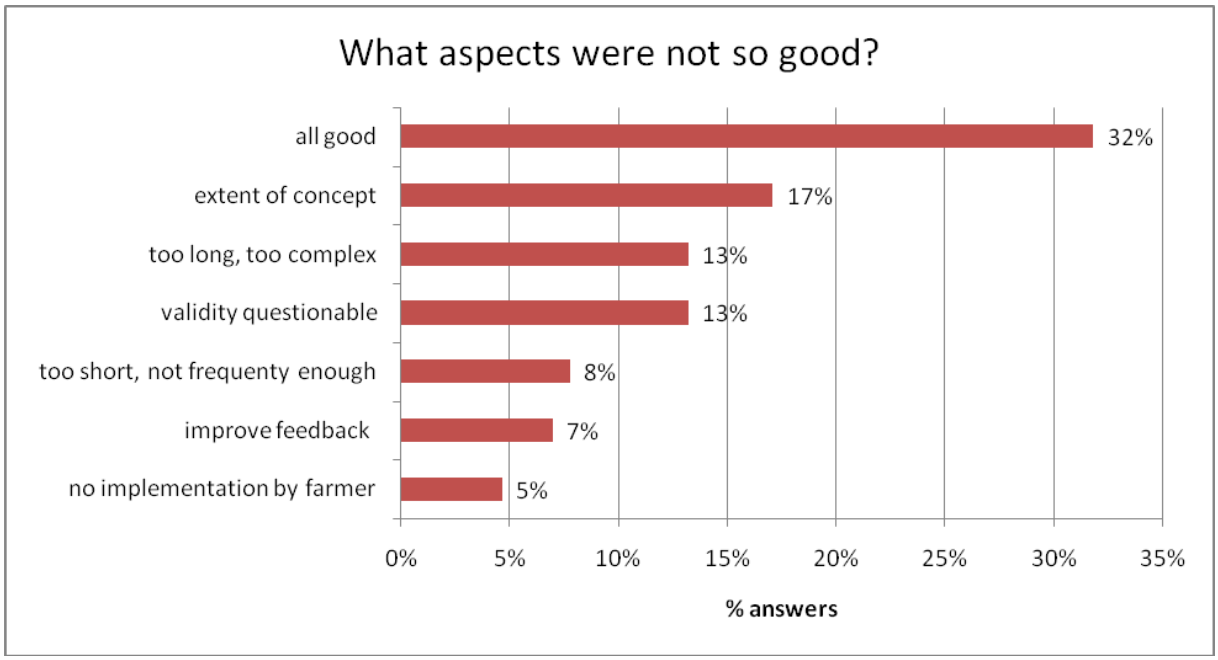

Figure 2: Distribution of answers in categories regarding the question: "What aspects were not so good?" 101 farmers, 129 answers (AT, CH, DE, DK, NL, NO included)

Regarding the question "which aspects were not so good?" a third (32%) of farmers did state, that there was nothing which they would call 'not good'. Again, a number of answers reflected particular situations in some countries, e.g. a category like 'quality of advice', which could both reflect that the involved advisors or facilitators had not lived up to some expectations or a level of advice which they normally felt they had access to. 17% of farmers had some suggestions on how to improve the concept of health and welfare planning, such as adding certain issues or changing details of the procedure. The duration and extent of the project was almost to the same degree judged as too long (13%) and by other farmers as "too short" (8%). This might also refer back to the expectations of the farmers, and they might

have been introduced differently in different countries to the project including length (the project lasted one year, in DK two years). Also the topic of validity of parameters was discussed (13%) and the type of feedback of data (7%).
Farmers came with viewpoints about how the process worked for them, such as:

- "unpleasant to be reminded in improvements you cannot do because of economy" (NO)
- "you as advisor try your best (and I do not think, that you could improve something), however, the implementation from my side is missing" (AT)
- „long distances to travel and a lot of time necessary" (CH)

This underlined the importance of the farmer setting the agenda and owning the problem and hence also the solution. This ('farmer ownership') is one of the ANIPLAN principles, but it can be difficult to practice; and even though e.g. fellow farmers in a farmer group come up with suggestions which are too expensive for the farmer who asks for advice, it may still be unpleasant to have the suggestions. Also practical issues like time to go to farmer meetings are included:

4. Options to integrate concept into existing national structures

Finally farmers were asked to give some potential options to integrate the concept into existing (national) structures. This is illustrated for Austria (Figure 3) and Germany (Figure 4) separately, as a high number of farmers did answer this question in those countries, whereas Figure 5 illustrates responses across all countries. Results are of course completely dependent on the national structures and organizations which are well-known to the farmers. Nevertheless, existing advisory bodies are ranked as the first option across countries. Austrian farmers rank veterinarians and the health service as the second most important option, which reflects that they can see possibilities to integrate this approach with the existing structures. This is also reflected in Figure 5, where this suggestion is almost only made by Austrian farmers. However, also Norway has a well organized veterinary health service which could be linked to health and welfare planning In contrast to this, German farmers mention farmer groups as the second most relevant option.

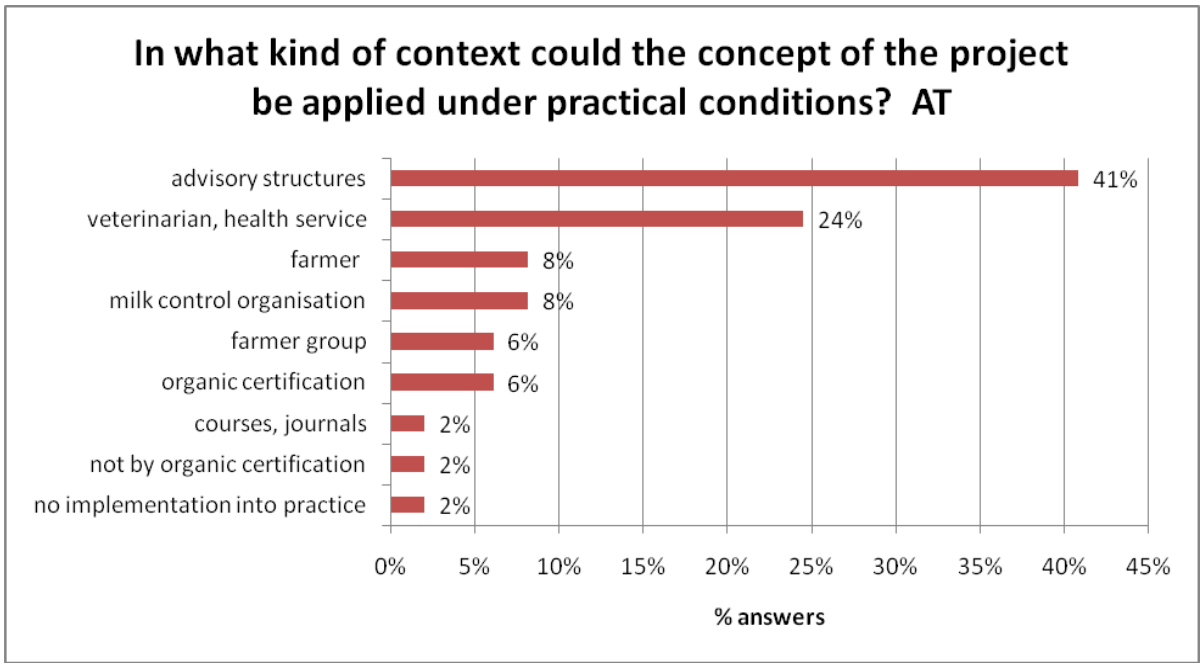

Figure 3 Distribution of answers in categories regarding the question: In which context could the concept of the project be applied under practical conditions?" in Austria (n= 32 farmers, 49 answers)

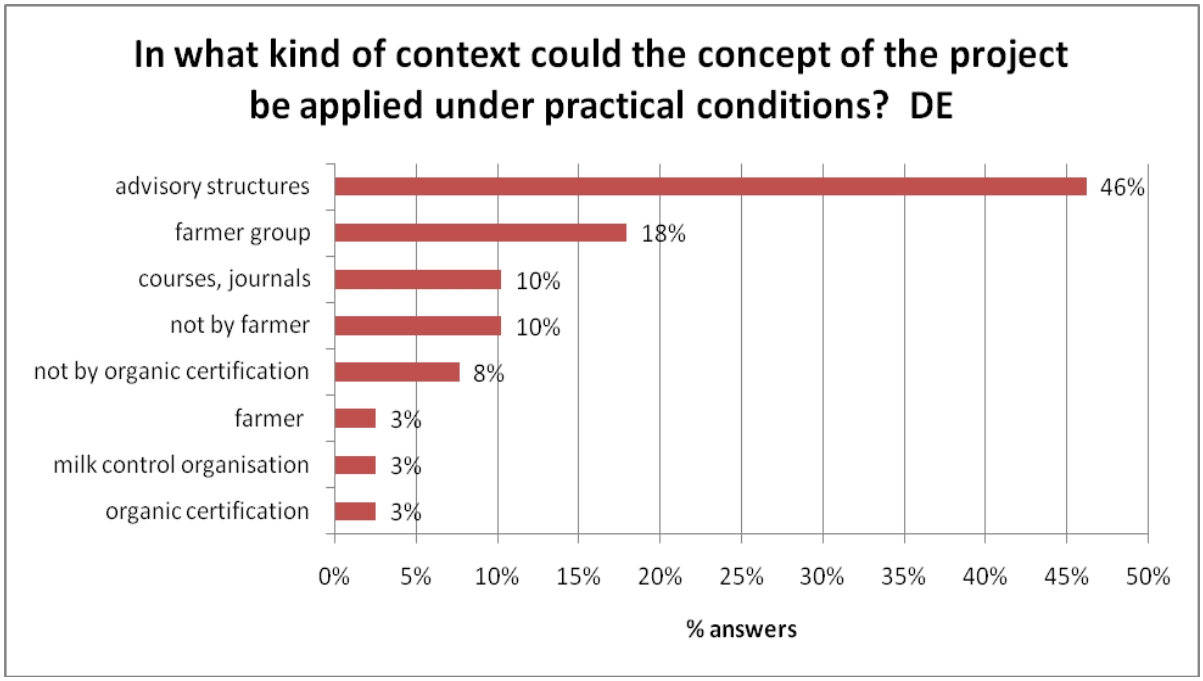

Figure 4 Distribution of answers in categories regarding the question: In which context could the concept of the project be applied under practical conditions?" in Germany (n=25 farmers, 39 answers)

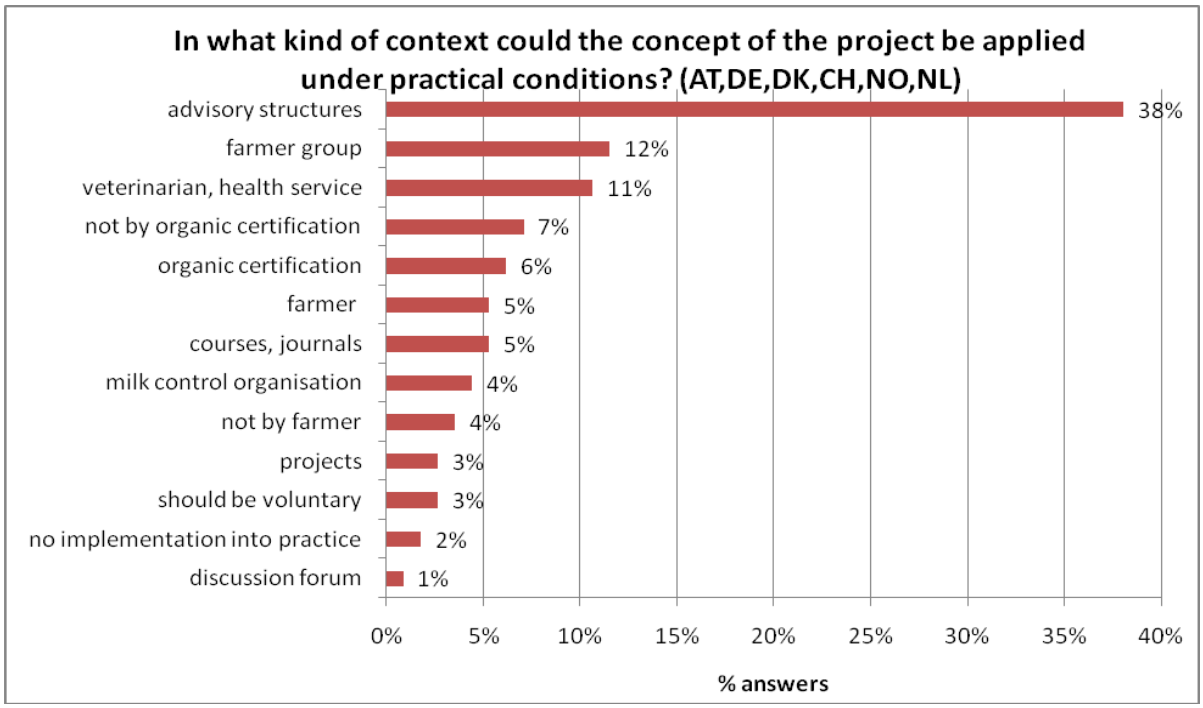

Figure 5: Distribution of answers in categories regarding the question: In which context could the concept of the project be applied under practical conditions?" in Austria (AT), Switzerland (CH), Germany (DE), Denmark (DK), the Netherlands (NL) and Norway (NO) (n=74 farmers, 113 answers). Please notice that 57 of the farmers come from Austria and Germany, and altogether 17 farmers come from DK, CH, NO and NL.

Below some quotes give interesting aspects and suggestions regarding the implementation of the ANIPLAN approach into existing structures, especially the last quote meets the impression of the project participants most- a concept based on the individuality of farmers and their farms needs to be implemented not just by one, but by various ways in order to fulfill the specific needs.

- "starting point for a „cow comfort" label including animal based parameters – important for the future of organic farming" (CH)
- "by implementation of stable schools try to establish this concept in all countries" (D)
- "don`t use it as a part of certification, the situation there is felt as irksome- please no additional duty for the farmer" (D)
- "the concept of this project should be taken up by advisory bodies" (D)
- "via various adequate concepts, the individually different needs of farmers could be fulfilled optimally"(D)

5. Willingness to pay for advise

Furthermore farmers were asked about their willingness to pay for having advice, as well as the amount of money which they would be willing to spend on animal health and welfare promotion services. The answers are listed in Tables 2 and 3 and partly reflect national traditions for service delivery and paying for 'improving as professional farmers'. In the Netherlands, there is a strong tradition for farmer groups and many farmers have personal experience that they get much out of it, where it is more seen as 'clubs' in some countries with less strong traditions, in contrast to 'having a visit by an expert or advisor' is seen as something worth paying for. The amount is likewise reflecting traditions and probably price levels in general, in addition to farmer perceptions on farmer groups which they maybe do not have any chance to have experienced themselves, and it cannot be compared across countries. Besides that there is a big difference in herd size between countries.

Table 2: For which of the above ranked options would you be willing to pay? (Multiple answers allowed)

	one to one	farmer group, external expert	stable schools	self organized	other
AT (n=38)	76%	55%	16%	0%	13%
CH (n=11)	91%	18%	64%	0%	0%
DE (n=28)	71%	18%	46%	0%	4%
NL (n=10)	40%	100%	70%	50%	0%
NO (n=2)	100%	100%	0%	0%	0%

Table 3: How much money would you spend on herd health and welfare promotion (€)? (Norway not included, as only two farms)

	AT		CH		DE		NL	
	per year	per cow	per year	per cow	per year	per cow	per year	per cow
n	28	7	3	8	27		8	
Mean	332	8	860	26	1.143		422	
Median	250	10	740	20	500		413	
Min	0	3	740	4	100		100	
Max	2.000	10	1.100	60	5.000		1.000	

Discussion

As shown in **Annex** 2, the planning process was carried out in Austria, Germany, Netherlands and Norway during one-to-one meetings and in Switzerland and Denmark the stable school concept was implemented as an option which the farmers could choose. Therefore farmers

had experience with one or two advisory systems in the planning process, namely communication in farmer groups (stable schools) and communication with advisors (so-called one-to-one meetings). Farmers might have taken also experiences from other sources into account. So, when farmers are asked to give their opinion on 'advisory system', their answers will of course be based on the level of knowledge about the different options, and their own experience, or lack of experience, with certain types of communication.

The ANIPLAN project was conducted in collaboration with different national projects, and they had slightly different focus, which can be reflected in the way in which the question was answered, and to some extent also asked by partners. Farmers were approached differently in different countries and no question focused on the expectations of the farmer to the project. This question about what the project was about, seen from the farmer point of view, did therefore not reflect whether the project actually met any expectations.

Conclusions and final remarks

Based on this questionnaire survey, it seems reflected in the answers that many farmers felt that they benefitted from participating in this project, in which animal health and welfare promotion was in focus in various ways as part of a research project. Farmers also felt that it would be relevant to take the concept up in the existing national structures of advisory services. Discussions across countries are difficult in many cases, because of the highly different farming and advisory conditions, which even exist within countries. Furthermore, the interviews were conducted by many different persons, who firstly had been primary actors in conducting the whole project and practicing the concept together with the farmers whom they interviewed. In addition to this, we have attempted to present the results in a rather quantitative manner, partly based on a conclusion that a qualitative analysis is clearly not possible based on this material. We have presented a range of opinions on various aspects of how the project was practiced in different countries. In addition to other results from the project, we conclude that our end-users have found many aspects of this concept useful, and we underline the importance of that the farmer should be motivated to do animal health and welfare planning on his or her farm. This can be done by various different ways, which has to be chosen by the individual farmer in order to own the whole process and to actually implement improvement measures.

Literature

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March, S., Brinkmann, J., Winckler, C., Goeritz, M., Oppermann, R., Rahmann, G., 2007. Herd health plans and herd health indicators from the point of view of organic milk producers – preliminary results of a pilot study in Germany. 9. Wissenschaftstagung Ökologischer Landbau

Annex 1: questionnaire which the research team asked to farmers

Farm:_____ ID:_____ Date:_____

Experiences

Warm up question: What do you think this project is about? (open question)

Questionnaire:

1) Based on your experiences and what you have heard, which of the following advisory systems would help you in the future to improve animal health and welfare on your farm. Please rank your preferred four systems by numbering 1=most important to 4=less important.:

A) ☐"intensive"-coaching (1 advisor : 1 farmer)
B) ☐farmer group with external advisor/ expert
C) ☐„stable schools“
D) ☐self organized farmer group, without external advisor/ expert
E) ☐other, like: ……
F) ☐no advice at all

2.a) For which of the above ranked options would you be willing to pay?

A) ☐ B) ☐ C) ☐ D) ☐ E) ☐ F) ☐no payment at all

2.b) How much money would you spend on herd health and welfare promotion per year?
…… €/…….. (per year or per cow and year)

3.a) How important are animal based parameters in your animal health and welfare planning strategy? (animal based parameters mean anything you can observe on the animal or in the health records)
very important 1 2 3 4 5 not important

3.b) Which animal-based parameters are the most relevant for you (max. 5)?

1. ……
2. ……
3. ……
4. ……
5. ……

4.a) Did you like the concept of the project? (concept = spiral diagram and all its related components)

very much 1 2 3 4 5 no, not at all

4.b) What aspects were good?

4.c) What aspects were not so good?

5. In what kind of context could the concept of the project be applied under practical conditions?

6. How will/ would you go on with the improvement of herd health and welfare on your farm (after the end of this project)? (open question)

Annex 2: The way in which the project was carried out it practice in the partner countries

	Austria	Germany	Denmark	Switzerland	Netherlands	UK	Norway
Total no of farms	39	42 (number of farms observed), allocated to either control (n=14) or intervention group (n=28).	15	15	10	19	6 (+3 calves)
Observers (assessment of animals)	4	2	1	2	1	2	1
Number of farms with FFS / 'stable schools'	0	0	6	13	0	9 (4 of which were adapted i.e only one meeting per farm)	0
Number of One-to-One-farms	39	28	9	2	10	10	6 (+ 3 calves)
Total number of facilitators	4	2	1	2	1	1	1
Same people assessing and facilitating?	Yes	Yes	Yes	Yes	Yes	No	Yes
Way of communication about plan	Additional visit and face to face planning	Additional visit and face to face planning	Feed-back report sent, phone calls to select focus areas, additional visit to formulate the plan	Additional visit (and face-to-face planning OR: Feed back report with invitation to FFS, phone call with farmer before FFS to select focus area)	Direct during visit and additional phone call/email	Plans do exist, so no additional plan made	Directly during visit and additional phone call/ email
Type of feedback	Written report	Written report	Written report	Written report	Written report	Written report	Written report
How were data presented?	Benchmark, suggested intervention levels	Benchmark, suggested intervention levels	Text + Table (kind of benchmark)+ Photos	Benchmarking, overview over one year, welfare: "Austrian system", health: ProQ system	Benchmark, meeting	Benchmark and issues highlighted	Written report with issues highlighted and suggested intervention levels, benchmark
How was the feedback used for planning?	Directly integrated in written plan and in planning	Directly integrated in written plan and in planning	Sent to the farmer, so they knew about it before the phone call, in FFS it was sent to all farmers	Health: before visit, monthly; welfare: with invitation to FFS/one to one: at day of planning visit	Directly integrated in plan	Suggested to farmers that they might want to include issues raised in feedback in FFS	Discussion on the farm and on the phone after farmer had received written report
Type of plan	Goals and measures decided/written by farmer	Goals and measures decided by farmer	Written, in FFS it was the minutes of the meeting, always two selected problem areas	Written minutes (from FFS or one-to -one planning visit)	Oral planning based on written feedback report	Written (existing plan)	Written plan (separate document) signed by both farmer and facilitator (advisor)
Did you leave any parameters out in the feedback?	QBA	QBA, social behaviour	(QBA)	QBA	QBA	All parameters assessed were included	None
Were good aspects included?	Indicated in green	All parameters presented	Yes	Yes	Yes	Yes	Yes, highlighted in report, briefly mentioned in plan
At how many farms were external advisors and/ or vets present and in which form	0	24	0	0	0	0	0
How did you integrate the organic principle framework?	Suggested measures within the organic principles	Suggested measures within the organic principles	By attempting to stimulate and solutions within the organic principles	Suggested measures within the organic principles	Suggested measures within the organic principles	Suggested measures within the organic principles	Mentioned in report, if deviations from organic regulation
ANIPLAN Activities between visits	Phone calls to farmers	Assessment and update of plan after 6 month, Phone calls/emails on 25% of farms	One workshop on 15th Dec 2009 about phasing out antibiotics where all farmers were invited	additionally 2 meetings with all ANIPLAN farmers, additional phone calls	Phone calls/emails to farmers	Agenda setting by facilitator and/or PN for discussion group (phone), occasional emails between farmers	Discussion meeting – only two of the farms joined
Evaluation of plan during final visit with the farmer	Yes (measures and goals)	Yes (measures and goals)	At second FFS visit or second individual planning meeting	partly, depending on goals (long term goals as breeeding difficult to evaluate)	No real evaluation	No	Yes (measures and goals)
Updated plan during final visit	Yes	Yes	Yes	No	No	No	Yes
Number of farms participating simultaneously in another project	0	0	Most of them probably in project activities around para tuberculosis	15 (pro-Q till May 2010, afterwards Feed no Food)	3 resistance, 4 antibiotic free network, 1 strategic network	Unknown- some farms were demonstration farms and few in lameness project	0
Number of farms participating previously in an other project	0	28	All- various projects from interview surveys to previous FFS	15 (pro-Q till May 2010, afterwards Feed no Food)	2 dry cow management, 2 concentrate level	Unknown, probably some in e.g. homoeopathic study	Unknown
Selection of farms	Representative sample approached by project team	Representative sample approached by project team	Letter from dairy company; > 40 wanted to participate, 15 were selected more or less randomly (according to region)	Selected from ProQ network, regional reasons, farmers were approached, but only interested farmers participated, not representative for CH	Selected from list of all farms in NL, farmers were asked to participate,	Via organic milk cooperative	Location: More farms in same area, contacted by phone
Time between planning and second assessment	9-12 month	12 months	2-10 month	2-7 month	11 month	SR: 2-10 month, PN: 1-2 month, MN/IR: not known	12 month

List of participants

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The process of minimising medicine use through dialogue based animal health and welfare planning

Livestock are important in many organic farming systems, and it is an explicit goal to ensure high levels of animal health and welfare (AHW) through good management. In two previous EU network projects, NAHWOA & SAFO, it was concluded that this is not guaranteed merely by following organic standards. Both networks recommended implementation of individual animal health plans to stimulate organic farmers to improve AHW. These plans should include a systematic evaluation of AHW and be implemented through dialogue with each farmer in order to identify goals and plan improvements. 11 research institutions in 7 European countries have been involved in the ANIPLAN project with the main objective to minimise medicine use in organic dairy herds through active and well planned AHW promotion and disease prevention. The project consisted of 5 work packages, 4 of which comprised research activities building on current research projects, new applications across borders, exchange of knowledge, results and conclusions between participating countries, and adopting them to widely different contexts. International and national workshops have facilitated this exchange.

In the project, animal health and welfare planning principles for organic dairy farms under diverse conditions were developed. Animal health and welfare assessments, based on the WelfareQuality parameters, were conducted in different types of organic dairy herds across Europe. Finally, guidelines for communication about animal health and welfare promotion in different settings were also developed relevant to both existing animal health advisory services or farmer groups such as the Danish Stable School system and the Dutch network program.

These proceedings contain the presentations at the final workshop, which also included invited external guests. The proceedings also contain three reports which are deliverables of the project. They are focused on the process of planning for better animal health and welfare, and how farmers and facilitators manage this situation. The focus areas are animal health planning, AHW assessment using animal based parameters and development of advisory systems and farmer groups.

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