

Future perspective for animal health on
organic farms: main findings, conclusions
and recommendations from SAFO
Network

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Foreword

The EU funded SAFO network was initiated in 2003 with the aim of improving animal health and food safety in organic livestock production systems in existing and pre-accession countries of the European Union. This has happened through exchange and active communication between researchers, policy makers, farmers and the wider organic stakeholder community, including consumers, in workshops, ongoing discussions on standard development, and dissemination activities in Central and Eastern Europe. Here, we present the fifth and last set of proceedings, which completes the project.

This workshop was a satellite to the Joint Organic Congress ‘Organic Farming and European Rural Development’ in Denmark. Together with the QLIF project (www.qlif.org), SAFO organised three themes at the Congress on ‘Development of livestock production systems’ (32 papers), ‘Animal health and disease handling’ (22 papers) and ‘Organic animal products: quality and safety’ (11 papers). These papers may be found (http://orgprints.org/view/projects/int_conf_joint2006.html) in the Organic E-prints archive and are not included in these Proceedings.

Here, we focus on the special SAFO day held on 1 June 2006 that was attended by 65 participants from 23 different countries. The focus of the workshop was the conclusions and main messages from the SAFO network that were presented and further discussed throughout the day. David Younie presented a report from the five roadshows held in new and pre-accession member states, while Albert Sundrum presented the activities and recommendations of the working group on standard development. Both papers highlight the diversity in physical and social conditions throughout Europe, and how this diversity affects organic livestock systems. Recognising this diversity has formed the basis for the discussions throughout the project, and acts as a background for the recommendations from the network for the future implementation and further development of organic livestock production in Europe. Kim Boesen from the DG Agriculture introduced the Commission’s proposal for a total revision of the EU regulation (2091/92), and this allowed the network to better reflect on its ideas and recommendations in the ongoing debate.

Certification of and advisory services for organic livestock farming was the focus of the second plenary discussion. Previous SAFO workshops have concluded that implementing standards at farm level does not always result in the high ideals of the organic principles being met. This seems to be the case in countries with both a long and short history of organic farming. Therefore, one of the recommendations was to look not only at the farm-level livestock production system (that is, what the farmer does), but also consider the animals themselves (use of animal-based parameters) in certification. The arguments for this approach, and its practical application, were the focus of one of the sections.

As always, smaller Working Group Discussions were held in parallel during the workshop, and reports from these discussions are also included in this set of proceedings. These discussions illustrate a fitting closing remark of the SAFO project: the project may end, but challenges will continue to arise, and therefore discussion between the stakeholders must also continue.

Mette Vaarst, Susanne Padel and Caroline Rymer

Reading, August 2006

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Part A: Summary of the outcomes of SAFO

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Report of one-day roadshows in five new and candidate EU member states

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Abstract

As part of SAFO Work Package 6 (Technology Transfer), a series of one-day Roadshow seminars was organised in five new or candidate EU Member States. The overall aim was to disseminate information from the project to the end-user level in new and candidate Member States and to establish information exchange in a two-way communication between the project and the end-users in these countries regarding the national potential and constraints in relation to organic livestock production. The Roadshows were aimed at livestock producers, certification bodies and policy makers.

The Roadshow seminars were held during 2005, as follows:

Country	City	Date	Organiser
Latvia	Jelgava	4 March 2005	Elita Selegovska
Hungary	Budapest	9 June 2005	Gyorgyi Takacs
Slovakia/Czech Republic	Kosice	28-29 September 2005	Olga Ondrasovicova
Estonia	Saku	7 October 2005	Ragnar Leming
Romania	Cluj-Napoca	28 October 2005	Gheorghe Mihai

The Roadshow held in Kosice, Slovakia, was jointly organised with SAFO participants in the Czech Republic, and was organised as two sessions each taking a half day on two consecutive days. The Roadshows attracted between 60 and 90 delegates. The main elements of the programme for each meeting were as follows:

1. Presentations of SAFO activities by SAFO project Participants
2. Presentations on the state of the art of organic livestock production in the country
3. Presentations by organic livestock farmers outlining their main issues and challenges
4. Group and plenary discussions.

In most of the five Roadshows the balance between dissemination of SAFO information and presentation of national information and discussion was approximately 25:75. Summaries of presentations by SAFO Partners and of the presentations by national speakers are presented here in individual Roadshow reports.

SAFO Partners emphasised the principles on which organic livestock production is based and provided information on the current state of organic livestock production in Europe, including the market situation for organic livestock products. SAFO Partners also highlighted the challenges of diversity in livestock systems across Europe associated with widely different physical and social conditions, and discussed the sometimes wide gap between the high aims of organic farming in terms of animal health and food safety and what actually occurs at farm level. In addition to the plenary presentations of SAFO material by SAFO Partners, all delegate packs contained detailed summaries of the four main SAFO Workshops, translated into each national language.

The presentations and discussions on national issues painted a relatively consistent picture of organic livestock farming across all Roadshow countries. A number of common problems restricting the development of the organic sector were repeatedly emphasised in all Roadshows. These were major structural issues, typical of a young and immature organic sector. The main problems identified by producers, advisers and researchers were lack of home markets, processing facilities, advisory provision and subsidy support. It is perhaps understandable that at this stage in the agricultural and organic development of these countries, the focus of producers is on these issues rather than on animal health and food safety as a specific issue. Representatives from organic certification bodies reported on the major non-compliance issues in organic livestock farming. Difficulties with livestock housing, in particular tethering of stock, as well as poor documentation and record keeping, were common in most of the Roadshow countries.

There is clearly a considerable degree of commitment, enthusiasm and potential for organic livestock production in all of the Roadshow countries. The problems reported were related to the stage of development of the economy and of the organic sector in these countries, rather than to major technical issues requiring further research. However, technical challenges do exist, particularly in relation to improving the housing conditions of livestock, provision of sufficient organic replacements and organic feedstuffs, and improving producers' understanding of preventative health strategies for livestock. To some extent these issues are linked to the state of development of the broader economy and of the organic sector, but improving the provision of organic farming advice will also have a major impact on these issues.

Introduction and concept

SAFO Work Package 6 relates to dissemination of technologies (knowledge and conclusions) from the project to end-users in EU member states. Objective O6.2 relates specifically to dissemination of this information in EU candidate countries and also focuses on the establishment of information exchange between the project and the end-users in these countries. The methodology for this activity was primarily a series of Roadshows in new or candidate EU countries.

The concept of the SAFO Roadshows was a series of coordinated one-day seminars in a number of countries, at which material from network activities would be presented and discussed. In addition, country specific conditions would be presented by local stakeholders and discussed in a two-way communication. The Roadshows were aimed at end users (livestock producers), certification bodies and policy makers. The overall aim was to disseminate information from the project to the end-user level in the candidate member states and to encourage discussion among farmers and policy makers in accession countries

regarding the potential, constraints and research requirements in relation to organic livestock production.

Methodology

SAFO Partner 4 (David Younie) was responsible for the overall supervision of the Roadshow programme, but the detailed planning and implementation of the programme was undertaken by a team which also included the organisers of each individual Roadshow and the SAFO Coordinator (Partner 1, Mette Vaarst).

At the second SAFO Workshop in Witzenhausen in March 2004, SAFO Participants from new EU member states and candidate countries were offered the opportunity to organise one of the Roadshows in their own country. Although they were not official SAFO participants at the beginning of the SAFO project, Romania, Bulgaria and Czech Republic were all included in this group because their participation was still highly relevant. Following this, the SAFO Steering Group made the final selection of locations for Roadshows, taking into account the need for a representative range of climatic conditions and farming systems. Table 1 shows the locations, dates and local organisers of the five SAFO Roadshows.

Table 1. SAFO Roadshows: locations, dates and local organisers.

Country	City	Date	Organiser
Latvia	Jelgava	4 March 2005	Elita Selegovska
Hungary	Budapest	9 June 2005	Gyorgyi Takacs
Slovakia	Kosice	28-29 September 2005	Olga Ondrasovicova
Estonia	Saku	7 October 2005	Ragnar Leming
Romania	Cluj-Napoca	28 October 2005	Gheorghe Mihai

In addition to the initial meeting of the Roadshow Planning Group in Witzenhausen, further planning meetings were held at the third and fourth SAFO Workshops at Falenty in Poland (September 2004) and Frick in Switzerland (March 2005) and at the Steering Group meeting in Reading in December 2004. The Roadshow planning meeting at Frick in March 2005 included a review of the Latvia Roadshow which had taken place earlier in that month.

A generic model for the programme for the Roadshows was developed, with the final programme for each individual Roadshow being agreed between the individual organiser, Partner 4 and the SAFO Coordinator, Partner 1. The main elements of the generic model programme were as follows:

- Presentations on SAFO activities by SAFO Project Participants
- Presentations on the state of the art of organic livestock production in the country
- Presentations by organic livestock farmers outlining their main issues and challenges
- Group and plenary discussions.

Reports of individual roadshows

The material from the Roadshows is presented here in two separate sections. The presentations by SAFO Project Participants were largely the same at each Roadshow so they are summarised here only once, as a separate section. Detailed summaries of the Roadshow presentations relating to organic livestock production in each country then follow. This also includes a summary of the discussions at each Roadshow and a breakdown of the delegates' backgrounds. English translations of some of the individual presentations are presented in the Appendix Volume.

Dissemination of SAFO project technologies

Dissemination of material from the SAFO project at the Roadshows took two forms. The first was the presentations by Steering Group and local SAFO Participants. The second was translated summaries, in the national language, of the main SAFO Workshops. These were included in delegate packs at all five Roadshows. SAFO presentations at the Roadshows were made by Steering Group members David Younie (Latvia, Hungary, Slovakia, Estonia and Romania), Mette Vaarst (Latvia and Slovakia) and Albert Sundrum (Hungary), and by local SAFO Participants Elita Selegovska (Latvia) and Gheorghe Mihai (Romania).

An overview of organic livestock production in Europe was presented by SAFO Steering Group member David Younie (in Latvia, Hungary, Slovakia, Estonia) and by SAFO Romania Participant Gheorghe Mihai (in Romania). The focus of stakeholders in the organic movement is often on the legal definition of organic farming, i.e. the EU Regulation. However, organic farming is firstly defined by a set of principles (e.g. the IFOAM Principles), and organic food and farming is worth nothing if we lose sight of those principles. The basic aims of organic livestock farming were highlighted, i.e. the maintenance of animal welfare, the emphasis on ensuring a production system which is as close as possible to the natural situation, related to the requirements of the species, using appropriate breeds, the need to express natural behaviour, etc. The main features of the EU Regulation were outlined: natural and species-specific feeds, preventative health strategies, minimising veterinary drugs, access to range, appropriate housing conditions, etc. The greatest differences between conventional and organic systems were to be found in pigs and poultry rather than in ruminants, because conventional pig and poultry production have moved much further away from natural systems than ruminant systems have. The importance of livestock in most organic systems was emphasised by pointing out the very high percentage of the organic farms in most European countries which were livestock farms. Hungary was one of the few exceptions, with only 11% of organic farms being livestock farms. The market size for organic food in different European countries was summarised, with the highest per capita per annum consumption being in Switzerland (€99 in 2003) and Denmark (€60), although highest total sales were in Germany (over €3 billion in 2003). The organic share of total food sales was still rather low (just over 1% for EU in 2001). Much of the livestock produce which was produced and certified as organic was not able to find a market in the organic food chain. In 1991, over 90% of pig and poultry produce was sold as organic, but only 54% of sheep meat and 65-70% of beef and dairy product was sold as organic.

In the second SAFO presentation, Mette Vaarst (in Latvia and Slovakia), Albert Sundrum (in Hungary) and David Younie (in Estonia and Romania) presented some of the intellectual outcomes from the SAFO project. The challenges facing animal health and food safety had been identified, including the significant diversity in livestock systems and environments between different European countries.

The implementation of the EU standards at farm level was also a huge challenge. It was clear that the EU Regulation in itself was not sufficient to guarantee good animal health and safe food. Indeed the Regulation increased the challenge in some respects, e.g. the requirement for access to pasture for all animals increases the risk of infection by environmental pathogens. Most of the health problems found on organic farms were the result of multiple causal factors, often due to failures by the farmer himself including poor housing design. A higher level of skill is required by the organic stockman than by the conventional stockman. At the same time there was often inadequate advisory support for organic farmers. Thus there was still a gap between philosophy and practice.

Many examples of improved practice had been presented at SAFO Workshops. These included bio-active forages for worm control in ruminants, techniques for increasing the use of the run by poultry, appropriate breed selection and improved sanitation practices for mastitis control in dairy cows, prolonged suckling of the calf in dairy herds, and the use of animal health plans. In addition, better training of farmers, vets and advisers, and networking projects like SAFO, were vitally important. Although it was important to have an EC Regulation to provide a framework of organic farming standards, it would be difficult to make organic livestock farming completely uniform across all countries. Instead, diversity of systems can be used as a basis for learning and improvement.

At the Latvia Roadshow, Elita Selegovska, SAFO Latvia Participant, reported on the survey of SAFO project members to determine the main problem areas in each country (if any), relating to specific paragraphs in the EU Organic Livestock Regulation, particularly with regard to animal health and food safety. In general, there was a tendency for more issues to be raised by representatives from those countries in which organic livestock production has been established for the longest time. Many issues were raised, including lack of expertise in preventative health management techniques amongst farmers, lack of availability of robust breeds, questions about traditional housing systems including tethering and use of outdoor runs in pigs and poultry, lack of knowledge and reluctance to use complementary therapies. There was also some concern about lack of clarity in the Regulation, and the lack of definition/examples of preventative health management techniques.

Report on SAFO Roadshow in Latvia

A total of 86 delegates attended the Latvia Roadshow, from all regions of Latvia. 41 of the delegates were farmers, seven were processors or traders, four were consumer representatives, four were Government policymakers, three were from NGOs, seven were advisers, ten were researchers or lecturers, four were students and six were from inspection bodies or auditors. The Programme of the roadshow is presented in Table 2.

Table 2. Programme for the SAFO Roadshow in Latvia.

Time	Activity
9.30	Registration, Coffee
10.00	Opening of meeting, welcome (<i>E. Selegovska, LUA Dept. of Animal Science, SAFO contact in Latvia</i>)
10.10	Organic farming and livestock production in EU. Perspectives. Differences between countries in legislation, funding and certification. (<i>David Younie, SAFO Steering Committee</i>)
10.45	Implementation of the EEC-Regulations on organic livestock farming in different countries. (<i>E. Selegovska</i>)
11.00	Organic farming in Latvia – current situation. (<i>D.Kreismane, President of Association of Latvian Organic Agriculture Organisations, ALOAO</i>)
11.15	Organic Development Plan: national policy, targets and prospects. (<i>L.Drozдовska, Latvia Ministry of Agriculture</i>)
11.30	Problems in fulfilling standards in organic animal husbandry. (<i>A.Sietinsone, Food and Veterinary Service; S.Rubezis, Certification body “Vides kvalitāte”</i>)
12.00	Animal welfare in organic farms. (<i>D.Kairisa, LUA Dept. of Animal Science</i>).
12.15	Discussion
12.30	Lunch
13.30	Outcomes from SAFO network (<i>Mette Vaarst, SAFO coordinator</i>)
14.00	Experience and problems in animal husbandry: Ruminants, Pigs, Poultry. (<i>Farmers: I.Virsnite, B.Tideman, M.Viluna, I.Kocina</i>)
14.40	Group discussions <ul style="list-style-type: none"> • Livestock health and housing (ruminants, pigs, poultry); • Food quality and safety; • Marketing of organic livestock products.
15.30	Tea/coffee
15.45	Plenary discussion. Results of group discussions. (<i>E.Selegovska</i>)
16.30	Finish

Organic livestock farming in Latvia

Dzidra Kreizmane, President of the Organic Farming Association of Latvia, described the current state of organic farming in Latvia. She indicated that there were two main issues: a desire for naturalness on the one hand, and a trend towards intensification on the other hand. Food quality and safety issues tended to have a higher profile in cities than in the countryside.

Currently 2% of agricultural land in Latvia is organic and 0.7% of all farmers are organic. Positive factors in the development of organic farming include increasing support payments for conversion, and these may be increased further. Demand for organic food is also growing. Negative factors include poor availability of organic products, slow development of processing facilities, and lack of co-operation amongst producers.

Farmers' motives for conversion were twofold:

- a) Most farmers are motivated by economic incentives (i.e. subsidy support).
- b) Some are also motivated by environmental considerations

It has been primarily smaller farms which have been converting because they cannot compete with large scale farms in the production of conventional commodity foods. The Latvian Association of Organic Farmers was an active association which played major roles in the

development of a national strategy and in the provision of information and training on organic farming, environmental protection and healthy food. She felt that there was a lack of trained and competent organic farming advisers but looked forward to increased possibilities for international collaboration in both organic training and organic research.

Liga Drozdovska, Senior Officer of the Division of Quality Management Veterinary and Food Department of the Ministry of Agriculture, provided a description of the national Organic Development Plan. The aims of this Plan were to establish a place for organic farming within the agricultural sector, improve the availability of organic products and encourage an environmentally friendly farming system. In order to achieve these broad aims, additional specific objectives of the Plan were to improve access to knowledge about organic farming, increase organic production, improve production infrastructure and encourage market development.

Among the targets in the Plan were to have, by 2006, 3% of land (i.e. 56 000 hectares) registered as organic, a wide range of organic products available in the market (including milk, meat, cereals, vegetables, honey and fruit), and 2% of all consumers regularly buying organic products.

The targets on agricultural land were close to being met (nearly 2% is organic as of early 2005). There is a good level of knowledge of organic farming amongst producers and the conversion subsidy payments are providing a good incentive to convert. In terms of achieving a good diversity of products in the market place, the main problems were not with livestock products but with fruit.

An excellent paper on the main problems faced by organic livestock farmers in meeting the organic standards was presented by Adria Sietinsone, Leader of Department for Supervision and Control in Organic Farming (the national competent authority) within the Ministry of Agriculture, Food and Veterinary Service. In the organic farming control system in Latvia there are two organisations which can issue organic certificates, Environment Quality in Salaspils and the Certification and Testing Centre in Priekuli.

The scale of the organic sector in Latvia is shown in Table 3.

Table 3. Number of registered organic producers and land area in Latvia.

	Year	
	2003	2004
Number of organic farmers	550	1043
Organic land area, ha	24480	43889

There was a rapid increase over the last two years in both the number of registered organic farmers and in the area of registered organic land. This substantial increase was a result of increases in subsidy payments for conversion. The size distribution of organic enterprises in Latvia is summarized in Table 4 and confirms that the majority of organic farms are relatively small.

Table 4. Size distribution of organic enterprises in Latvia.

Percent of organic enterprises	Size range (ha)
42	1-20
50	20-100
6	100-200
2	Over 200

The speaker provided very useful information on the main non-compliances found during inspections of organic livestock producers. The main problem areas were as follows:

- (a) There were no feed mills in Latvia which can produce organic animal feed
- (b) Many farms had unsuitable buildings (old Soviet buildings)
- (c) Tethered animals (including tethering in pastures)
- (d) Difficulty of sourcing organic replacement stock, especially in pig and poultry production
- (e) Beekeeping: conventional sugar used to feed bees – this will become a problem after August 2005.
- (f) Documentation: poor farm record keeping
- (g) Most farms are only of small and medium size, and there is a need for restructuring

The range of non-compliances in organic enterprises identified during inspections is summarized in Table 5.

Table 5. Non-compliances identified in organic production enterprises in Latvia in 2004

Non-compliances	% of total
Documentation, accountancy of production	39
Labelling of products	3
Seed material	7
Plant protection	1
Conversion period	5
Provision of organic feed, additives	10
Animal husbandry, housing issues	16
Veterinary treatments	11
Common hygiene	4
Separation of organic and conventional products	4

Most livestock produce requires processing in some form but this was another problem area in Latvia. Because the market for organic food was not well developed, most processors were not interested in becoming registered to process organic food so farmers had a very limited or non-existing choice of processing outlets.

Sandijs Rubezis, a speaker from the Vides Qualitate (Environmental Quality) certification body agreed with Adria Sietinsone with regard to the main problem areas in certification. He also mentioned poor record keeping by farmers, which make the annual farm inspection more difficult, and a lack of practical knowledge amongst farmers. He suggested a need for more training courses and he also raised the issue of poor feed quality.

Welfare of organic livestock

Dr. Daina Kairisa, Dean of the Faculty of Agriculture, presented a paper on the welfare of organic livestock. She highlighted the importance of understanding the animal's natural behaviour and its physiological needs, so that farming conditions can be established which meets these requirements. She described individual and social behaviours and made comparisons between species in terms of their behaviour types. She concluded by outlining the Latvian legislation on animal welfare and provided some examples of good welfare including cattle handling facilities, housing, desirable environmental conditions and access to pasture.

Farmers' experiences

Mrs. Iveta Virsnite, owner of a dairy farm "Strautmali" and director of a cooperative of organic milk producers, started farming eight years ago and converted to organic farming four years ago. She produces butter as well as liquid milk on her farm. Her main motive for converting was to obtain SAPARD financial support to develop her business. The requirements of the organic standards are rather high and so there is a general reluctance amongst farmers to convert. The main problems she experiences are practical issues such as the collection of organic milk. There were only two processing plants for organic milk in Latvia. This is also a typical experience in other countries where a small sector of the industry, with a lack of critical mass, is faced with large transport costs because of the lack of registered organic processing plants. Mrs. Virsnite felt that the development of the market is hindered by the consumers' lack of understanding of the difference between organic and conventional food.

Her main conclusions were that the main organic product for marketing in Latvia could be milk, there was a lack of small-bore equipment for milk processing in processing plants, the high requirements of the organic standards meant that there were few organic livestock producers, organic milk should ideally be non-pasteurised, but there was a lack of understanding by consumers about such positive benefits as this, and there was a lack of trust in organic certification by consumers.

Mrs. Igitā Kocina, owner of the organic farm "Zageri", produces pigs, dairy cows, goats, poultry and sheep. The farm is self-sufficient for feed, producing all feed for stock on the farm in the form of hay and grain. She stated that she has no health problems in her pigs, but emphasised that it was important that they are outdoors and get good quality feed. Feed is mixed on the farm although it would be easier to buy in concentrates. She recognises the attraction of supplying niche organic products in the EU market and whilst acknowledging that no quality comparisons had been undertaken with conventional pork, she felt her organic pork was of high quality. However, because of the lack of organic slaughterhouses and markets she sells the meat as conventional.

Her main conclusions were that it was necessary to administer selenium to piglets (for prophylaxes), but for this permission from the certification body is needed; as most farms are rather small, there is a lot of difficult hand work, especially in animal feeding; and that there was a shortage of certified organic slaughterhouses for pigs.

Mrs. Merija Viluna, owner of the organic farm "Laukgali", an organic poultry producer, raised a number of problems associated with the EU Regulation and specifically the poultry standards. She highlighted the problem of sourcing organically reared pullets in Latvia after the derogation on the use of conventionally reared replacements was removed in December

2005. Achieving a balanced diet and ensuring adequate water intake (when birds had uncontrolled access to the outside environment) were also problems highlighted. In fact she felt that there were difficulties at every stage between rearing the hen and retailing the eggs and there was a need to develop a new EU Regulation on poultry.

Her main conclusions were that it is necessary to develop national regulations on organic poultry production, there were problems in optimising diets and ensuring adequate water consumption in the summer and that there was a lack of knowledge of the management and breeding of layers which were well adapted to organic farming.

Mme. Baiba Tidemane was an organic inspector with the Vides Kvalitate certification body, but was also a beef farmer herself. She described two farm examples. The first was a group of farmers producing bull beef from calves from dairy farms and the second was a group of farmers selling by-products from cattle, including sausages. There were problems on these farms because of a perceived lack of clarity in the organic standards and a lack of knowledge on the part of the farmers. The concentrate fed on these farms was more or less from conventional sources. Mme Tidemane also highlighted the issue of choice of breed for beef production. Another more general problem is that most farmers have lost their skills and expertise in maintaining health without relying on drugs. This is a direct legacy of the management system on state/collective farms, on which health management was the responsibility of the farm veterinary practitioner, not the farm manager or stockman.

Her main conclusions were that the best choice for organic farming could be suckling cows; there were problems in the feeding of bull beef from calves from dairy farms because of a lack of understanding of the EU Regulation; it is necessary to organise discussions between organic farmers and disseminate useful information as there was a shortage of knowledge by farmers about organic production.

Plenary on group discussions

The delegates were divided into six working groups and were asked to list the main problems in three areas relating to organic livestock production in Latvia: (a) housing and health; (b) food quality and safety issues; (c) marketing of organic livestock products. In the event, lack of time meant that most of the discussion focused on item (a).

The difficulty of ensuring access to range for poultry, especially in winter, was again mentioned in this discussion. In summer it was difficult to feed the birds according to their nutritional requirements, because at pasture they eat as much as they want, and drink water from puddles and ponds. In summer time hens are laying eggs in pastures. There was a lack of advisory information on organic poultry nutrition and a lack of knowledge of alternative medicine amongst veterinarians. There were also problems with waterfowl as they need water, but regulations forbid the use of ponds or rivers.

Delegates also highlighted the lack of information available to producers on what feed products and additives can be used. There is confusion about what is allowed, and a lack of information. Delegates also felt that there was a lack of suitable breeds available for organic production (e.g. in poultry).

Other issues arising from the relatively early stage of development of the organic sector were also raised. Practical issues such as the lack of a source of organically reared pullets in Latvia,

or finding additional calves to utilise surplus milk in suckler cows were mentioned. Delegates suggested allowing the milking of suckling cows for on-farm use.

In cattle there was concern about aggression in horned cows if tethering is prohibited completely after 2010. It was also felt that loose housing resulted in less contact between animals and humans. Farmers are not ready to realise this demand because most are short of finances. In this context there was a call from delegates for a clearer definition in the EU Regulation of what constituted a ‘small’ farm. For very small-scale farms there was also a call for the EU Regulation to permit the keeping together of all the village livestock in one barn.

A question arose about pastures of beef cattle and horses. These animals need pastures with trees and bushes, but farmers are not able to receive EU funding for such pastures. Delegates felt there was a need for vets to be trained in organic farming standards and practices, and for Government funding for research in organic farming (nutrition, welfare, breeding, management, quality of products etc).

The main issue discussed in relation to food quality was the shortage of processing units for livestock products. In Latvia there is only one organically registered abattoir for cattle and one for rabbits and a poultry abattoir currently under development. There was a need to consider how to get processing companies motivated to register as organic. It was suggested that farmers should be allowed to sell eggs without a stamp in market, because consumers do not like such eggs. Also the exact requirements for quality of organic products before and after processing are not clear.

In relation to the question about marketing of organic livestock products, delegates reported that most organic products are sold as conventional because of the shortage of certified processing units. Delegates also questioned the validity of the information about amounts of organic products produced. In Latvia it is believed that legislation on home produced products has not been established and that this is the main reason for the small home market in organic food. It is necessary to develop Government legislation to protect consumers from low quality products (and genetically modified organisms) and inform consumers about the positive aspects of organic products.

Report on SAFO Roadshow in Hungary

This Roadshow was organised by Dr Györgyi Takács of Szent István University, the SAFO Project Participant in Hungary, jointly with “an open day” of Biokontroll Hungaria Kht, the main Hungarian organic certification body. This joint approach therefore ensured that one of the major stakeholders in the organic sector in Hungary was centrally involved in the meeting.

A total of 81 people attended the meeting, comprising 23 farmers, 12 certification body (inspectors, etc) and organic association personnel, four representatives from Government (Ministry of Agriculture, Food Safety Authority, marketing institute), 14 advisers and veterinarians, 18 researchers and eight students and others from industry. Albert Sundrum and David Younie attended on behalf of the SAFO Steering Group and made presentations. The language of the seminar was Hungarian. The presentations of Albert Sundrum and David Younie were made in English but simultaneously translated into Hungarian. The programme was a one-day programme as shown in Table 6.

Table 6. Programme of SAFO Roadshow in Hungary.

Time	Activity
10.00	Registration, coffee
10.00	Opening and welcome. (<i>Dr Miklós Rusvai, Deputy Dean of Faculty</i>)
10.10	Perspectives of organic farming and livestock production in the EU. (<i>David Younie, SAFO Steering Group</i>)
11.00	Hungarian Organic Farming Development Plan. Development of organic livestock farming in Hungary. Aims and perspectives. (<i>Mr József Marticsek, Ministry of Agriculture and Rural Development</i>)
11.15	Federation of Biokultúra Associations and the present situation of organic farming in Hungary (<i>Mr Gabor Czeller, Biokultúra Association</i>)
11.30	Development of organic livestock farming in Hungary (<i>Dr Peter Roszik, managing director, Biokontroll Hungária Kht</i>)
11.45	Organic livestock farming and entirety. Organic pig farming. (<i>Dr Géza Márai, Szent István Univ. Gödöllő</i>)
12.00	Methods of the collective marketing and the market of organic food in Hungary. (<i>Mme Judit Bujdosó, Agrar Marketing Centre, Ministry of Agriculture and Rural Development</i>)
12.15	General Discussion
12.30	Lunch
13.20	Outcomes from the SAFO Concerted action Project (<i>Albert Sundrum, SAFO Steering Group</i>)
14.00	Traditional animal varieties in the Hungarian organic animal husbandry (<i>Dr Janos Seregi and Peter Pusztai, Corvinus University, Budapest</i>)
14.15	Experiences and problems in organic livestock husbandry: Honey bee (<i>Dr Tamás Szala, Szent István University</i>); Poultry (<i>Dr István Szalay, Institute for Small Animal Research</i>); Sheep (<i>Mr Gábor Csatári, Awassi Sheep Company</i>); Goats and dairy cows (<i>Mme Zsuzsa Ökördi, farmer</i>); Hungarian Grey beef cattle (<i>Mr Csaba Cene, farmer</i>)
15.15	Group discussions: Solutions for problems in: Livestock health and housing Food quality and safety Marketing of organic livestock products
16.00	Tea/coffee
16.15	Group reports
17.00	Close of seminar (<i>Dr Györgyi Takacs, SAFO Hungarian Participant</i>)

Development of organic farming in Hungary

Jozsef Marticsek, from the Ministry of Agriculture, indicated that the Hungarian National Rural Development Plan started in 2004 but a number of legal problems had prevented its immediate implementation. Modifications to the Plan had been approved and it was expected that payments would start being made in 2006. There is no subsidy specifically for organic livestock farming, but there is a subsidy scheme for livestock production, especially for native/autochthonous Hungarian breeds. ("Support Scheme of Agrar-Environmental Management") Organic farmers will have an advantage in the competitive entry procedure. This scheme applies to native/autochthonous female animals: horses, Hungarian Grey Cattle, sheep (Hungarian Racka sheep on Hortobágy, Gyimesi Racka, Cikta, Tsigai), Mangalitsa pigs and poultry. Support payments would be provided on a per female head per year basis (e.g. € 113.67/head/year for Hungarian Grey cows, €78.53 /head/year/ for Mangalitsa sows,

€20.59/head/year for ewes, €0.33-1.53/head/year for hens). This contrasted with previous schemes in which payments were made on an area basis. There was much concern amongst farmer delegates at the meeting about the delay in implementing the scheme and about a number of the details of the scheme. There is also a definite conflict between this scheme, which will encourage farmers to keep greater numbers of livestock (in order to obtain subsidies), and the principles of organic farming, which require stock densities to be restricted in order to minimise health problems. However, the response is that stock numbers in Hungary are already very low and an increase, at least at national level, will not be a problem and in any case, the EU Regulation will limit stocking rate.

Gabor Czeller, Chairman of Biokultúra Association, described the development of Biokultúra and organic farming in Hungary. The organisation was founded in 1983 as a club for environmentally concerned people, “friends of the garden” and national organic farmers but it is now in the process of converting into a federation, since this change in legal status will give it greater power to lobby the Government and other politicians. Organic farming has developed from 4000 hectares in 1992 to over 130,000 ha now. Most of this increase in activity involves the production of grain and other feedstuffs for export as raw materials. The lack of local processing facilities has prevented arable farmers from adding value to the raw materials they produce, and also has limited the development of organic livestock farming in Hungary. The national market for organic food has been very slow to develop. One of the main aims of Biokultúra now is to focus on developing the national market and to encourage local processing. It was felt to be ridiculous that organic bread made from Hungarian wheat is imported into Hungary from Germany.

Biokontroll Hungária Kht (Kht = Public Interest Company) was established as an organic certification body in Hungary in 1996, according to its Managing Director, Dr Peter Roszik. In 1996 the certification of Hungarian organic agriculture had been taken over from the former certifying organisation Biokultúra Association by Biokontroll Hungária Kht. Hungary had already gained the status of an EU approved Third Country Certification in 1995 and Biokontroll Hungária Kht also has EN 45011 accreditation. It has mutual accreditation with BioSuisse and since 2004 also has IFOAM accreditation. Organic farming has developed in Hungary to the stage in 2004 when 123,000 ha were certified (2% of total agricultural area). Most of the organic livestock farms in Hungary are based on ruminants (69% are cattle farms, 20% are sheep farms). There are relatively few pig and poultry farms but honey bees are an important sector, although it is relatively poorly regulated and there are problems with infectious diseases and parasites. There are also small numbers of fish, rabbit and game farms, which are not controlled under EU Regulation 2092/91. There is however a serious imbalance between crops and livestock in the organic sector in Hungary. Only 11.4% of organic farms are livestock farms. This is caused essentially by the poor profitability of livestock farming in Hungary, exacerbated by the lack of government subsidies. The small number of animals overall, particularly pigs and poultry, results in a serious shortage of organic manure. Some crop and livestock farmers are beginning to co-operate by exchanging straw for manure. Other problems caused by the low level of development of organic livestock farming include a) inefficient utilisation of lucerne (it is alternatively used simply as a green manure), b) difficulty in finding organic replacement breeding stock, and c) poor utilisation of large areas of natural pastures which would be suitable for organic livestock production. The poor profitability of organic farming does not motivate farmers to invest in added value processing facilities.

Dr Géza Márai of Szent István University also highlighted the need for more integration of livestock and crop production in Hungary, agreeing with Dr Roszik. Livestock numbers overall have reduced considerably because of poor profitability. He estimated that the overall stocking rate of animals on organic land in Hungary overall was between 0.1 and 0.2 Livestock Units (LU) per hectare. In fact this was much higher than on conventional farms (0.005 LU/ha) but was still nevertheless very low. Dr Márai described the potential of the native pig breed, the Mangalitsa, which was the only breed used in organic farming in Hungary. Not only is this breed well suited to extensive management, but it also has an ideal ratio of meat to lard.

Mme Judit Bujdosó from the Agrar Marketing Centre of the Ministry of Agriculture and Rural Development focused on marketing issues relating to organic livestock products in Hungary. She emphasised that the EU food market was essentially saturated and it was not easy to find new markets. There were increasing trends towards niche or traditional foods, and branding was becoming ever more important. It was important for food producers to recognise the increasing desire for processed food. She highlighted the potential for organic farmers to benefit from an improvement in the diet of Hungarian people. In general public health in Hungary is poor and the life expectancy is 6-8% lower than the EU average. Many factors need to be considered in improving this situation, but a higher consumption of organic food, and the other lifestyle changes this implies, may have a role to play. In 2004 the total value of organic food sales in Hungary totalled €4 million (from home production and imports), approximately 0.5% of overall food sales. There is scope to increase the home market, therefore. A consumer survey showed that only 3% regularly buy organic food, 21% have heard about organic food but do not have access to it, and 48% of consumers have heard about organic food but do not know enough about it.

Total production of organic food in Hungary in 2003 was valued at €35 million. Of this, 90% was exported, primarily to Germany, Switzerland, Austria and Netherlands. Almost all of this was unprocessed raw material, particularly feed grains. There is therefore a great need to increase the amount of processing which takes place within Hungary. The Agrar Marketing Centre distributes financial support to processors and provides promotional support for producers. It also has a display each year at Biofach in Germany.

General discussion (morning)

There was considerable discussion about the reasons for the relatively limited home market for organic food in Hungary. It was suggested that Biokultúra should start public campaigns to educate the public about the benefits of organic food. A uniform 'eco-logo' for Hungarian products might also help. In fact a competition to design a logo had been completed but no further action had as yet been taken. In addition to the reasons presented earlier by Mme Bujdosó, other surveys were quoted which indicated that 26% of consumers thought that organic food was too expensive. Delegates also focused on the need for more processing. It was felt that difficulties had been placed in the way of small-scale, on-farm processing in Hungary

Experiences with organic livestock production in Hungary

Dr János Seregi et al., Corvinus University, discussed the use of indigenous livestock breeds in organic farming. Dr Seregi suggested that in the past, organic livestock husbandry was equated with the keeping of traditional breeds of livestock. However, the EU Organic Livestock Regulation does not require the use of traditional breeds specifically and this has therefore weakened the position of these breeds. Examples in Hungary were the Mangalitsa

breed of pigs, Hungarian Grey cattle and the Hungarian Yellow chicken. He argued however, that traditional breeds potentially had a major role to play in organic farming for a number of reasons: they often provided a better equilibrium between feed quality/quantity and animal performance potential, they met consumer expectations that organic food was locally produced, they often had better product quality characteristics, and they had more potential to enhance agrotourism than modern breeds. In fact this coincides with the expectation amongst at least some organic consumers that organic products should be produced locally. He reported the results of comparisons of meat quality between Hungarian Grey and Holstein meat (much higher ratio of omega-3 to omega-6 fatty acids in Hungarian Grey meat) and between Mangalitsa and other pig breeds (higher and better distribution of intra-muscular fat content in Mangalitsa).

Dr Tamás Szalai, Szent István University, Gödöllő, discussed honey production. Dr Szalai reported that 1% of the 15 000 beekeepers in Hungary were organic. The most important bee pasture in Hungary is the black locust pasture (*Robinia pseudo-acacia*) which can be found in extensive forest areas with minimal risk of pollution. Until 20 years ago there was relatively little difference between organic and conventional honey production in Hungary but since the arrival of the *Varroa* mite, a difference in method of control of this mite has arisen between the two systems. In general, preventative chemical control is used in conventional apiculture, whereas only treatment of affected hives (oxalic acid) is permitted in organic apiculture.

Dr Szalay et al., Institute for Small Animal Research, Gödöllő, discussed poultry production. Dr Xuan Dong suggested that breed selection is the most important factor in successful organic poultry production. In previous times farmers kept a range of different species and breeds, which responded differently to the range of feed crop species which were available. Modern poultry strains are less well suited to the conditions of organic farming. She was strongly of the opinion that breed selection should be more strongly elaborated in the EU Regulation. There was also no guidance in the Regulation relating to flock size and stocking density for geese and turkey.

Mr Gabor Csatári, Awassi Sheep Company, discussed sheep production. This company, close to the border with Ukraine, operates both conventional and organic sheep enterprises. It started the development of its organic enterprise four years ago on 250 ha, based on a traditional breed *Gyimesi Racka*. The main objective is cheese production. Sheep are milked on a carousel with which two to three people can potentially milk 3000 sheep in three hours. Lambs have had to be sold live, because local abattoirs have closed. The company was able to sell produce as organic for the first time in 2005 after four years of financial loss. It has been promoting its cheese in international exhibitions and at present cannot supply enough product to meet demand. A price premium of 40-45% is obtained relative to conventional farmers' cheese, and a 25-30% premium compared with the company's own conventional cheese.

Mme Zsuzsa Ökördi is a small producer (40 ha with 20 goats and five cows) producing milk in a remote area in southern Hungary. There is a serious problem with ticks in this area, but her other major problems relate to the small size of the enterprise and the remoteness of the location which results in lack of access to veterinary assistance and unavailability of replacement animals.

Mr Csaba Cene is a farmer specialising in Hungarian Grey beef cattle production. Mr Cene's farm is located in the Mátra mountains in the north of Hungary, close to the border with Slovakia. He started with 16 heifers and now has 76 cows, initially under conventional

management that then converted to organic. He uses electric fencing for grazing control at pasture, and houses the animals in traditional wooden stable buildings. Diets are based on pasture, legumes and hay. Finishing bulls and heifers receive most of the cereals. Mr Cene started cross-breeding his Hungarian Grey cows with the Bagota breed and hopes to improve milk yield in this way. In his experience the Hungarian Grey has very few disease problems, with little or no lameness, mastitis or reproductive problems.

General discussion (afternoon)

There was discussion about issues not directly related to organic farming and the EU Regulation (e.g. handling of fallen stock, regulations on manure treatment, live animal transport and food safety regulations). Comments also focussed on the motivation for conversion. There was an echo of the same discussion here as has taken place from time to time in western European countries, i.e. has it been a good thing that increasing numbers of commercially-minded farmers have started converting to organic? There seemed to be a number of both ideologically and commercially minded farmers present at this meeting.

Group discussions

Four groups of delegates were asked to discuss the same three issues: a) livestock health and housing, b) food safety and c) marketing. The report below is an amalgamation of the points raised by the four groups within these three discussion points.

Livestock health and housing

Some producers felt that there were too many requirements in the Livestock Regulation which were not possible to follow or to implement. This may be related to the view of some delegates that there should be more differentiation in the requirements of the Regulation as applied to large and small farms. Some other changes in the EU Regulation regarding animal health were suggested: i) conventional treatment of honeybees against the varroa mite should be allowed, but honey should be discarded; ii) Regulation should be more specific in relation to beef production; iii) size of entrances in poultry houses should vary according to the number of birds rather than the size of the building; iv) maximum size of cattle herds should be stipulated; v) need for some livestock species to be incorporated more specifically in the Regulation. There was a call, both from farmers and from veterinarians, for more information on preventative health management strategies. On a specific point, whilst mixed grazing of different livestock species is generally encouraged as a preventative management strategy, there is a local Hungarian law which prohibits different ruminant species from being grazed together in the same pasture.

Food safety

The view was expressed that existing Hungarian food safety law was actually stricter than new EU regulations. Certainly there was general support for strict regulation on origin and traceability. Delegates suggested that there should be different hygiene requirements for small and large processors. Perhaps part of this general topic area was a desire to encourage the development of abattoirs for organic farmers.

Organic food marketing

There was relatively little discussion on this point, but delegates wanted to see the development of a uniform Hungarian logo for organic food. There was a view that the Government had failed the organic sector in this respect in the last few years.

Report on SAFO Roadshow in Slovakia/Czech Republic

This seminar was organised by Dr Olga Ondrasovicova, the SAFO Project Participant in Slovakia, jointly with Jan Holoubek and Bohuslav Cermak, SAFO Project Participants from Czech Republic. A total of 79 people attended the meeting, comprising 47 farmers, four certification body (inspectors, etc) and organic association personnel, six representatives from Government, eight advisers and veterinarians, four researchers and ten students and others from industry. Mette Vaarst and David Younie attended on behalf of the SAFO Steering Group and made presentations. The languages of the seminar were Slovak, Czech and English. The presentations of Mette Vaarst and David Younie were made in English but simultaneously translated into Slovakian. The programme was a two-day programme as shown in Table 7.

Government Policy

The presentation of Rudolf Trebaticky of the Slovak Ministry of Agriculture focused on the Slovak Government policy for development of organic farming. At present there were 205 registered organic farms in Slovakia, with many farms in conversion, and organic farming was the most dynamic sector in the agricultural industry at present. The main factor holding back the development of the sector is the poorly developed home market for organic produce, which results in 85% of Slovak organic produce being exported. The Government has established a system of conversion, which provides converting farmers with financial support for a period of three years. Approximately 12% of the budget of the Rural Development Plan is allocated to organic farming. The Government has a target of 5% of agricultural land to be farmed organically by 2010. A Government advisory sub-committee for organic farming is about to start work on a programme for the development of organic farming, including promotion and marketing issues. This work will be aligned with the actions listed in the EU Action Plan on Organic Farming.

Table 7. Programme for the SAFO Roadshow in Slovakia/Czech Republic.

Time	Activity
<i>Day one</i>	
11.30	Registration, coffee
12.00	Lunch
13.00	Opening and welcome (<i>Dr Olga Ondrasovicova, and Prof.E. Pilipcinec, PhD., Vice Rector, University of Veterinary Medicine, Kosice</i>)
13.20	Perspectives of organic farming and livestock production in the EU (<i>David Younie, SAFO Steering Group</i>)
13.50	Outcomes from the SAFO Project (<i>Dr Mette Vaarst, SAFO Coordinator</i>)
14.20	Concept of organic farming in Slovakia (<i>Ing. R Trebaticky, Ministry of Agriculture</i>)
14.50	Concept of animal health management and food quality (<i>Dr R Matejcik, State Veterinary Service</i>)
15.20	Coffee/tea
15.40	Potential for development of organic farming in the Czech Republic (<i>Mr J Holoubek, University of South Bohemia, Czech Republic</i>)
16.10	Organic farming from the perspective of the Central Testing and Control Institute, Bratislava (<i>Ing. J Schlosserova, Central testing and Control Inst. Bratislava</i>)
16.40	Production parameters of organic and conventional cattle in mountainous regions of Czech Republic and Austria (<i>Prof B Cermak, University of South Bohemia, Czech Republic</i>)
17.10	Activities of Pro-Bio Farmers Association in support of organic farming in Czech Republic (<i>Ing. Renata Osladilova, Pro-Bio, CR</i>)
17.40	Plenary discussion
19.00	Presentation of Biofoods and Bioproducts Dinner
<i>Day two</i>	
08.30	Animal health and welfare from the Certification Body perspective (<i>Ing V. Cabuk, Naturalis SK, Bratislava</i>)
09.00	Effect of contaminated environment on health of animals and products (<i>Dr Olga Ondrasovicova, University of Veterinary Medicine, Kosice</i>)
09.20	Animal health and quality of products; the farm Liptovska Teplicka (<i>Mme Anna Glejdurova</i>)
09.40	Experiences of an organic livestock farmer in the Czech Republic (<i>Ing. Travnicek, Czech Rep.</i>)
10.00	Coffee/tea
10.30	Situation in organic farming from perspective of Ecotrend Association (<i>Mme Z Homolova, Ecotrend, SR</i>)
11.00	Video presentation of two organic sheep farms visited during Bioakademie, June 2005 (<i>Ing.R. Osladilova, PRO-BIO, CR</i>)
11.10	Plenary discussion
12.00	Conclusions from seminar
12.15	Lunch

Development of organic farming including certification issues

A picture of the organic livestock sector in the Czech Republic was presented by Jan Holoubek. In 2004 there were 836 registered organic producers and processors in the Czech Republic, including 350 farms with livestock production. The percentage of total agricultural land which is registered as organic was 6.16% in 2004. Most of this (89.4%) was permanent grassland. There was good financial support for conversion up until 1993, after which the

level of support was reduced, but subsequently was increased again after 1997. The main organic livestock enterprises are beef and dairy with some poultry and pigs. Lack of processing facilities for organic livestock products is a problem, which results in some organic products being processed as conventional food. In the past most organic produce was exported but the proportion which is exported is decreasing and is now approaching 50%. The Czech development plan for organic farming aims to achieve 10% of agricultural land to be organic by 2010. Priorities included improving the availability of processing facilities for organic products, education of consumers about organic farming and strengthening the trust of consumers in organic farming by enhancing the welfare status of organic livestock.

Mme Juliana Schosserova from the Slovak Central Control and Testing Institute of Agriculture (UKSUP, the national competent authority for organic farming) presented a detailed description of the current state of organic farming in Slovakia. The only inspection body operating in Slovakia is Naturalis SK, a private sector body. The development of the organic sector is summarised in Table 8.

Table 8. Development over time of the organic farming sector in Slovakia

Year	No of registered farmers	Area of registered land (ha)
1991	37	14 773
2003	88	54 479
2004	117	53 091
2005	205	93 943

Organic land area in 2005 represents 4.7% of total agricultural land. Of this 71% is permanent pasture and 29% is arable land or orchards. Of the 205 registered organic farmers in 2005, 127 had cattle, 101 had sheep and 32 had pigs. A weak point in the organic sector, as in most new EU countries, is lack of organic livestock processing facilities. In 2004 a total of 242 organic plant bioproducts (single ingredient food) were licensed but only six products of animal origin. In 2005 thus far, no organic bioproducts of animal origin have been licensed, despite the fact that 187 of the 205 organic farms are livestock farms. The bulk of production from organic livestock farms is exported to the Czech Republic or to other EU member states as raw unprocessed product.

Pro-Bio is the Association of Ecological Farmers in the Czech Republic and is the main NGO promoting organic farming. Ing. Renata Osladilova added to the picture of the Czech organic farming sector provided earlier by Jan Holoubek and also described the activities of Pro-Bio. The main certification body in the Czech Republic is KEZ. In early 2005 there were 810 certified producers, farming 254 995 hectares of land (5.97% of total agricultural land). The main products produced by Czech organic farmers were cereals, herbs, wine, milk products, fruit, vegetables and processed meat (e.g. salami). Pro Bio had 520 members (approximately 400 farmer members farming 138 000ha plus 120 consumers and other supporters). Pro-Bio has two main offices (in Prague and Brno) plus ten regional centres. Its main activities are advisory, education and promotion. It provides help to farmers on conversion, crop and animal production, processing and marketing, through advisory leaflets and articles, conferences and farm visits. It organises one large conference each year, called the Bio-Academy.

Mr V. Cabuk of Naturalis SK, the only national inspection body operating in Slovakia, described the operation of the Naturalis certification system and presented certification statistics and reviewed areas of non-compliance by organic livestock producers. In 2005 there

were a total of 230 organic licence holders in Slovakia, 89% involved in primary agricultural production and 7% as producers of biofood (i.e. processed product). The breakdown of livestock types is shown in Table 9.

Table 9. Number of registered livestock herds for inspection in Slovakia in 2005

Species	Organic	Conventional
Cattle	85	11
Sheep	85	2
Pigs	7	8
Goats	20	0
Horses	26	4
Bees	1	2
Hens	2	2
Geese	1	0
Ducks	1	0

Although there are many organic livestock farms, many are in conversion, and all of the certificates issued in 2004-05 for bioproducts (primary products) and biofoods (processed products) were plant products. None of the certificates issued related to animal products. In 2005 only two applications for animal products have been received by Naturalis (for sheep milk and sheep cheese).

Many farmers enter conversion unprepared, ill-informed, motivated by conversion subsidies and with the mistaken view that what they practise already is organic farming, simply because they do not use artificial fertiliser. A further major problem for the inspection body is farms which are part organic and part conventional. These may comply with the requirement for physical separation but generally have poor record keeping. Of the inspections completed on livestock farms to date in 2005 (many of whom are in conversion), there were non-compliances in 56.3% of cases. 41% of these non-compliances concerned tethering of stock, and almost 11% concerned unauthorised intervention (e.g. de-horning, tail docking). The most common areas of non-compliance on livestock farms in the period 2004-05 are as follows:

- tethering in cattle herds
- unauthorised interventions
- parallel production, most frequently conventional dairy cows and organic dry cows
- the use of unauthorised feed, mixed feed and feed additives
- exceeding the permitted proportion of conventional feed
- early weaning of the young, particularly calves
- insufficient or inaccurate evidence, accounting not separated
- failure to comply with requirements on internal or external areas
- unauthorised purchase of animals
- unsuitable housing, insufficient light, no bedding, slatted floors
- no access to pasture or runs particularly for young and finishing animals
- conventional and organic inputs and outputs not separated
- unavailable data, for example accounting documents and formulae of mixed feeds and premixes.
- use of unauthorised medicines and hormones.

Farmer experiences

Mme A. Glejdurova is a farmer representing the Liptovska Teplicka organic cooperative farm, extending to 1325ha (60 ha arable land) in the National Park of the Low Tatras mountains in the north of Slovakia. The entire farm has been organic since 1993 and it produces potatoes, winter cereals, forage crops and cattle, sheep and horses for agro-tourism. Lack of a home market and premium prices for organic products are major disincentives to continuing in organic farming, but recent improvements in Government support has encouraged the cooperative to continue. Lack of processing facilities (e.g. a reduction in the number of slaughterhouses, no pasteurisation of sheep milk for cheese) is also a major barrier to the further development of organic production, and most of the weaned calves are currently exported to Italy as conventional animals. In terms of animal health, the farm has found that disbudding calves is essential to prevent animals damaging each other, cattle occasionally have locomotion problems because of the mountainous terrain, and trace element deficiencies in both cattle and sheep require supplementation.

Mr Travnicek is an organic farmer from the Czech Republic, farming part-time on a 100 ha farm. His main enterprise is 100 breeding ewes producing lambs for meat, sold direct to consumers. He feels that there is insufficient government support for people starting the conversion to organic which makes the conversion hardly profitable. There is concern about the bureaucracy of the control system, particularly the amount of information (records) which have to be provided by the farmer during the inspection process. Another potentially major problem for organic farmers is contamination by genetically modified material. It is permitted to grow genetically modified maize in the Czech Republic, without notification to the authorities or to neighbours so there is potentially a major risk of contamination of the environment and of purchased feed for organic farmers.

Mme Z. Homolova is an organic farmer in Slovakia and president of Ekotrend, an association of organic producers, processors and consumers in Slovakia. Ekotrend was formed in 1997 when Naturalis was split into a producer association (Ekotrend) and an inspection body (Naturalis SK). Its main functions are to provide advice (including publication of advisory leaflets, organisation of conferences, excursions, etc), education and promotion of organic farming.

Technical issues

Dr Olga Ondrasovicova of the Department of Environmental Hygiene of the Veterinary University of Kosice emphasised the need to recognise the potential effect of a contaminated environment on animal health and food safety. Diffuse pollution from manures and from grazing animals can affect not only fish in watercourses and in ground water (e.g. pathogens, nitrate content), but can also have regional (e.g. acid rain) and global effects (greenhouse effect). Dusts can act as a carrier for micro-organisms which can have a serious adverse effect on product quality e.g. in dairies.

Professor Bohuslav Cermak presented the results of a study comparing organic and conventional dairy production in mountainous regions of the Czech Republic and Austria. In the study there were 20 000 cows in the Czech Republic and 30 000 cows in Austria. Herbage production and quality were measured, as well as milk yield and quality. Herbage quality was lower in extensive organic pastures. Average milk yield per cow was 500 kg lower in organic compared with conventional cows but there was no significant difference between organic and conventional milk in terms of its fatty acid profile.

Dr R Matejcik from the State Veterinary Service described how the Slovak Republic had introduced animal health legislation which now equates with EU legislation on control of animal diseases, in order to ensure safe food from 'stable to table'. At present eight multi-annual programmes have been introduced for the monitoring, elimination or reduction in occurrence of a wide range of animal diseases which either present a risk to animal and human health or constitute a barrier to trading.

Plenary discussion

A major difficulty for both Slovakia and the Czech Republic was the lack of a well developed home market. Development of the home market is constrained by at least three factors: a) lack of awareness or knowledge amongst consumers about the benefits of organic food; b) ability of consumers to pay a premium price and c) the limited range of products available. The lack of a home market results in the vast majority of organic production in both Slovakia and the Czech Republic being exported or sold into the conventional food chain. For example it was claimed by one delegate that in the Czech Republic 14 000 organic calves are sold as conventional animals. Another major factor constraining the development of organic farming is the lack of availability of organically registered processing facilities. A contributing factor here, according to some delegates, is that there is over-regulation, particularly of small abattoirs. It was felt that there was a need to encourage more on-farm processing.

Some of the technical problems in organic livestock mentioned by delegates included:

- mineral deficiencies – there are problems of finding acceptable formulations of mineral supplements
- reproductive problems in dairy cows
- respiratory problems in cattle
- ticks in sheep and goats (although there is a tick forecasting service which organic farmers should follow)
- additional information and training required on homeopathy
- a problem of meat quality in native Pinzgau cattle
- Contamination of feeds with genetically modified material in the Czech Republic

The problem of enhancing the animal health status in the organic livestock sector is not helped by the fact that the State Veterinary Service does not now have the advisory function that it used to have. Its activities are now concerned only with the control and prevention of diseases, particularly zoonoses.

Report on SAFO Roadshow in Estonia

This seminar was organised by Ragnar Leming, Estonian Agricultural University, Tartu, the SAFO Project Participant in Estonia. A total of 59 people attended the meeting, comprising 34 farmers, six certification body (inspectors, etc) and organic association personnel, six representatives from Government, four advisers, and veterinarians, five researchers and four students and others from industry. David Younie attended on behalf of the SAFO Steering Group and made two presentations. The main language of the seminar was Estonian. The presentations of David Younie were made in English but simultaneously translated into Estonian. The Programme for the roadshow is summarised in Table 10.

Table 10. Programme for the SAFO Roadshow in Estonia.

Time	Activity
09.30	Registration
10.00	Opening (<i>Ragnar Leming</i>)
10.10	Organic farming and livestock production in EU. (<i>David Younie, Scottish Agricultural College, SAFO Steering Committee member</i>)
10.45	Organic development plan, trends and strategy in Estonia (<i>Peeter Prass, Organic Agriculture Bureau, Ministry of Agriculture</i>)
11.00	Problems of implementing the EU standards for organic animal production – from a certification point of view (<i>Egon Palts, Estonian Plant Production Inspectorate</i>)
11.30	Problems of implementing the EU standards for organic animal production – from a farmers point of view (<i>farmers A. Pikkmets, E Sellis, and adviser M. Mansberg</i>)
12.00	Plenary discussion
12.30	Lunch
13.30	Outcomes from SAFO network. (<i>David Younie</i>)
14.15	Working group discussions: Animal health – problems and possible solutions (common diseases, veterinary treatments used, prevention measures etc.) Quality and safety of organic animal products (quality assurance, potential risks at production level etc.) Animal breeding for organic production (organic breeding index – is there a need for such an index, selection traits important for organic animals etc.)
15.15	Coffee
15.35	Working group reports and Plenary Discussion
16.30	Closing remarks

Government policy

Peeter Prass of the Ministry of Agriculture, Organic Agriculture Bureau, presented a Government view of organic farming. He indicated that organic farming should be a suitable option for Estonia given the present stage of development of the agricultural industry and since the land is relatively unspoiled. A new official Estonian organic logo was introduced in April 2005. More than 60% of organic land in Estonia is grassland. Approximately 60% of all organic farms are livestock farms and one third beef and sheep farms. The main problems for development of the organic farming sector in Estonia are:

- The lack of awareness and knowledge of organic food amongst consumers, which results in a limited home market for organic food
- A low level of production nationally (many farmers are still in conversion) and limited availability of products in the shops
- Almost no organically registered processing facilities
- Considerable bureaucracy and paperwork associated with organic production.

The Government has a five year development plan which contains an action plan for organic farming. This will tie in closely with the EU Action Plan on Organic Farming. One of the main aims of the national action plan is that at least 95% of the population should be able to recognise the Estonian organic logo and know what it means. The actions in the plan include

a) development of organic processing facilities; b) increasing the level of production e.g. by improving the advisory service and introducing a network of demonstration farms; c) improving the financial viability of organic production (low interest loans, educating consumers, facilitating exports; and d) other actions such as addressing the issue of genetically modified organisms.

Development of organic farming including certification issues

Organic certification in Estonia is undertaken by the Plant Protection Inspectorate. Mr Egon Palts, Assistant Director reviewed some of the issues. The development of organic farming in Estonia in general is shown in Table 11 and the number of organic livestock in Estonia in 2005 is shown in Table 12.

Table 11. Number of organic farms and area of organic land in Estonia, 1999-2005

Year	Organic farms	Area of organic land (ha)
1999	89	4 000
2000	230	9 900
2001	369	20 100
2002	583	30 600
2003	764	42 600
2004	810	46 100
2005	1015	64 000

Table 12. Organic livestock production in Estonia in 2005

Species	Number	% of Estonian total
Cattle: Total*	11916	4.6
Of which dairy cows	3031	2.6
Sheep and goats	17182	29.2
Of which goats	447	11.8
Pigs	348	0.1
Poultry	5704	0.3
Horses	1309	23.6

* includes calves and young stock

On the basis of reports by organic inspectors, Mr Palts suggested that the main problems in organic animal production in Estonia were as follows:

- Tethering of stock
- Required minimum space allocation not fulfilled
- Presence of genetically modified material in feed
- Using too little bedding material
- Advisory service very often not used

The issue of tethering is a problem even on relatively large farms, for example where former Soviet livestock buildings are being used. There are many examples of farmers beginning the conversion to organic production without seeking advice. Farmers have to pay for organic advice whereas the general advisory service is partly state subsidised.

Other problem areas he identified were a shortage of protein feed for dairy cows, particularly with the reduction in the permitted proportion of conventional feed in the diet, lack of organic feed mills, both resulting in non-compliances on the use of non-organic feed, and the buying in of non-organic animals, particularly bull calves.

He questioned whether existing feed mills would be willing to undertake mixing of organic feeds, because of the extra cost and administrative burden. There is one organically registered abattoir in Estonia, but it is located on an island and is therefore not readily accessible by the majority of producers. A mobile slaughtering facility may be a solution to this problem. Availability of organically approved mineral supplements and organic milk replacer is also a problem which a few producers are addressing by importing products. Clearly there is a need to develop the technology for growing protein-rich crops and to encourage or provide support for farmers to use organic advisors. Mr Palts also raised the issue of how animal welfare should be assessed by inspectors, given the lack of specific criteria for this assessment over the full range of livestock species.

Farmer Experiences

Mr Aivar Pikkmeets, Matiku Farm, has a dairy farm of 429 ha (including 102 ha of forest and 26 ha of natural grassland) with 45-50 milking cows. Land in crop rotation extends to 131 ha. On this land temporary grass leys are rotated with winter and spring cereals. The farm has been organic since 2001. Cows are fed approximately one tonne of cereal or concentrate per head plus potatoes. Around 4-5% per annum of conventional feed is fed (rapeseed cake and minerals) and average milk yield of the Estonian Holstein Freisian cows is currently 6700 kg per lactation. Both alternative and conventional medicines are used on the farm and Mr Pikkmeets selects bulls to improve udder health. No specific health problems were highlighted, but he suggested that the veterinary service needs to be improved, particularly veterinarians' knowledge about organic livestock production. Other general problems were improving milk yield, identifying appropriate selection traits for the organic situation, and the logistical difficulties of collection and marketing of organic milk.

Mrs Ell Sellis, Väike-Hauka Farm, described her sheep farm of 96 ha, which includes 33 ha of cropping land, 11 ha of natural grassland/bog and 52 ha forest. The farm has been organic since 2000. There is a ewe flock of 55 ewes with the main enterprise being production of replacement ewe lambs for breeding. Oats are rotated with temporary grass leys on the cropping land and the farm is totally self-sufficient in feed, except for purchased mineral supplement. The sheep breeds are Estonian White Face and Texel. Sheep are housed during the winter, with daily access to pasture when weather conditions allow. Winter diet for the ewes is ad lib hay and silage, with supplementary feeding of oats and home-produced potatoes during lactation. Health problems on this farm include foot rot, lambing problems particularly with the Texels, and endoparasites in lambs. More general issues relate to manure storage regulations, potential contamination of the environment and feeds with genetically modified material, lack of availability of organic milk replacer, and lack of interest or knowledge about organic livestock production amongst veterinarians.

Margo Mansberg is an organic farming adviser. He discussed current issues and practices on organic livestock farms in Estonia, in relation to the overall aim of producing high quality product with minimal drug residues and keeping animals in as natural an environment as possible. Currently the focus of organic livestock farmers is on basic issues such as the need for access to pasture, buying organic feed, buying organically reared animals and treating sick animals. He felt that organic farmers need to be prepared to do more to change their systems

(as well as buy organic food themselves) and to recognise that the organic standards are made to serve the consumer. Farmers should therefore be doing everything they can to reduce drug use, reduce the use of conventional feed, etc. He felt that problems such as parasite problems could be solved relatively easily, and yet some organic farmers are still using veterinary medicines prophylactically. He suggested that all problems can be solved, the issue is whether there is sufficient will to accept and to pay for the solution.

Working Group reports

The working group discussing the problems and possible solutions associated with animal health agreed that the choice of breed was probably the most important factor in ensuring a good animal health status in herds or flocks. For example the group questioned whether the Belgian Blue beef breed should be permitted in organic farming because of the high frequency of caesarian calvings in this breed. In dairy cattle they identified the most important selection criteria as a) the need to extend the productive life of dairy cows, b) ensuring a high level of fertility in the cows and c) improving the feed conversion efficiency of the cows. Other problems which were identified were selenium deficiency in sheep or cattle (but Estonian soils have already been mapped in relation to this problem), parasite problems (which should be soluble at farm level through the establishment of clean grazing systems), and mastitis.

There is a great need for investigations and knowledge in subjects like preventative management and alternative treatment methods under local conditions. Information about the sources of mineral (and other) feedstuffs suitable for organic production is also needed. Improvement of the veterinary service and advice in organic farms was one of the problems that attracted most discussion in the group. It was also mentioned that information and knowledge from good experiences should be exchanged between farmers.

The group discussing the issue of the quality and safety of organic animal products concentrated on the criteria for defining healthy and safe food. In addition to good nutritional composition and being free of pathogens, it was recognised that healthy food should be free of preservatives and could therefore rot more easily than food containing preservatives. Nevertheless, questions remained about how 'safe food' should be defined. The problems identified by the group included residues of veterinary medicines, contamination with genetically modified material, dioxins and heavy metal contamination, and the short shelf life resulting from the non-use of preservatives. The solutions suggested included producers taking more responsibility (for avoidance of contamination), the use of older, traditional preservation methods, and the use of modern packaging technologies to improve shelf life. One example of an old preservation method originates from ancient Rome, where meat was conserved in honey. Meat jerking was another example that was mentioned. In order to avoid accidental usage of genetically modified material in organic farming the handling and labelling of feed products that include genetically modified material should receive more attention and control. There have been no investigations about food safety in organic farming, therefore it is important to study the current situation and possible risks. State financial support is needed to carry out such investigations.

The group discussing the issue of animal breeding for organic production indicated that the level of feedback from the Animal Recording Centre needed to be improved in order to enhance breeding progress. The group expressed interest in adopting the concept of the Ecological Animal Breeding Index which has been developed in Switzerland, and which is beginning to be put into practice. However for some criteria required in organic farming there

will be a lack of collected data (e.g. animals suited to loose housing). Some technical questions were raised, including the selection of the right animals for crossing to avoid health problems and complications, and the crossing of different breeds in beef cattle. Other issues raised included the lack of good quality beef bulls and the lack of systematic selection in sheep production. To increase rapidly the number of beef cattle a temporary permission to use embryo transfer in organic farming was one of the options that was mentioned.

Report on the SAFO Roadshow in Romania

This seminar was organised by Dr Gheorghe Mihai, the SAFO project participant in Romania and his team of assistants (Dr. Antonia Odagiu, Sonia Nechifor, Valentin Mihai, Lenke Balint, Camelia Echim, Viorica Olar). A total of 85 people attended the meeting, comprising 32 farmers, seven certification body (inspectors, etc) and organic association personnel, three representatives from Government, eight advisers and veterinarians, ten researchers, 22 students and three marketing specialists and others from industry. David Younie attended on behalf of the SAFO Steering Group. The main language of the seminar was Romanian. The presentations of David Younie and Mr Wil van Eijsden were made in English but simultaneously translated into Romanian. The programme for the event is summarised in Table 13.

Table 13. Programme for the SAFO Roadshow in Romania.

Time	Activity
9.30	Registration, Coffee
10.00	Welcome (<i>Gheorghe Mihai, UASMV Faculty of Animal Husbandry & Biotechnology, SAFO Romania Participant</i>)
10.10	Outcomes from the SAFO Concerted Action (<i>David Younie, SAFO Steering Group</i>)
10.40	Perspectives on Organic Livestock Farming in Europe (<i>Gheorghe Mihai, SAFO Romania Participant</i>)
11.00	Present and Future Perspectives in Development of Ecological Agriculture in Romania (<i>Cornel Man, USAMV, & Teodora Adelescu, National Authority for Ecological Agriculture, Ministry of Agriculture, Forestry and Rural Development</i>)
11.15	Organic Farming in Romania -Present and Future Perspectives in Ecological Livestock Farming (<i>Cornel Man, USAMV, President, Bioterra Association</i>)
11.30	Present and Future Perspectives in Inspection and Certification of Organic Livestock Farming (<i>Piroska Lorincz, "Ecoinspect" Director</i>)
11.45	Enhancing Animal Health Security and Food Safety in Organic Livestock Production: The Perspectives of Romania (<i>Vasile Cosma & Calin Gherman, UASMV</i>)
12.15	General Discussion
12.30	Coffee, Tea and Snacks Break
13.00	Farmers Experiences and Problems in Organic Livestock Husbandry (<i>Willi Schuster, Wil van Eijsden, Marius Sabau</i>)
13.45	Animal Welfare and Loose Housing Design (<i>Marcela Sirbu, UASMV</i>)
14.00	The Quality and the Marketing of Ecological Products (<i>Daniela Quai, UASMV</i>)
14.15	SAPARD Programme – Opportunities for Organic Animal Husbandry (<i>Rodica Mihai, SAPARD</i>)
14.30	Plenary Discussion. Results of work group
15.00	Close of seminar
15.15	Lunch

Development of ecological agriculture and ecological livestock farming in Romania

Professor Cornel Man of UASMV, in a joint paper with Teodora Aldescu from the Organic Agriculture Bureau of the Ministry of Agriculture, Forestry and Rural Development, described the development of organic farming in Romania. The legislative framework had been put in place through various Government Orders between 2000 and 2004, so the legislation in Romania now essentially equates with EU Regulation 2092/91. Inspection and certification of organic farming in Romania had initially been undertaken by foreign inspection bodies, but the first national certification body (Ecoinspect) was approved in 2004. Financial support for organic farming would be available through Measure 3.3 of the SAPARD programme (Sub-Measures A, B and C, see below), although delivery of this Measure had not yet started. Institutional support for organic farming included the National Authority for Ecological Agriculture within the Ministry of Agriculture, the National Federation of Ecological Agriculture, a number of NGOs and producer associations including Bioterra, which had 1700 members, ANCA (the national advisory organisation) and universities such as UASMV.

The area of registered organic land in Romania has grown over time as shown in Table 14. The target of the Ministry of Agriculture, Forestry and Rural Development is to see this area increase to 170 000 ha by 2007. Fodder crops and pastures make up approximately 50% of organic land. The current level of organic livestock production is shown in Table 15.

Table 14. Development of organic farming in Romania.

	Year					
	2000	2001	2002	2003	2004	2005*
Total area (ha)	17 438	28 800	43 850	57 200	73 800	104 000

* estimate

Table 15. Organic livestock production in Romania.

Number of head	Dairy cows	10 000-12 000
	Dairy sheep	70 000
	Laying hens	8 000
	Honeybee (families)	8 000
	Production (t)	Feta cheese (sheep)
	Schweitzer cheese (cows)	260
	Dalia cheese (cows)	380 – 400
	Eggs (number)	1 500 000
	Honey	>200

Organic cows' milk production is dominated by large companies who collect milk from many small producers. For example, SC Dorna Lactate collects milk from approximately 1700 suppliers with land area ranging from 1 to 20 ha each and with cow numbers ranging from two to 20 each. Similarly, SC Camylact collects milk from 520 small producers. In contrast, AsiNature is a large commercial company with 3500 ha of organic land and 5000 sheep (including 3500 milking ewes) under its own management. There are other examples of businesses establishing organic enterprises on a relatively large scale (e.g. buffalo for cheese, laying hens).

Although there is substantial potential for the development of organic farming in Romania, there are many weaknesses slowing progress. These include the following:

- The home market is weak because consumers are not aware of the benefits of organic food and in any case have limited ability to pay premium prices
- Limited approved organic processing facilities (e.g. there are no approved abattoirs)
- Many very small producers with fragmented farms, and a reluctance to cooperate
- High cost of conversion coupled with lack of financial support (to date).

Mme Daniela Quai, representative of Gross Market, explored further the marketing issue. She indicated that 95% of organic livestock products (mostly cheese) from Romania were exported. Indeed, a substantial proportion of the organic food sold within Romania was actually imported. Although there is a well developed network of large stores and supermarkets within Romania, organic food has very low market penetration. Because of the structure of the agricultural industry in Romania, small-scale farmers have a weak bargaining position when marketing non-processed primary products to intermediary merchants. Although cooperative marketing is a possible way forward, there is a general lack of confidence and reluctance by farmers to participate in cooperative marketing. Government programmes to assist the development of market structures can play an important role. A good certification system is important, with payment based on product quality, as is a good system of labelling or branding. A good wholesale market needs to be developed that farmers can trust. Similarly the development of specialist organic or health food shops provides another possible outlet for organic food. There are one or two examples of producers who have begun to use the Internet as a route for marketing (e.g. Cortina SRL is an organic egg producer with its own website). The National Federation of Organic Agriculture has developed an organic development strategy which includes the following recommendations: adoption of a unified logo, export subsidies, support for representation at food fairs and exhibitions, development of cooperative marketing, development of web-based marketing, creation of pilot specialist organic markets and stores.

Dr Calin Gherman of USAMV provided a detailed description of the epidemiology and control methods for some of the main zoonoses which might be a threat for organic livestock farmers and products in Romania. Adhering to the organic standards on housing is a significant problem on many farms in Romania, since tethering is still very common. Mme Marcela Sirbu (UASMV) presented a paper describing possible design options for loose housing of cattle (dairy cows, beef cattle and young calves), ensuring adequate space allocation, good ventilation, and access to a bedded lying area.

Mme Rodica Mihai described the opportunities available for organic farmers in Romania to access EU funding through the SAPARD programme. This programme of funding is specifically targeted to new eastern European EU member states and pre-accession states, aimed at facilitating the passage from a state economy to a commercial economy. It aims to address four main issues:

- market access in agriculture and fisheries
- improvement of infrastructure
- economic development
- development of human resources

The measures most likely to be applicable to organic farmers are Measure 3.2, which provides support for creation of producer groups to facilitate cooperative marketing, and Measure 3.3 which provides support for projects focused on the development of 'agricultural production methods designed to protect the environment and maintain the countryside'. Organic farming is one of the three specific Sub-Measures of Measure 3.3, along with soil conservation and maintenance of biodiversity. Measure 3.2 is currently open for applications but Measure 3.3 is not yet available.

Organic inspection and certification issues

Mme Piroska Lorincs described the development and operation of SC Ecoinspect, the first national inspection and certification body in Romania. It is one of two or three national certification bodies, although there are 13-14 bodies in total operating within Romania. Ecoinspect was established in 2002 as an initiative of the Bioterra farmers' association and other organisations and between 2002 and 2004 worked in collaboration with Biokontroll Hungaria. Until 2008, Ecoinspect has financial support from the Swiss government and technical assistance from FiBL. Currently, Ecoinspect certifies 1040 farmers and seven processors. Of these farmers, 79% are livestock farmers (980), and produce products from cattle, buffalo, sheep, poultry (840 farmers), and honeybees (140 beekeepers).

The main problems which Ecoinspect finds in organic livestock can be summarised as follows:

- lack of support of organic farming and the need (by farmers) to pay for inspection and certification fees
- relatively high cost of inspection and certification fees
- lack of a coherent strategy of Ministry of Agriculture, Forestry and Rural Development in order to support organic farming, by all its segments – inspection/certification, production/processing; partial support of organic livestock is to be put into practice in 2006

Encouragingly, within the control area of Ecoinspect, less than 0.3% of farms practising organic farming were found to be using products forbidden for organic farming.

Farmer experiences

Willi Schuster is an organic dairy producer in the Sibiu county of Romania. He has ten dairy cows (Romanian Red Simmental), with the unpasteurised milk processed into cheese on the farm by his wife. He is part of a producer marketing cooperative which sells the milk and cheese on behalf of the producer members. The price of milk at farm gate level is €0.8 per litre. He feels that there is a good, very transparent, relationship locally between producers, processors and consumers.

Mr Schuster has built a specially designed loose housing building with a separate feeding stance/hay storage building. The uncovered space between the two buildings is slatted, with an underground slurry tank. He milks the cows by hand and the milk is processed immediately. This immediate processing is vital for pathogen control (poor hygienic quality of milk is a problem in Romania because of poor road transport networks and consequent long transport times to processing plants, coupled with high summer temperatures). Treatment for parasite control is based on veterinary advice. He has few major health problems with his animals. Apart from the severe winter temperatures, the main problem according to Mr Schuster is structural; in the spring, sheep flocks graze all the land around villages, consuming

all herbage growth, and there is alleged to be corruption of local officials and police by the shepherds, which results in no action being taken.

The success of Mr Schuster's farm as an organic unit is based on a number of factors:

- the farm is isolated from other farms so there is good biosecurity
- the animals have direct access to pasture so there is good biosecurity
- well preserved lucerne hay is produced
- there is good manure storage and management
- there is good, well ventilated loose housing
- there are only a small number of cows, so that there is a high level of individual attention

A major issue for animal health in Romania is the fact that livestock belonging to different owners are frequently mixed for herding on common grazing. A good level of biosecurity is therefore not possible in these circumstances.

Wil van Eijsden manages a one year old organic buffalo enterprise for the company TNP (Transylvanian Natural Products) at Mesendorf in Brasov county. The unit is 400 ha in size, with a stock of 250 mostly young buffalo and 15 Brown Swiss cows and young stock. There are currently 50 milking buffalo. The intention is to increase the buffalo herd to 350 milking animals. Winter diet is mostly lucerne hay plus some cereal. In order to ensure high milk quality no silage is fed. A loose housing facility similar to that of Mr Schuster is currently being built along with a herringbone milking parlour. The company also has a second farm of 200 ha in the same area, which produces primarily cereals for the buffalo. The third activity of the company is a milk processing factory at Rupea, in the same region. This factory is processing buffalo milk only, into four products at present: mozzarella, blue cheese, yoghurt and ice cream. Berry fruit production is also being developed, for mixing into yoghurt and ice cream. The company will start contracting supplies of buffalo milk from smaller producers, but this poses many problems, such as the small number of buffalo in each village, the long distances from the factory and the poor road network which result in milk quality problems. Mr van Eijsden believes that Transylvania is one of the best places in Europe to be a dairy farmer as it has good soils and, in northern Transylvania, a good climate with sufficient rainfall, but the road system is poor, there is poor access to markets, and grassland production is inefficient. To achieve better grassland production and improved biosecurity, the system of shepherding (see comments above by Mr Schuster) needs to be changed and there is a need to install fencing to enable efficient grazing management practices to be established.

A good collaboration has been developed between Transylvanian Natural Products and the University of Agricultural Sciences and Veterinary Medicine. Presently a research project with the aim of studying the feasibility of producing organic products by improved grassland management is underway.

Marius Sabau of UASMV recently undertook a survey of 115 farmers to determine the difficulties facing organic farmers in Romania. The following groups of farmers were surveyed: farmers in conversion, fully certified organic farmers, farmers following organic methods but not certified, and farmers who have dropped out of organic farming. Although

more than 50% of respondents indicated that they had no contact with the country advisory service OJCA, one of the major complaints was that there was a lack of information about how to convert. The most important problem identified by the respondents was the lack of market outlets for their produce. They felt that consumers are not well informed about organic food and that there was insufficient promotion of the benefits of organic food. The areas where farmers felt they needed more help included marketing and state subsidy. The respondents' expectations of Government included the introduction of conversion subsidy on a per hectare basis, and the establishment of minimum prices for organic produce.

General discussion

Most of the critical issues for organic livestock production in Romania were highlighted in the presentations described above. Additional points mentioned in general discussion include the following:

- Most small scale farms in Romania are fragmented and unfenced. Livestock are housed within the village, herded in common, and do not have direct access to pastures and so biosecurity and efficient grassland management are difficult to achieve. Ideally organic farms should be isolated from other farms.
- Many small local abattoirs are being closed because they do not reach EU standards. Clearly this restricts the availability of local outlets for livestock.
- It was felt by delegates that there is already a very rigid legal framework protecting food safety.
- Difficulties in selling organic products because of a lack of an organic market.
- Consumers do not have enough knowledge about the benefits of consuming organic products

Discussion and conclusions

Fulfilment of the objectives of the roadshows

The objective of these Roadshow seminars was to provide opportunities both for dissemination of information from the SAFO project, and also for presentation of national issues relating to organic livestock production, animal health and food safety. The exchanged information as well as the discussions had two main purposes. One of them was to facilitate the further development of the organic sector and the implementation of the EU regulation in new and candidate EU member states. The other was to contribute to the base of information and discussion within the SAFO project in order to include in our work as many relevant aspects as possible of animal health and food safety issues. Unfortunately the short time available in a one-day seminar limits the opportunity for comprehensive presentation of information and discussion. In most of the five Roadshows the balance between dissemination of SAFO information and presentation of national information and discussion was approximately 25:75.

Diversity and similarities across EU countries

The inclusion of translated summaries of the main SAFO Workshops in the Roadshow delegate packs provided a good opportunity for delegates to have access to information on the many specific technical issues discussed at these Workshops. The time restriction meant that the SAFO presentations at the Roadshows had to be focused on more general concepts. It was important to emphasise the principles on which organic livestock production is based, to

provide information on the current state of organic livestock production in Europe, including the sometimes fragile market situation for organic livestock products. This latter issue resonated strongly with organic livestock farmers in all five Roadshow countries (see below). SAFO Partners also highlighted the challenges of diversity in livestock systems across Europe associated with widely different physical and social conditions, and discussed the sometimes wide gap between the high aims of organic farming in terms of animal health and food safety and what actually occurs at farm level. This is recognised by SAFO participants as being a challenge for the whole of the organic movement across Europe, including countries with a well-established organic livestock sector (e.g. Germany, Netherlands, Denmark). In fact the recognition of this challenge is perhaps stronger in these countries, where many farming systems are intensive and focused on high production levels, than in countries where organic livestock farming is still relatively undeveloped. Many factors are inter-linked in this issue of achieving high levels of animal health, welfare and food safety, including the knowledge and stockmanship of the farmer, the availability of good veterinary training and advice, economic pressures including the availability of capital for investment in appropriate housing, etc. In the new and candidate EU countries, including the Roadshow countries, these issues are very real. There has been a relatively rapid expansion of organic farming in recent years in these countries, with many farmers starting with less than ideal physical resources (e.g. livestock accommodation), having relatively little capital for investment, and with a lack of advisory support. However, the issue is certainly not restricted only to the new EU countries and there remains a challenge in all countries to ensure that all organic livestock farmers are given training (perhaps compulsory) in preventative health management strategies. Farmers (and veterinarians) are often focused too strongly on the concept of reducing veterinary medicine inputs instead of focusing on the development of preventative health management strategies, particularly during the early stages of conversion. This potentially results in poor welfare and health status of livestock. Perhaps the issue is much wider than the organic livestock sector alone, and is related also to the way in which the veterinary profession provides information and support to farmers. In many countries veterinarians simply provide treatment for sick animals and do not provide advice on preventative health strategies. For example in the Slovak Republic, the State Veterinary Service does not now have the advisory function which it used to have.

Common problems in new and candidate EU countries

A relatively consistent picture of organic livestock farming emerged in all five Roadshow countries (six including Czech Republic), as illustrated through the presentations and discussions on national issues. Whilst there were of course some problems specific to individual countries (e.g. potential biosecurity issues in Romania because of the system of communal village herding and lack of fencing to control sheep grazing), nevertheless a number of common problems were repeatedly emphasised in all Roadshows. The most important of these are listed and discussed below.

The home market for organic food is relatively undeveloped in all Roadshow countries, partly because consumers are not aware of the potential benefits of organic food and farming, and partly because consumers are not wealthy enough to afford premium prices. The bulk of organic livestock produce in these countries is either sold into the conventional food chain, or exported

Related to the limited home market is the poor national marketing infrastructure for organic produce. In particular there is a lack of available market outlets, especially processing facilities, which are approved for processing organic produce. Lack of approved abattoirs is a

particular problem. Limited availability of processing facilities means that organic produce is either simply not sold as organic, or it incurs considerable costs to transport it to the nearest processing facility, or it is exported as raw material rather than added-value processed product.

Another common problem in all countries was the lack of advisory provision for farmers converting to organic production. This includes a lack of adequate veterinary advice. In fact veterinarians are usually poorly informed about the principles and standards of organic livestock production. There are some notable exceptions to this lack of training and advice, however. For example the Bioterra farmers' association in Romania has, with help from the Swiss Government through FiBL, provided training courses, conferences and advisory publications. Similarly, Pro-Bio in the Czech Republic has a network of offices and provides help to farmers on conversion, crop and animal production, processing and marketing, through advisory leaflets and articles, conferences and farm visits.

Other problems mentioned at more than one of the Roadshow seminars included the poor availability of organic replacement livestock (particularly in pigs and poultry), and livestock feeds (particularly protein), and concern over the increasing risk of contamination of livestock feeds with genetically modified material. There is also concern amongst producers in some countries about the lack of organic conversion subsidy support and the costs of inspection and certification.

Lack of processing facilities and small (but growing) home markets

These issues are problems also in many other EU member states, although the problems may be more severe in the new eastern European member states because of the relative immaturity of the organic food and farming sector, and the limited spending power of consumers in these countries. The home market for organic food in these countries will undoubtedly grow, particularly given the emphasis on promotion of organic food within the EU Organic Action Plan. The lack of approved processing outlets associated with a small home market is a major practical problem for organic producers. This difficulty might be eased if the processing requirements of the EU Regulation were made more flexible (although auditing would still have to be rigorous), especially in countries at this early stage in the development of the organic sector. Improving the local availability of approved organic processing facilities would at the same time enhance the availability of organic product in the home market.

Advisory provision

The lack of effective advisory provision in organic farming hinders the ability of farmers to convert to organic production successfully with a minimum of financial and technical problems. This is a particularly important issue for livestock farmers since any lack of preparedness and competence may have an adverse effect on animal health and welfare, and may increase the risk of zoonotic infections. Problems are most likely to arise when 'farmers enter conversion unprepared, motivated by conversion subsidies and with the mistaken view that what they practise already is organic farming, simply because they do not use artificial fertiliser' (Mr V Cabuk, Slovakia). This latter view is quite likely to be a commonly held view amongst east European farmers, as it was amongst Scottish hill farmers when many of these converted to organic production in 1999 and 2000.

There is a clear need to improve the organic farming advisory services in all Roadshow countries, even though there are some good examples of advisory provision. As in other countries, many farmers have lost their skills and expertise in maintaining animal health

without relying on drugs. In former Soviet bloc countries this may be a legacy of the management system on state/collective farms, in which health management was the responsibility of the farm veterinary practitioner, not the farm manager or stockman. The provision of adequate organic advice (including veterinary advice) should be a central element in the organic farming strategy in all countries. This needs to include a programme of training for vets and advisors, perhaps including study tours in other countries, and the establishment of organic demonstration farms, or at least a regular annual programme of farm walks and seminars on organic farms. However, simply making organic advice available is not sufficient. Experience elsewhere suggests that farmers do not always seek advice even when it is available, and incentives need to be provided to encourage farmers to seek advice. For example, in Scotland acceptance into the state organic conversion subsidy scheme is facilitated if the farmer can show that he has attended a recognised training event.

Livestock housing

The presentations given at the Roadshows by representatives from certification bodies provided a good insight into the main certification issues in these countries. Some very comprehensive and detailed presentations were made in this regard, particularly from Mme Sietinsone (Latvia), Mr Cabuk (Slovakia), and Mr Palts (Estonia). Livestock housing was the main area of non-compliance in most countries, particularly the issues of tethering (including tethering outside at pasture) and failure to meet the minimum space requirements for stock. This is at least partly due to the fact that farmers have no option but to continue to use buildings from the Soviet state farm era, as they lack the capital required to modify these buildings. Insufficient bedding material was also an issue in Slovakia and Estonia. Non-compliances such as these are probably more common in east European countries than in west European countries, but another major area of non-compliance listed by the speakers (poor record keeping and documentation), is common across all countries in Europe. Speakers also reported non-compliances in the use of non-organic feeds, medicines and interventions such as de-horning and castration. Many of these could be resolved relatively simply with improved provision of training and advice, but some of the structural issues (housing, availability of organic replacements, contamination with genetically modified material) are more challenging or costly to resolve.

Food safety legislation

The focus of the discussions at the Roadshows primarily fell on the major issues of lack of markets, processing facilities, advisory provision and subsidy support. Animal health and food safety issues were not a specific primary focus at this moment in time, at least not for producers. Many delegates at the Roadshows felt that their country had very adequate food safety legislation. For example, the State Veterinary Services in Slovakia and Romania are both focussed strongly on reducing risks from zoonotic pathogens. All of the Roadshow countries have been going through the process of EU accession and at the same time rapid development of organic farming. At this stage in the agricultural and organic development of these countries it is understandable that the focus of producers is on major structural issues. However, it is essential to encourage producers to focus also on animal health and welfare, firstly for the welfare of livestock themselves, but also to maintain the high-welfare image of organic livestock products in the eyes of the consumer.

Clear potential for development of organic livestock production

There is clearly a considerable degree of commitment, enthusiasm and potential for organic livestock production in all of the Roadshow countries and it is important to build on this. The problems reported were primarily related to the stage of development of the economy and of

the organic sector, rather than to major technical issues requiring further research. Nevertheless technical challenges do exist which need to be addressed in order to ensure further expansion of the organic food and farming sector. Whilst to some extent these issues are linked to the state of development of the broader economy and of the organic sector, improving the provision of organic farming advice will also have a major positive impact.

Acknowledgements

Organisation of meetings such as these five Roadshows requires a significant amount of time and effort. The members of the SAFO Steering Group are very grateful to the many people involved in the organisation of the Roadshows. Particular thanks are due to the SAFO Participants in each country who carried the main responsibility for each seminar; Ragnar Leming, Gheorghe Mihai, Olga Ondrasovicova, Elita Selegovska and Gyorgyi Takacs. However, many others were involved, particularly translators, the many helpers who undertook the administrative work, and of course the speakers in the five Roadshow countries who contributed to the success of these meetings. We wish to convey our thanks to all of them.

Challenges for animal health and welfare in the implementation of the EU legislation on organic livestock production: analysis of questionnaire survey among SAFO participants

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Introduction

The European Union (EU) introduced the regulation 1804/1999 to harmonise the rules of organic livestock production across member states by setting one community standard. The regulation provides a conceptual framework within which organic animals should be raised and a formal set of rules that direct the certification of livestock enterprises. One of the overall aims is to establish and maintain a high level of animal health and welfare in organic livestock herds and flocks through appropriate selection of breeds and strains, appropriate rearing, a balanced high quality diet and favourable housing.

The setting and implementation of common organic principles and standards for livestock production represents a considerable challenge. Livestock production, both conventionally and organic, differs significantly within and between EU member states with different climates and cultural factors (Roderick et al. 2004). This diversity has become even greater since ten new countries joined the EU in 2005. Each new member state brings in new perspectives and particular issues to the debate about the future development of the EU standards. One of the aims of the concerted action EU network project SAFO was to identify and describe key problem areas in the implementation of the EU standards on organic livestock production in regard to animal health and welfare and food quality and safety and develop recommendations on how the standards can be harmonised in the diverse agricultural infrastructure of the member countries.

Several challenges in relation to the work on standards were identified. Some terms used in the EU-Regulation are not clearly defined and might be interpreted differently, for example 'natural milk', or 'therapeutic effect'. It is difficult to get an overview of the specific constraints in relation to animal health and food safety under the organic framework conditions across the EU. Different sections of the livestock standards are important for animal health on organic farms and for a more comprehensive understanding all these need to be considered.

To support the identification of problem areas a simple questionnaire was sent to SAFO partners and connected participants in 23 EU member states and candidate countries and this report presents the results of this survey. The results are presented following the structure of articles in the current EU Regulation and cover animal health, welfare and food safety. The

report addresses some challenges arising from the diversity within Europe, areas that the SAFO partners perceived to be particularly challenging currently or in the near future. Finally it makes some suggestions to solutions based on the reports from SAFO participants and current knowledge.

Background

Organic land area and animal species

Organic and in-conversion land area in the enlarged EU (25 countries) reached an estimated 6.0 million hectares (3.8% of utilised agricultural area) on 155,400 holdings in 2004. Land area increased by 3% compared with 2003, but the number of farms declined. It appears that existing producers converted more land, whereas the willingness of new producers to convert was affected by uncertainties over the outcome of the CAP reform and the market. A very different picture emerges for some individual countries: land area increased in Portugal, Greece, Austria, Spain, Netherlands and Germany, whereas it declined in Denmark and in the UK. Increases in land area of more than 10% also occurred in many of the new EU member states, e.g. in Estonia, Lithuania, Hungary and Poland, although this was from a very low starting point (Lampkin Eurodata, 2005; SA, 2005). In the EU 15, nearly 60% of the certified organic land area is grassland (Hamm and Gronefeld, 2004; Olmos and Lampkin, 2005).

There appears to be a slight shift towards arable land in the types of farms that have converted since 2000. However, a very different picture emerges for individual countries. In most Mediterranean countries, only 10% of land area is grassland, whereas higher than average grassland percentages are found in the north and west of the EU 15, and in Austria with its many mountain regions.

As not all countries report official statistics it is difficult to get an overview of organic livestock production in Europe. The most complete dataset for broad categories of organic livestock exists for 2002 from two reports (Praznan et al., 2004; Olmos and Lampkin, 2005) and estimates have been made based on a variety of sources for 2003 and 2004 (Table 1). Unfortunately it is not possible to break this down further at EU level, because for many countries only aggregated data exist.

Table 1. Numbers of organic animals in the EU 25 in 2002 and 2003 and main producing countries

Animal category	Year			Major producing countries
	2002	2003	2004	
Bovine	1.4 million	1.5 million	1.56 million	Austria, Germany, Italy and Denmark
Sheep	1.71 million	1.63 million	1.8 million	Italy, UK, Germany and France
Pigs	553,000	472,000	493,000	Germany, Denmark, France and UK
Chicken (layers and broilers)*	16.1 million	17.3 million	18.3 million	France, UK, Germany and Denmark

Source: Padel (2005) and Padel and Lowman (2005)

Cattle are the main livestock species farmed organically in the northern, central and western European countries, reflecting trends in general agriculture. Dairy cows appear particularly important (more than 40% of bovine stock) in Denmark, France, Germany, the Netherlands and in the UK, but a detailed breakdown of bovine species is currently not available for all countries.

Sheep and goats are the most important species in the Mediterranean countries, where emphasis is put on milk production, and in the UK and in Ireland where the objective is meat production.

Pig production is concentrated in Germany, Denmark, France, UK and Austria. In 2003, these countries together kept more than 75% of all pigs in the EU while less than 2% were kept in the new member states. In Austria more than 6000 holdings are keeping organic pigs, but the average number of animals kept per holding is very small (6.1 head per farm keeping pigs).

With regard to poultry, the biggest producer of organic chickens (both layers and table chickens) in 2003 was France with more than 6 million birds, followed by the UK. For other categories of poultry, data exist for only a very few countries.

In order to supplement existing statistics SAFO asked its partners and workshop participants in 23 European countries to collect some information about the size and importance of organic livestock farming in their country. Some countries were able to supply data on the proportion of organic farmers that keep livestock. This shows a considerable variation with less than 15% of organic producers keeping livestock in Hungary, approximately 25% in Spain (Trujillo, 2004) and over 90 to 100% in the Alpine countries, some new member states and the UK.

As far as the market for organic products is concerned, this is estimated to be worth approximately €10.5 to 11 billion in total. The most important markets exist in Germany, France, the UK and Italy. High market penetration has been reached in Denmark, Austria, Germany or Switzerland, but considerable variation occurs between product categories. In the market for organic animal products, the organic share of the total market by volume was, in 2001, 1.6% for beef, 1.3% for eggs and 1.2% for milk, similar to most crop products where on average between 1.0 and 1.8% were reached in the EU 15. Sheep and goat, pig and poultry meat reached 0.6% or less, lower than for grazing livestock products and most crops. There are no more recent market share data on an EU wide basis.

Supply and demand for organic livestock products

Difficulties in establishing a balance between supply and demand exist in the organic markets for milk, as well as beef, sheep and goat meat. In 2001, 32% of organic milk, 31% of organic beef and 46% of sheep and goat meat had to be sold to non organic outlets for conventional prices. The situation has improved since then, but selling a proportion into non organic outlets resulting in lower farm gate prices remains typical for products of organic grazing livestock. This may be a reflection of the fact that the market is not the only factor influencing the stocking density with ruminant livestock production on organic farms. The farms' natural conditions and the interrelationship in organic farming systems with grazing livestock providing advantages for soil fertility and crop rotations are also clearly important.

The market situation for dairy in particular is further hampered by the structure of the industry with increasing concentration of processing plants that may run separate organic lines. Producers do not have access to factories processing organic milk in all regions of Europe.

Furthermore, in many countries organic dairy farms are small scale and scattered over large areas resulting in high costs for separated collection of the organic milk (Michelsen et al., 1999; Hamm and Gronefeld, 2004). This stands in clear contrast to most markets for organic crops, where nearly 100% of all production is sold to an organic outlet. This trend is reflected in farmer premiums, where on average 100% is achieved for organic cereals (although considerable variation throughout Europe exists) compared with an average of 18 to 40% for products of grazing livestock.

The markets for pigs and poultry appeared to be more balanced or even undersupplied. In 2001, more than 95% of pork, eggs and poultry meat found an organic market (Hamm and Gronefeld, 2004). Furthermore, intensive (including dairy) livestock products carried higher premiums for the farmer, and it appears that they are largely produced where a market exists. However, the gross margins for producers remain tight.

Materials and Methods

All SAFO project participants and three connected participants (Romania, Czech Republic and Turkey) were asked to reply to a questionnaire. The questionnaire covered Articles 4-8 (see Boxes 1-5) of Annex II B on organic livestock production of the EU Regulation 2092/91. The project participants were asked to answer the questions:

- 1) Is there a problem with the implementation of this specific paragraph at farm level in your country?
- 2) If there is a problem, what are the reasons and the background for problems with the implementation?

Participants were asked to respond based on existing surveys in their country and their own expert knowledge. They were furthermore encouraged to discuss their answers with other stakeholders, such as certification bodies, animal health services, researchers and consultants working with organic livestock in their country.

At the Third SAFO workshop the main findings of the questionnaire were presented and discussed and further clarifications considered for analysis. Furthermore, all SAFO project participants were asked to make a short presentation on the development of organic livestock farming in their country. The responses were described and further analysed. It became apparent that there was considerable variation between the SAFO participants' background and experience with organic livestock production, and associated problems.

The responses from 20 countries provide a good overview of the perception of problem areas in implementing the EU regulation on organic livestock production. However, differences in background, specialisation and experience with organic livestock production of the respondents limit the extent to which responses may be compared. Challenges mentioned in some countries may exist elsewhere but were not mentioned by other respondents because they lack experience in a particular field. Experience with organic livestock production and with the EU Regulation, both at national, institutional and personal levels also seemed to influence problem perception. The data therefore call for a qualitative rather than statistical analysis. After a short overview of the frequency with which certain areas were mentioned, the following sections of this paper summarise the reasons for the perception of problems that were given by the respondents.

Survey responses

Overview of problem areas experienced by the respondents

Responses were obtained from 25 project participants in 20 countries. Table 2 gives a brief summary of the perceived problem areas, irrespective of the source of the problem. The following sections summarise the answers and explanations given, and provide some background for the reported or perceived problems. General problems referred mainly to the lack of awareness of the need for disease prevention. Problems with the articles about breeding referred to the lack of suitable breeds and the absence of information about health and vitality in breeding programmes. Problems reported in the feeding section concern both the use of home-grown feed as well as the availability of organic feeds, and in many cases diets for monogastric animals. Responses in the area of housing and outdoor access highlighted a number of practices that do not conform to the requirements of the EU Regulation but appear to be accepted by the respective certification bodies. The majority of problems reported in housing and outdoor access were related to the keeping of poultry. Problems reported in the area of 'food safety' referred mainly to the use of certain treatment practices that might cause problems with residues, for example antibiotics, hormones or anthelmintics. This can be a potential food safety problem, but is maybe more a problem of understanding that disease prevention should be based on non-medical methods. Most of the problems reported in the category 'other' concern mutilations such as dehorning of cattle, tail docking of sheep, or castration of pigs. Some reported problems are clearly linked but are nevertheless reported under two different categories. For example, problems with tethering systems and appropriate exercise areas during the winter, which are clearly related, were both reported by the same countries. Some of the respondents to the questionnaire gave examples of additional national standards and these have been included under the relevant headings below.

Figure 1 and Table 2 illustrate that there appear to be substantial differences in problem perceptions between countries. This could be either a frequently occurring conflict within the normal organic farming practice in the country, or a perceived area of conflict based on the formulation of the regulation. Since we asked about 'problem areas' in the questionnaire, we refer to problem perception in the following description to make clear that the answers are based on respondents' attitudes rather than the result of monitoring programmes. For example, the response from the Czech Republic emphasised the use of breeds with high disease resistance in organic farming, and did not mention any other problems with the implementation of the EU regulation. Likewise, the Slovakian partner did not report problems, other than with outdoor access, related to climatic conditions. The response from Poland indicated more problems areas, but emphasised that conversion to organic farming in Poland should be easy, as the animal production systems are generally of low intensity, and local breeds that are resistant to diseases are popular.

All of these responses came from new EU members that have only limited experience with the EU Regulation for organic livestock production. On the other hand, problems in the implementation of all areas of the regulation were reported by the UK, Germany, the Netherlands, Austria, Switzerland and Estonia. With the exception of Estonia these are all countries that have a very well established organic livestock sector, longstanding experience of organic livestock farming within the framework of the EU Regulation, and ongoing research programmes.

Figure 1. Number of positive responses from each country to the question of whether there were problems perceived in relation to this specific article or part of article, out of 54 article formulations

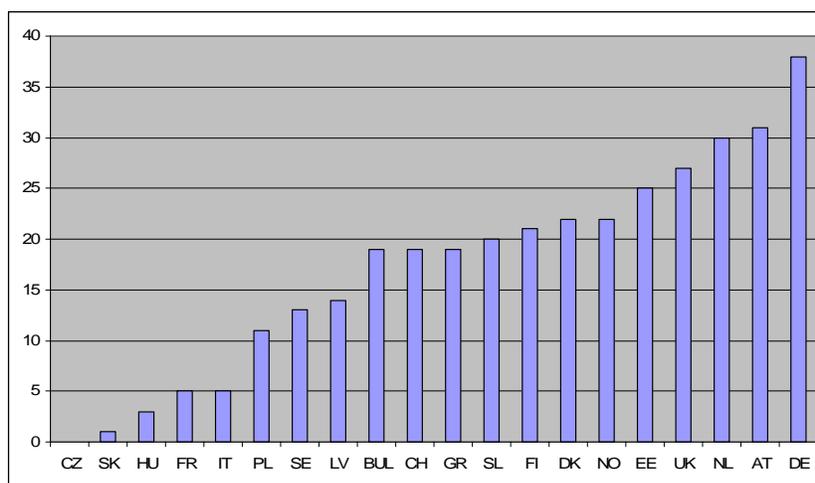


Table 2. Perceived problem areas with the implementation of the EU Regulation on organic livestock production as reported¹ in the responses from 20 countries

Group ²	Country	Disease prevention					Disease treatment	Food safety	Other
		General	Breeding	Feeding	Housing	Outdoor access			
1	Sweden		X	X	X	X	X	X	
1, 6	Norway		X	X	X		X	(X)	X
1	Finland	X	X	X	X	X	X		
2	Denmark	(X)	X	X	X	X	X		X
2, 6	UK	(X)	X	X	X	X	X	X	X
2	Germany	X	X	X	X	X	X	X	X
2	Netherlands	X	X	X	X	X	X	X	X
3, 6	France	X	X		(X)	(X)	X		X
3, 6	Greece	X	X			X	X	X	X
3, 6	Italy	X	X	X	X		X	X	
4, 6	Austria	X	X	X	X	X	X	X	X
4, 6	Switzerland	X	X	X	X	X	X	X	X
5, 6	Slovakia					X			
5, 6	Poland			X	X	X	X		X
4, 6	Slovenia		X	X	X	X	X	X	
5, 6	Czech R.								
5	Latvia	X	X	X	X	X	X	X	X
5	Estonia	X	X	X	X	X	X	X	X
5	Hungary			X	X		X		
6, 7	Bulgaria	X	X	X	X		X	(X)	
	Total	13	16	16	17	15	18	13	13

¹If problems in this area were reported, it is marked with ‘X’

²1, North Scandinavia; 2, North-Western Europe with intensive agriculture; 3, Mediterranean area; 4, Alpine region; 5, New member countries; 6, Countries with mountain areas; 7, Candidate countries.

Frequency of perceived problems by animal species

Table 3 summarises the perception of problem areas in relation to specific animal species, and reports the number of categories in which the problem was linked to a particular species. It does not include general remarks, e.g. ‘old buildings’ or ‘no available breeds’ even if they are likely to be more relevant to one particular species and no differentiation regarding the source of a problem perception has been made. In some countries, the organic production of certain animal species is so limited that there is no experience with it. This is for example the case in Estonia and Slovenia with regard to organic poultry production. The responses showed that most challenges arise in relation to keeping poultry. These challenges range from the lack of appropriate breeds in many countries, the supply of appropriate and adequate feeds and nutrients (particularly protein) and many aspects of the housing requirements. Recently, precautions have been taken to reduce the spread of avian influenza, and this has limited outdoor access for poultry. Several respondents also highlighted parallel challenges in several areas in relation to keeping pigs and small ruminants, but the number of responses that identified challenges was more limited.

Table 3. Frequency of perceived problems, by animal species, with the implementation of the EU Regulation on organic livestock production as reported¹ in the responses from 20 countries.

Group ²	Country	Species			
		Dairy cattle	Pigs	Poultry	Small ruminants (goats and sheep)
1	Sweden	X	X	X	
1, 6	Norway	X	X	XXX	XXX
1	Finland		X	X	
2	Denmark	X	XX	XXX	
2, 6	UK	X		XXX	XXX
2	Germany	X	XXX	XXX	
2	Netherlands	X	XX	XXX	
3, 6	France	X		X	XX
3, 6	Greece	X		XX	X
3, 6	Italy	X	XXX	XXX	X
4, 6	Austria	X	X	X	
4, 6	Switzerland	X	X	X	
5, 6	Slovakia				
5, 6	Poland			X	
5, 6	Slovenia			X	
5, 6	Czech R.				
5	Latvia	X	XX	X	X
5	Estonia ³	(XXX)			X
5	Hungary	X			
6, 7	Bulgaria	X		X	
	Total	14	17	28	13

¹If problems in this area were reported, it is marked with ‘X’. If three ‘X’s are presented, problems for this animal species were reported in at least three categories.

²1, North Scandinavia; 2, North-Western Europe with intensive agriculture; 3, Mediterranean area; 4, Alpine region; 5, New member countries; 6, Countries with mountain areas; 7, Candidate countries.

³Horses mentioned as one of the challenge areas in Estonia

The principle of disease prevention

The questionnaire included reference to Articles 5.1 and 5.2 that highlight the importance of disease prevention in organic farming (Box 1). The perceived problems in relation to

breeding, feeding, housing, disease treatment and other issues are included under the appropriate headings below.

General problems related to the principles of disease prevention were reported from 13 countries. The French partner assumed that most farmers are aware of disease prevention practices and that they direct their effort towards identifying and eliminating clear and well-known risk factors for diseases in their herds. The fact that the production level is lower than in conventional herds is also a factor leading to decreased disease incidence. A number of cases were mentioned that illustrate a lack of emphasis on disease prevention on organic farms. For example, the Austrian partner mentioned poor condition of milking equipment, and a lack of disease prevention practices in poultry flocks and pig herds leading to problems with endoparasites. The German response also referred to suboptimal management especially in organic poultry flocks. The Greek partner highlighted the general attitude of farmers as a major constraint to achieving disease prevention and the Swiss partner reported that organic farmers do not make any more effort than their conventional colleagues in disease prevention. In the following sections, the difficulties associated with prevention measures in terms of breeding, feeding, housing and outdoor access are presented based on the information given by respondents to the questionnaire.

Box 1. Summary of articles related to the principle of disease prevention

- 5.1. *Disease prevention in organic livestock production shall be based on the following principles:*
- (a) *the selection of appropriate breeds or strains of animals*
 - (b) *animal husbandry practices encouraging strong resistance to disease and the prevention of infections;*
 - (c) *high quality feed, regular exercise and access to pasturage, to encourage the natural immunological defence of the animal;*
 - (d) *appropriate density of livestock, thus avoiding overstocking and any resulting animal health problems.*
- 5.2. *Animal-health problems should be controlled mainly by prevention*

In UK, a health plan is mandatory for organic farms but the national standard does not provide much detail about what it should involve. The British partners observed that for an animal health plan to be effective, it needs to be documented and updated regularly, and should be monitored by the certification body especially during the conversion period. Research to formalise animal welfare and health assessment as a management tool for organic farms and certification bodies is currently underway in the UK.

Breeding and availability of breeds and strains

The articles that relate to the selection of breeds in the EU Regulation are summarised in Box 2. Several partners (Austria, Bulgaria, Finland, Greece, Estonia, Slovenia, France, Sweden, Netherlands, Switzerland, UK, Denmark, and Italy) stated that there is a general problem with breeding programs for all animal species. Available breeds and breeding programmes do not consider traits that are favoured in organic farming. The Italian respondents observed that there were only small numbers of animals of local breeds, making breeding programs and genetic improvement almost impossible. In Slovenia, local breeds are preferred, but they are very limited in number, and farmers claimed not to have much choice. The French partner mentioned this as a challenge especially for goats, sheep, pigs and poultry.

Box 2. Summary of articles related to breeding

Art 3.1 'In the choice of breeds account must be taken of the capacity of animals to adapt to local conditions; their vitality, and their resistance to disease. In addition, breeds and strains of animals shall be selected to avoid specific diseases or health problems associated with some breeds or strains used in intensive production. Preference is to be given to indigenous breeds and strains'.

Although a large number of local dairy breeds exist, farmers mainly use Holstein for milk production in the main milk producing areas. In the Netherlands, the high costs of land and milk quota imply that milk yield is prioritised over other goals in the choice of breeds and breeding stock. In Denmark, breeds with high milk yields are frequently cross bred on organic farms to produce more robust animals. Health parameters are part of breeding programs in only a very few countries, for example for dairy cattle in Norway and Denmark. In Switzerland, the first steps have been taken to develop an organic breeding index for dairy cattle.

The Greek partner observed that there were particular problems with poultry, and this seems to be the case for many countries in Europe. Only hybrids are available to organic farmers and indigenous breeds only exist for meat production, are not in breeding programmes and have very low productivity. However, the Dutch response suggested that differences between farms with regard to management seem to be greater than the differences between breeds. The respondent from Norway observed that the minimum slaughter age of broilers of 81 days increased the risk of bone fractures in the breeds that were available, which would indicate that the conventional breeds are not suitable for organic production.

Feeding

Articles related to feeding strategies that should be practised in organic systems are summarised in Box 3. Respondents from 16 countries reported problems and challenges associated with the implementation of these Articles and several responses suggest that current practices on organic farms do not fully comply with the requirements of the regulation.

Organic produced feedstuffs and 100% organic diets (Art 4.2)

The respondent from France observed that the use of 100% organic diets are considered the basis for organic production and no significant problems with practising this were reported. Farmers were encouraged to produce their own protein feed and concentrate, but some difficulties in relation to monogastric animals were highlighted. Problems with protein supply for monogastric animals were also reported in Sweden, Norway and Germany. On the other hand, responses from the Alpine regions (Austria), the Mediterranean (Greece) and from some CEE countries (e.g. Slovenia and Bulgaria) reported limited availability of certain organic feeds, resulting in high transport costs and high feed prices. This creates problems not only for pig and poultry production but also for cattle production. The respondent from Italy reported problems with the production of organic pulses and forage legumes, but not other feeds, but did observe that contamination with genetically modified materials was a growing problem. The Norwegian partner observed that fish meal had previously been an important protein source in cattle production, which was now absent because its use is forbidden in the Regulation.

Home grown feed (Art 4.3)

Producing feed locally is seen as a challenge in the Netherlands. The shortage of land generally leads to imports to some regions from many different countries. In Norway, many farmers cannot produce their own concentrates because of the climate, and so concentrate feed needs to be bought in. In UK, the requirement for home-grown feed appears not to be enforced and most large scale poultry farms do not produce or use home-grown feed at all. Specialised Austrian poultry farms also buy in organic compound feed whilst selling their own arable crops as cash crops. The German respondent observed that the quality of home-grown feeds was a constraint. Many farmers do not have their own feed analysed, which makes it difficult to feed according to the animals' requirements. The quality of feed on organic farms was also mentioned as an area of concern in Latvia, because of a lack of knowledge and lack of equipment for producing it.

Box 3. Summary of articles concerning feeding

4.2. <i>Livestock must be fed on organically produced feedstuffs.</i>
4.3. <i>Feed must come from the unit or (...), Moreover, in the case of herbivores, except during the period each year when the animal are under transhumance, at least 50% of the feed shall come from the farm unit itself or be produced in cooperation with other organic farms.</i>
4.4. <i>30 % of the feed formula of rations on average may comprise in-conversion feedstuffs, if from the own holding: up to 60% in dry matter.</i>
4.5. <i>The feeding of young mammals must be based on natural milk, preferably maternal milk. All mammals must be fed on natural milk for a minimum period, depending on the species concerned: three months for bovines and equidae, 45 days for sheep and goats and 40 days for pigs.</i>
4.7. <i>Rearing systems for herbivores are to be based on maximum use of pasture according to the availability of pastures. At least 60% of the dry matter in daily rations is to consist of roughage, fresh or dried fodder, or silage. A reduction to 50% for animals in dairy production for a maximum period of three months in early lactation can be permitted</i>
4.8. <i>By way of a derogation from paragraph 4.2, for a transition period expiring on 24 August 2005, the use of a limited proportion of conventional feedstuffs is authorised where farmers can show to the satisfaction of the inspection body or authority of the Member State that they are unable to obtain feed exclusively from organic production. The maximum percentage of conventional feedingstuffs authorised per year is 10% in the case of herbivores and 20% for other species...</i>
4.9 <i>By derogation from paragraph 4.8 when forage production is lost or when restrictions are imposed, in particular as a result of exceptional meteorological conditions, the outbreak of infectious diseases, the contamination with toxic substances, or as a consequence of fires, the competent authorities of the Member States can authorise for a limited period and in relation to a specific area, a higher percentage of conventional feedingstuffs where such authorisation is warranted. Upon approval by the competent authority, the inspection authority or body shall apply for this derogation to individual operators. Member States will inform each other and the Commission upon the derogation they have granted.</i>
4.11. <i>Roughage, fresh or dried fodder, or silage must be added to the daily ration for pigs and poultry.</i>
5.1. <i>(c) The use of high quality feed, together with regular exercise and access to pasturage, having the effect of encouraging the natural immunological defence of the animal.</i>

Use of in-conversion feed (Art 4.4)

The allowed percentage of in-conversion feed used in organic herds was emphasised as an important issue by the Estonian partner, because conventional (or in-conversion) feed is often used up to the limit of the allowance, which creates a challenge when the conversion to 100% organic feed is made. A similar challenge was mentioned in Slovenia.

Milk feeding and weaning of young animals (Art 4.5, Annex II C and D)

Feeding milk to young animals is seen as an especially challenging area and differences in interpretation become apparent. The Swiss partner would prefer a more precise definition of 'natural milk'. According to Annex II, Part C2, No. 2.1 this also seems to include milk powder, skimmed milk, whey protein powder extracted by physical treatments and other substances which cannot be referred to as 'natural milk'. In Germany, there is concern about what to use as replacement for 'natural milk' (understood as milk from the mother) in case of disease or death of the mother. Apparently a Dutch company is now producing a milk powder product in accordance with Annex II, Part C and D, but the respondent questioned whether this could really be considered 'natural milk'.

Standards in Norway specify restrictions on the feeding of milk during the withdrawal time of a cow and that calves must suckle their mother for a minimum of three days after birth. In contrast, the reported practices from various countries for various species appear to violate the requirements of the regulation. In Latvia, there is a tradition of weaning piglets at five weeks, at which time they are often sold, and some organic herds also practise this. Dairy sheep and goats were highlighted as particularly challenging in responses from Austria and the UK, where the short milking season and the high economic value of the milk make it attractive to replace maternal milk with cows' milk or milk replacer. In France, male animals in particular are weaned earlier than they should be according to the organic legislation, namely at three to four weeks (in the case of lambs) or two to three weeks (in the case of goats). Italy allows the feeding of milk powder in goat herds by derogation from the authorities when supported by a laboratory test confirming a health risk (e.g. CAEV).

Proportion of roughage in the diet for herbivores (Art 4.7 and 4.11)

In Switzerland, Bio-Suisse requires a diet comprising 90% forage for ruminants, the Greek standards require that at least 70% of the total daily dry matter intake of herbivores must be forage when the animals are at maintenance, but this is reduced to 60% during lactation or fattening. Grass silage is limited to 50% of the total daily dry matter intake, and maize silage intake to 33%. In conflict with the regulation the Austrian certification bodies accept the use of straw litter as 'roughage'. The Greek respondent also stated that the requirement for roughage in the diet for pigs and poultry was seen as a challenge, because farmers and advisors following general diet formulation guidelines are not used to this practise. This is also the case in the Netherlands, where some poultry farmers do not provide any forage.

Housing, indoor conditions and flock sizes

Problems and challenges in relation to the Articles dealing with housing were highlighted in the responses from 17 out of the 20 countries. Box 4 summarises the key articles in the EU Regulation. Many responses appear to indicate breaches of the provision in the current regulation, but the respondents seemed to be aware that the requirement that 'housing conditions for livestock must meet the livestock's biological and ethological needs' were frequently not met. Several reasons for this were regularly mentioned, such as the limited space, high cost of new buildings or modifications to existing ones, and limited knowledge of

housing systems that would meet the requirements. For example, in Bulgaria, old buildings are used for keeping livestock, and farmers cannot afford to build new buildings.

Box 4. Summary of articles related to housing conditions

<p>5.1. (b) the application of animal husbandry practices appropriate to the requirements of each species, encouraging strong resistance to disease and the prevention of infections; (c) The use of high quality feed, together with regular exercise and access to pasture, having the effect of encouraging the natural immunological defence of the animal; (d) ensuring an appropriate density of livestock, thus avoiding overstocking and any resulting animal health problems.</p>
<p>6.1.4 Keeping livestock tethered is forbidden. Nevertheless, this practice can be authorised for individual animals if this is necessary for safety or welfare reasons, and that such tethering is only for a limited period of time.</p>
<p>6.1.5 Cattle can be tethered in buildings already existing before 24 August 2000, provided that regular exercise is provided and rearing takes place in line with animal welfare requirements Transitional period until 31 December 2010.</p>
<p>6.1.6 Cattle in small holdings can be tethered, if it is not possible to keep animals in groups of an appropriate size to their behaviour and provided they have at least twice weekly access to pasture, open-air runs or exercise areas.</p>
<p>8.1.1. Housing conditions for livestock must meet the livestock's biological and ethological needs. The livestock must have easy access to feed and water. The building must permit natural ventilation and light to enter.</p>
<p>8.2.1. Housing for livestock will not be mandatory in areas with appropriate climatic conditions to enable animals to live outdoors.</p>
<p>8.2.2. The stocking density in buildings shall provide for the comfort and well being of the animals. (...). It shall also take account of the behavioural needs of the animals (...). The optimum density (...) provides sufficient space to stand naturally, lie down easily, turn around, groom themselves, assume all natural postures and make all natural movements'.</p>
<p>8.2.3. The minimum surface areas for indoor housing and outdoor exercise areas, and other for different species are laid down in Annex VIII.</p>
<p>8.2.5. Housing, pens equipment and utensils must be properly cleaned and disinfected. Only the products listed in Part E of Annex II can be used for cleaning and disinfection (...).</p>
<p>8.3.5. Livestock housing must have smooth, not slippery floors. At least half of the floor area must be solid, that is, not slatted or of grid construction (concerning mammals)</p>
<p>8.3.6. The housing must be provided with a comfortable, clean and dry laying/ rest area of sufficient size, consisting of a solid construction which is not slatted. Ample dry area strewn with litter material must be provided in the rest area. The litter must comprise straw or other suitable natural material (concerning mammals).</p>
<p>8.3.7 The housing of calves in individual boxes is forbidden after the age of one week.</p>
<p>8.3.8 Sows must be kept in groups, except in the last stages of pregnancy and during the suckling period. Piglets may not be kept on flat decks or in piglet cages.</p>
<p>8.4.1. Poultry must be reared in open-range conditions and cannot be kept in cages.</p>
<p>8.4.3. Buildings for all poultry must meet the following minimum conditions: at least one third shall be solid, that is, not of slatted or of grid construction, and covered with a litter material such as straw, wood shavings, sand or turf;(concerning poultry)</p>
<p>8.4.4. 'In the case of laying hens natural light may be supplemented by artificial means to provide a maximum of 16 hours light per day with a continuous nocturnal rest period without artificial light of at least eight hours'</p>

8.4.6. *For health reasons, buildings must be emptied of livestock between each batch of poultry reared. The buildings and fittings are to be cleaned and disinfected during this time. Between batches, runs must be left empty to allow vegetation to grow back, and for health reasons. These requirements shall not apply to small numbers of poultry in runs (concerning poultry).*

8.5.1 *By way of derogation from the requirements set out in the paragraphs 8.3.1, 8.4.2, 8.4.3 and 8.4.5 and the stocking densities laid down in Annex VIII, the competent authorities of the Member States may authorise derogations from the requirements of these paragraphs and of Annex VIII for a transitional period expiring on 31 December 2010. This derogation can only be applied to livestock producing holdings with existing buildings, constructed before 24 August 1999 and in so far as these livestock buildings comply with national rules concerning organic livestock production, in force prior to that date, or in the absence thereof with private standards accepted or recognised by the Member States.*

Tethering of cattle (Art 6.1. 4 to 6.1.6)

Housing systems with tethering are traditional and widespread in mountain areas, disadvantaged, predominantly grassland regions and regions with small average dairy herd sizes in Austria, Finland, Poland, Estonia, France, Switzerland and Norway. In Germany, 29% of farms had cattle tethered in 2004. The responses further illustrated that there appear to be differences in how the smallholders' exemption and the associated requirements should be interpreted and that the farmers, for example in Germany, do not have enough information about the benefit to them of improving the welfare of the animals.

Access to light, air and fresh water (Art 8.1.1)

The Swiss, Austrian and Polish partners observed that many traditional barns did not provide sufficient natural light and fresh air, and that many old buildings have slippery floors, which was also reported from Finland. Traditional housing systems in Latvia were reported to lack free access to water which would not only violate organic but also general animal welfare rules. The Estonian and Latvian partners observed that the regulation does not provide exact parameters in relation to ventilation and light, which makes it difficult to evaluate. In these cases, the international standard on air quality (e.g. concentration on NH₃) can be used. The Dutch partner observed that many modern deep litter stables do not have daylight. The Swedish respondent observed that some loose housing systems provide only 3 m² of solid floor per cow.

Floor conditions (Art 8.3.5) and space

Traditional housing in Norway has slatted floors and smaller indoor areas than are required by the regulations, and crofters in Scotland traditionally keep their stock on slatted floors for six months. In many regions of Norway, Scotland, Italy, the Alps and other mountain areas these traditions evolved because there is no straw and the costs of transporting straw to the area are so high that farmers use little or no litter for their animals. In the Greek standards the derogation for old buildings (due to expire in 2010) appears to have been extended, raising the maximum area for slatted floors that is allowed in old buildings.

Housing in groups (Art 8.3.7 and 8.3.8)

Animals are supposed to be kept in groups, but in small herds it can be very difficult to form groups because there are no animals of similar age or in the case of sows, in the same stage of production. In Sweden, calves are required to have larger boxes to compensate for this. In Latvia, France and the Netherlands, individual housing of calves of more than two weeks is considered to be the best way of preventing diseases and is therefore recommended to farmers, although it contradicts the requirements of the regulation. Similar violations of the housing requirements in some production systems were reported in relation to the tethering of sows in Austria, the individual penning of sows in heat and in early pregnancy in France and in relation to calves from Estonia.

Flock size, indoor stocking density and minimum surface area for mammals

The Greek national standards specify the maximum number of pigs on a farm to be 1500 finishers or 200 sows. The Finnish partner observed that flock sizes may be so large that the behavioural needs of individual animals could not be met, as animals were unable to maintain a hierarchy within the flock. However, high building costs meant that flocks could not be split into smaller units.

Housing and flock size for poultry (8.4.1 to 8.4.6).

Respondents to the questionnaire indicated that the requirements for housing and flock size for poultry are controversial. The Greek standards specify that the maximum size of the poultry building should be 400 m² on a farm, and if the size of an individual poultry building is more than 200m² it must be divided in two. The UK, Danish and other respondents commented that many problems arise in large scale poultry units and that the flock size permitted in the regulation should be reduced. Respondents from the Netherlands and Germany reported that poultry farmers fail to provide litter material because they are afraid of eggs becoming mislaid. After some time in the house the hens will scratch and perform foraging behaviour in their own dried manure but this raises concerns about hygiene. Providing forage to poultry would help to overcome such problems. German poultry farmers also failed to give access to dust bathing areas. In UK, some farmers were concerned that the rules about light management might cause problems if pullets are reared under different conditions.

Access to pasture and outdoor exercise areas

Outdoor access is emphasised in the organic regulation for all types of organic livestock production (Box 5). This is an area where organic production clearly distinguishes itself from conventional livestock production, but until 2010 some systems are still able to make use of the transitional derogation (Art. 8.5.1, Box 4).

Box 5. Summary of articles relating to outdoor access

<p>1.4 <i>Except where authorised by way of exception in this Annex, livestock must have access to a free-range area</i></p> <p>1.8 <i>By way of a second derogation from this principle, animals reared in accordance with the provisions of this Regulation may be grazed on common land, providing the land has not been treated with products other than those allowed for in Annex II of this Regulation, for at least three years;</i></p> <p>4.6. <i>Where relevant, Member States shall designate areas or regions where transhumance (including movements of animals to grazing areas in mountains) is practicable, without prejudice to the provisions on the feeding of livestock laid down in this Annex.</i></p>
<p>8.1.2. <i>Free-range, open-air exercise areas, or open-air runs must, if necessary, provide sufficient protection against rain, wind, sun and extreme temperatures, depending on the local weather conditions and the breed concerned.</i></p>
<p>8.3.1. (...) <i>all mammals must have access to pasturage or an open-air exercise area or open air run, which may be partially covered, and they must be able to use those areas whenever the physiological conditions of the animal, the weather conditions and the state of the ground permit, unless there are Community or National requirements relating to specific animal health problems that prevent this. Herbivores must have access to pasture whenever conditions allow.</i></p> <p>8.3.2. <i>In cases where herbivores have access to pasturage during the grazing period and where the winter-housing system gives freedom of movement to the animals, the obligation to provide open-air exercise areas (...) during the winter months may be waived.</i></p> <p>8.3.3. (...) <i>bulls over one year old must have access to pasturage or an open-air exercise area or an open-air run.</i></p> <p>8.3.4. (...) <i>the final fattening phase of cattle, pigs and sheep for meat production may take place indoors, provided that this indoors period does not exceed one fifth of their lifetime and in any case for a maximum period of three months.</i></p>
<p>8.4.2. <i>Water fowl must have access to a stream, pond or lake whenever the weather conditions permit.</i></p> <p>8.4.5. <i>Poultry must have access to an open-air run whenever the weather conditions permit and, whenever possible, must have such access for at least one third of their life. These open-air runs must be mainly covered with vegetation be provided with protective facilities and permit animals to have easy access to adequate numbers of drinking and feeding troughs.</i></p>

Grazing of common land (Art 1.8 and 4.6)

Respondents from Italy, Scotland, Switzerland, Norway and Romania drew attention to the challenges arising from using common land and shared grazing with organic animals, which takes place under a variety of different conditions and traditions. These areas have not been discussed in depth in the SAFO network but must be emphasised as a future challenge. Finding solutions to this challenge will require analysing the practices related to these special farming systems.

Climatic reasons limiting access to pasture for mammals (Art 8.3.1)

In some areas of Europe, such as Sweden and Norway, the Alps and other mountain areas, the period when livestock can be given outdoor access is restricted by the climate, in the winter because of snow and in parts of the summer because of heavy rainfall. On the other hand, the Greek and Italian partners observed that during the summer it may be too hot to keep animals

outside. The respondent from Slovakia observed that shelter in outdoor areas would be desirable. Art 8.3.1 allows for exceptions on the basis of the weather conditions and the state of the ground. However, providing some shelter in the outdoor area would improve the situation in a variety of climates, both in hot and cold weather. In hot weather access to fresh water should also be available. Respondents to the survey also indicated that soil type is important in this context, for example in parts of Italy heavy clay soils make outdoor access difficult during the winter.

Traditions and lack of suitable area and equipment (Art 8.3.1, 8.3.3)

The Latvian partner reported that outdoor access was considered difficult by many farmers because they do not have suitable areas, but Art 8.3.2 already allows for such exceptions given that summer grazing is possible. The Slovenian partner pointed out that problems with finding suitable areas close to the stables exist for farms in semi-urban areas, while the Finnish respondent pointed out that there were challenges for large herds. In Poland and Latvia, grazing cattle are often kept tethered because of a lack of electric fences or other fencing equipment, which is too expensive for farmers. The respondent from Estonia mentioned a general lack of knowledge in grazing management, which can have a negative impact on animal health.

In breach of the requirements of the regulation, it is traditional in the mountain areas of France to keep lambs indoors during the whole suckling and finishing period. The Swedish respondent indicated that indoor finishing during the grazing season is not allowed under the national rules. In contrast, sheep in the mountain areas of Norway have no regular contact with humans and, if they are injured, it can be days before they are found.

The respondents from Poland and Estonia claimed that farmers consider bulls too dangerous and are not prepared to give them access to pasture or an open air run. In Norway, it is possible to gain an exemption from access to pasture or open air runs for bulls, if it is considered that they pose a hazard. However, the respondent from France claimed that farmers are well aware of the benefits of keeping animals outdoors, and will try to make it work, even under difficult conditions. Even pigs are often finished outside in France.

Open-air runs (Art 8.3.1)

In Germany, only 40% of dairy herds, 77% of sow herds and 50% of finishing pig herds on organic farms had open-air runs (Hörning, 2000; Löser, 2004). However, in the Netherlands as well as in other North-Western European countries, outdoor runs are provided and may be partly covered. However, animals still find them unattractive because of wind and rain, and also because many such runs still do not allow the animal to express all its natural behaviours (e.g. rooting for pigs), and so these runs are still in breach of the general housing provisions. The Estonian partner referred to problems providing open-air runs with the old 'Soviet-time' buildings.

Outdoor runs for poultry (Art 8.4.5)

As with indoor housing, the respondents to the questionnaire on outside access for poultry observed that the standards for poultry are considered particularly challenging. A survey in 2004 in Germany found that a third of the poultry flocks would be in breach of the requirements of the regulation of not providing access to outdoor areas, at least after the derogation expires in 2010. Also in UK, many poultry farms appear to breach the regulation by not giving outdoor access. Equally problematic from a welfare point of view is when the birds do not use the outdoor area provided because it is unattractive to them, or having been

reared indoors they are not accustomed to use it, or the farmers regularly restrict access if the weather conditions are considered unsuitable. The UK respondents also reported some problems with pophole size and temperature maintenance in winter in some housing systems. The Danish response suggested that producers need more knowledge on how to use the outdoor areas. The Swedish partner emphasised that there might be problems with attracting wild animals to outdoor areas, particularly if feeding troughs and water are provided, but this is not a requirement of the regulation. Austria and the Netherlands reported that farmers fail to provide shelter to protect the birds in outdoor areas, as required in Art 8.4.5.

Another challenging area reported by the Swiss partner is the maintenance of the vegetation in the run, especially in the cases of large flocks with more than 1000 laying hens per flock. In UK, it is recommended that all outdoor areas have a rest period of at least two months per year, but poultry experts claim that this is not adequate to allow regrowth of vegetation and avoid parasite and pathogen accumulation. The Greek partner reported the buildup of a parasite burden on pasture as a challenge especially in poultry flocks.

In France, about 40% of conventional chicken production is also free-range and therefore much more experience with free range systems exists that organic farmers can use. The organic layers and table birds have access to the outdoor areas all year round. In contrast, there is a lack of knowledge about good outdoor areas for pigs and poultry in Finland. It was mentioned in relation to water fowl that they should have access to a stream, pond or lake whenever the weather conditions permit. According to the Austrian and Finnish partners, this causes problems with hygiene. In the Netherlands, farmed ducks are not allowed in open water anymore, so there is no possibility of rearing ducks organically in the Netherlands.

Disease treatments

Many aspects of the organic livestock standards emphasise the need for health promotion and prevention of disease. Restrictions on treatment also serve the purpose of encouraging measures and practices which improve animal health and welfare through prevention, but they also minimise the use of drugs and the risk of residues both in the product and in the environment. However, to avoid suffering, once an animal becomes sick or injured it must be treated (see Box 6).

Homoeopathy, phytotherapy and alternative treatment methods (Art 5.4 a)

Eleven partners from Austria, Poland, Latvia, Slovenia, Netherlands, Switzerland, UK, Denmark, Estonia, Bulgaria and Norway referred to a lack of knowledge and experience in using alternative treatment methods as a challenge for organic livestock producers. Many veterinarians were said to prefer using allopathic medicine and have very little knowledge of alternatives. From Norway it was reported that many farmers treat their own animals with alternative methods and have little contact with veterinarians. Farmers in France were also said to prefer non-chemical therapies, have considerable knowledge of such therapies and treat their own stock. A German study showed that 46% of farmers prefer homoeopathic treatment but only 10% of veterinarians are able to use it. In Italy, organic farmers would also like to use homeopathy and phytotherapy, but there is a lack of official acknowledgement about these methods even for humans.

Box 6. Summary of articles related to the treatment of diseased animals

5.3	<i>If an animal becomes sick or injured, it must be treated immediately, if necessary in isolation and in suitable housing</i>
5.4	<i>The use of veterinary medicinal products in organic farming shall comply with the following principles: (a) Phytotherapeutic, homeopathic products and trace elements and products shall be used in preference to chemically-synthesised allopathic veterinary medicinal products or antibiotics, provided that their therapeutic effect is effective for the species of animal and the condition for which the treatment is intended; (b) If the use of the above products should not prove, or is unlikely to be effective in combating illness or injury, and treatment is essential to avoid suffering or distress to the animal, chemically-synthesised allopathic veterinary medicinal products or antibiotics may be used under the responsibility of a veterinarian; (c) The use of chemically-synthesised allopathic veterinary medicinal products or antibiotics for preventive treatment is forbidden.</i>
5.5	<i>(a) the use of growth promoters (...) and hormones (...) is forbidden. Nevertheless, hormones may be administered for treatment. (b) veterinary treatments to animals, or treatments to buildings, equipment and facilities which are compulsory under national or Community legislation shall be authorised (...) when a disease has been recognized (...).</i>
5.6	<i>Whenever veterinary medicinal products are to be used the type of product must be recorded clearly (including an indication of the active pharmacological substances involved) together with details of the diagnosis; the posology; the method of administration; the duration of treatment, and the legal withdrawal time. This information is to be declared to the inspection authority or body before the livestock or livestock products are marketed as organically produced. Livestock treated must be clearly identified, individually in the case of large animals; individually or by batch, in the case of poultry and small animals.</i>
5.7	<i>The withdrawal period between the last administration of an allopathic veterinary medicinal product to an animal under normal conditions of use, and the production of organically produced foodstuffs from such animals, is to be twice the legal withdrawal period or, in a case in which this period is not specified, 48 hours.</i>
5.8	<i>With the exception of vaccinations, treatments for parasites and any compulsory eradication schemes established by Member States, where an animal or group of animals receive more than two or a maximum of three courses of treatments with chemically-synthesised allopathic veterinary medicinal products within one year (or more than one course of treatment if their productive life cycle is less than one year) the livestock concerned, or produce derived from the, may not be sold as being products produced in accordance with this Regulation, and the livestock must undergo the conversion periods laid down in Section 2 of this Annex, subject to agreement of the inspection authority or body.</i>
<i>Annex III, Specific Provision A2, No 3: Livestock records must be compiled in the form of a register and kept available to the inspection authorities or bodies at all times at the address of the holding (followed by details on which information the register should contain).</i>	

In Sweden, veterinarians are not allowed by law to use or recommend homeopathy or other alternative methods. In Denmark, severe problems with using homeopathy and phytotherapy were also reported as Danish organic standards require that, since 1994, remedies have to be

registered and no system for registration of homeopathic remedies in veterinary medicine exists. As a result, only a very few companies have registered homeopathic remedies as veterinary products, and these have been mainly complex preparations. Single remedies which are used for the treatment of humans are not registered for veterinary use. These problems now seem to have been resolved by a list of remedies which were on the market and in veterinary use before July 1994. In Hungary, only 14 homeopathic complex preparations and no single remedies are registered for animals. However, a three year postgraduate course in homeopathy for veterinarians is now well established and internationally accredited.

The Finnish, Greek and Dutch partners raised a question about obtaining reliable data about the efficacy of alternative methods. Partners from Greece and the Netherlands commented on the lack of reliable alternative therapies as a constraint to good animal health in organic herds. Comments from Latvia and Estonia drew attention to the fact that there are practically no available products on the market.

Use of veterinary medicines without the involvement of veterinarians (Art 5.4 b)

In the Netherlands, conventional farmers can use veterinary medicines without contacting a veterinarian, which is a breach of Art 5.4 of the regulation if used after conversion. In Denmark on the other hand, veterinarians legally have to be involved in all disease treatment cases. Exemptions exist for subsequent treatments of calves and pigs in cases where the veterinarian has made a diagnosis, and administered the first treatment. In these cases, the veterinarian can leave the medicine for subsequent treatments on the farm, provided there is clear identification of which animal is to be treated.

Use of chemically synthesised allopathic treatments for preventive purposes (Art 5.4 c)

The Austrian and Latvian partners stated that veterinarians tend to use allopathic remedies for both therapeutic and prophylactic purposes, and if a farmer claims to have a certain disease history in the farm then medicine will be prescribed to prevent a further clinical occurrence of the disease. In Latvia, organic farmers were reported to be unaware of the prohibition on the use of allopathic drugs for prophylactic purposes. The Italian response indicated that there are some difficulties in distinguishing between permitted and disallowed medicated conventional feed by certification bodies.

The Finnish respondent highlighted difficulties in distinguishing between treatment and prevention in the case of subclinical mastitis. The German and Dutch respondents observed that the prohibition in the use of dry cow therapy was challenging, as some forms of clinical mastitis have a better prognosis for cure if long-term antibiotics are used. The Dutch partner argued that the preventive use of dry-cow therapy may reduce the use of antibiotics in the following lactation. This would be an argument to allow its use, but other ways to prevent mastitis not involving non-permitted drugs should also be emphasised.

Several responses referred to the preventative use of anthelmintics. Although using anthelmintics prophylactically cannot be considered good organic practice, the exemption of anthelmintics under Article 5.8 appears to contradict to some extent this prohibition, resulting in some confusion as to whether anthelmintics can or cannot be used for prevention. It should be noted that Article 5.8 deals with the three treatment restriction rule, and does not as such classify anthelmintics as being allowed for preventive purposes. The Finnish respondent observed that there were difficulties in distinguishing between prevention and treatment if faecal egg counts were used for diagnosis but the animals did not appear to be ill. The Latvian respondent also indicated that there was some confusion as to whether the

prohibition of preventative use applied to deworming. Following manufacturers' instructions, routine anthelmintic treatment would be carried out every eight weeks or even more frequently, but doubling the normal withdrawal period would apply. In Norway, a distinction is made between anthelmintic treatment and other allopathic treatments, so that anthelmintic treatment can be carried out for preventive purposes. The British response pointed out that the rules in relation to the use of vaccines, which are always used for prevention, were seen as unclear, although Article 5.8 clearly states that the three treatment restriction rule does not apply to vaccines and anthelmintics.

Three allopathic treatments per production cycle (Art 5.8)

Several respondents raised concerns that operators find it difficult to define one course of treatment and this requirement is therefore likely to be misinterpreted. Respondents from Sweden, the Netherlands and Estonia observed that farmers find it difficult to comply with the limit of two or a maximum of three treatments, in particular in the cases of dairy cows, where in some cases more than two treatments might be needed; the Estonian response referred to horses and observed that they may receive up to six treatments per production cycle. The respondent from the Netherlands argued against the limitation to three treatments. If more treatments were needed the farmers have the following options, none of which are desirable: 1) no treatment, and the animal suffers, 2) treatment and loss of income because of loss of organic status at some level or 3) treatment with fraud.

For laying hens in the Netherlands this withdrawal time is not practised, and although farmers may report this to the egg trader, it is not certain whether such eggs are then kept apart. There is no withdrawal time for conventional poultry farmers who deworm and the argument is that twice zero or three times zero is still zero. The Greek respondent observed that there was a risk of farmers avoiding or delaying treatment of diseased animals, because they are afraid to lose their status as organic farmers.

National programmes of disease treatments (Art 5.5)

The Greek partner reported that compulsory treatments of animals or their buildings in relation to national or Community legislation is ignored in organic herds, probably because farmers do not know about this article. The Greek respondents highlighted the fact that farmers were used to using oestrus synchronisation and complained that they were not able to use this technique in organic systems. The Bulgarian report indicated that the use of hormones is tolerated on some organic farms.

Lack of data about treatments (Art 5.6)

The German respondent indicated a problem that is likely to occur in many more countries. In breach of Article 5.6, farmers are frequently not able to provide data of treatments that have been administered, which makes it impossible to evaluate whether disease treatments have worked efficiently.

Withdrawal periods after treatment (Art 5.7)

Only a very few respondents reported problems with withdrawal times after treatment. Denmark referred to problems with treating finishing pigs, because in many cases the normal age for slaughter would be reached before the withdrawal time is over, which means that the animal cannot be slaughtered as an organic animal. The response from Norway indicated some products with very long legal withdrawal periods were not used in organic herds. The Swiss report claimed that the 48 hour rule for medication that does not specify a withdrawal period is frequently violated. In Sweden, there is a longer withdrawal period for organic

wool, meat and hides (six months) and the use of avermectins is prohibited. In Italy, the use of anthelmintic drugs with a withdrawal period greater than ten days is restricted.

Other issues

Mutilations

The prohibition of systematic mutilations (Box 7) is mentioned as challenging in a number of countries. Dehorning is practised widely all over Europe, especially in loose housing systems both for dairy cattle and for some breeds of meat animals (reported for Limousines in France and Greece) so many certification bodies or national authorities appear to accept the case for a derogation on the grounds of safety. The partner from the Netherlands emphasised that to house horned cattle safely more space is needed. Another mutilation mentioned is tail docking in sheep (Austria, Greece, Estonia, Latvia, France, Italy, especially in the female sheep), and the Latvian partner argued that this is done for health reasons.

Many countries also make use of the exemption for traditional production practices in the case of castration. For example in Germany, Poland, Bulgaria and Denmark it is common practice to castrate male pigs at an early age. In France, it is common practice to castrate bull calves at an age of nine to ten months, and in UK ram lambs are castrated for finishing. Estonia also allows the castration of horses. Respondents also reported the incidence of teeth clipping in piglets and beak trimming practices from Germany and beak trimming in the UK. An unpublished survey reported that 90% of laying flocks were found to have trimmed beaks, which would indicate systematic beak trimming. This is probably a result of the absence of organic breeders, but nevertheless this is a violation of the Regulation. In the Netherlands as well, nearly all organic flocks were beaktrimmed, although this has been forbidden since 1 March 2006.

Box 7. Summary of articles related to mutilations

6.1.2 Operations such as attaching elastic bands to the tail of sheep, tail docking, cutting of teeth, trimming of beaks and dehorning must not be carried out systematically in organic farming. Some of these operations may, however, be authorised by the inspection authority or body, for reasons of safety (for example dehorning in young animals) or if they are intended to improve the health, welfare or hygiene of the livestock. Such operations must be carried out at the most appropriate age by qualified personnel and any suffering to the animals must be reduced to a minimum',

6.1.3 Physical castration is allowed in order to maintain the quality of products and traditional production practices (meat-type pigs, bullocks, capons, etc.)

Disinfectants, slaughter ages and biosecurity

The Latvian partner suggested some problems with disinfectants, where it was not clear on the basis of Annex II E whether all disinfectants for milking facilities were actually allowed. The Swedish partner had some unspecific concerns about the suitability of the components included in disinfectants. The Greek respondent reported different age requirements before slaughter in the national standards of at least 81 days for table birds and 182 days for pigs. The British partners called for better definitions and rules on bio-security, e.g. insisting on

closed farms and tighter rules governing the transport of animals between livestock farms, which could ensure the safety of animal production.

Education of farmers, animal health professionals and advisors

Many respondents pointed out that many farmers do not understand, are not aware of the purpose of, or have no experience with many specific provisions, for example the provision of shelter in outdoor areas. More education is also needed on innovative solutions to the special conditions of organic farming. Many practices are dependent on the farmer, his/her choices and perception e.g. of the weather, the needs of the animals, and how clean or hygienic the surroundings should be and the differences between farmers are considerable. This calls for training and education initiatives to raise awareness about the needs of animals. Initiatives to make more use of animal based parameters by advisors and in the certification process could also help to raise farmers' awareness for good standards of animal health and welfare.

Almost all respondents to the questionnaire commented on the fact that veterinarians in their country lack knowledge about organic farming, prevention practices and/or alternative ways of handling disease, e.g. the use of alternative treatments. Organic farmers often have to explain organic rules to veterinarians. There appears to be too much emphasis on treatment and not enough on putting future prevention strategies in place when incidences of disease occur. The Swiss response drew attention to the lack of educated veterinarians in relation to complementary therapy methods. The Greek partner emphasised the lack of knowledge on appropriate disease prevention strategies among animal health professionals, and lack of general support from veterinarians.

Discussion

Despite some differences in background and experience of the respondents, we are confident that the responses from 20 countries provide a good overview of what organic stakeholders consider to be problem areas and challenges in implementing articles of the EU regulation on organic livestock production that are likely to have an impact on achieving good animal health status. However, experience with organic livestock production and the standards differ, both between respondents and between countries. Both are likely to be important factors in explaining the observed differences in the perception of problem areas. For example, the low number of problems perceived by many new member states could well be a result of the short time these states have been involved with the regulations, rather than an absence of problems on farms in these countries. Nevertheless, all responses are valid in indicating that some stakeholders perceive the implementation of certain areas as problematic or challenging. In the following discussion and conclusion, we will refer to these challenges. The challenges identified by the respondents fall into three main categories, two of which are illustrated in Table 4.

- 1) Challenges in the implementation of the organic regulation at the farm level in the area of choice of breeds, feeding practices, treatment practices, housing and access to outdoor areas.
- 2) Challenges linked to climate and other differences between countries, mainly in the areas of buildings, access to pasture, feeding of cereals and availability of straw as bedding material.

- 3) Challenges resulting from the clarity of definitions, guidelines and specifications in the EU regulation.

In the following discussion, each type of challenge will be discussed briefly, focussing on those areas that appear particularly relevant to health prevention and drawing on examples of the responses where appropriate. This is followed by conclusions and recommendations for the revision, clarification and implementation of the EU regulation.

Challenges related to the current status, practices and ways of farming

A majority of the challenges mentioned are linked to current farming practices and routines on individual farms and/or national or regional traditions. These indicate a lack of awareness of the various practices that are part of disease prevention and have to be combined to achieve a high status of animal health. Many respondents also indicated a substantial lack of knowledge about the details of the organic regulation.

Choice of breeds and breeding

There is a lack of knowledge about breed performance under organic management conditions across all species which makes the choice of suitable breeds difficult. The regulation requires that breeds should be chosen that have vitality and are resistant to disease, but only in a very few countries and not for all species is information about health parameters part of the breeding programme. As recommended in the regulation and particularly in the Mediterranean countries and new member states in Central and Eastern Europe, indigenous or local breeds and strains are used. These are likely to have advantages from an animal health point of view, but there is very limited information about their performance under commercial conditions. For some breeds the numbers of animals are too small for breeding programmes. The implementation of this part of the EU legislation needs further support through research of breed performance and networking of organisations and breeding programmes.

Feeding practices

Challenges reported under this heading belong to farming practices as well as diversity. Practices reported that could be the reason for animal health problems would be an inability to formulate appropriate diets with home grown components, replacing maternal milk with permitted or not permitted milk replacer or early weaning, which compromises the immune status of the youngstock, failure to provide sufficient forage in the diet of herbivores or any in the diet of pigs and poultry. It is likely that in the majority of cases the farmers are not aware that the requirements of the regulation are aimed at promoting animal health and breaches occur out of ignorance rather than with malicious intent. Furthermore, many respondents described the difficulty in obtaining organic feedstuffs, e.g. in countries with a small number of organic livestock farmers and therefore a small market for organic products including feed for the animals.

Table 4. Type of challenges identified from the responses of 20 countries to the questionnaire on the implementation of the EU regulation on organic livestock production.

Group ¹	Country	Farm management practices										Diverse living conditions				
		Feed unavailable / expensive			Disease prevention and treatment			Tail docking		Exercise area & flock size		Shortage of land		Shortage of roughage or home-grown feed		Climatic conditions
		Farmers lack knowledge	Lack of breeds, breeding programme	Dairy / ruminants	Pigs and/or poultry	Lack of veterinary expertise	Treatment practices	Tail docking	Old buildings (floor, tied stall)	Poultry	Other species	Shortage of land	Shortage of roughage or home-grown feed	Lack of straw	Cold/hot	
1	SE		X		X	X	(X)		X						X	
1, 6	NO		X	X		X	(X)		X					X	X	
1	FI	X	X			X			X	X						
2	DK		X		X	X				X						
2, 6	UK		X		X	X	X	X		X			X			
2	DE	X	X		X	X	X		X	X						
2	NL	X	X	X		X	X		X	X	X					
3, 6	FR		X	X		X	X		X	X	X					
3, 6	GR	X	X	X		X	X	X	X	X					X	
3, 6	IT	X	X	X		X	X	X	X	X					X	
4, 6	AT	X	X	X		X	X	X	X	X					X	
4, 6	CH	X	X	X		X	X	X	X	X					X	
5, 6	SK					X	X		X	X					X	
5, 6	PL					X			X	X					X	
5, 6	SL				X	X			X	X					X	
5, 6	CZ		X	X		X			X	X	X				X	
5	LV		X	X		X			X	X						
5	EE	X	X	X		X	X		X	X						
5	HU	X	X	X		X	X		X	X						
7, 6	BUL	X	X	X	X	X			X	(X)					X	

¹1, North Scandinavia; 2, North-Western Europe with intensive agriculture; 3, Mediterranean area; 4, Alpine region; 5, New member countries; 6, Countries with mountain areas; 7, Candidate countries.

Housing conditions

Many respondents indicated breaches to the provision in the current regulation; some acknowledge the failure of farmers to provide housing conditions that meet the livestock's biological and ethological needs. Apart from reasons related to old housing stock, lack of space and tradition, and also a lack of knowledge of which systems would meet the requirements were mentioned. It is likely that many practices reported have a negative impact on animal health and welfare, such as lack of access to water or problems with ventilation. Several respondents claimed that the requirement to house calves in groups contradicts the principle of disease prevention for these animals.

Large scale poultry production units are reported to have adopted very few additional measures that encourage animals to exhibit their natural behaviour. Such measures would include providing litter to the animal for foraging behaviour, access to dust bathing facilities or shelter in the outdoor areas to encourage outdoor access. In UK for example, some experts recommended a further reduction of maximum flock size for poultry ahead of the time frame of the regulation but this was not adopted by the national authority. Problems with housing that are related to the climate are discussed below.

Access to pasture

Providing animals with access to pasture is a fundamental part of the principles of animal health promotion and disease prevention. In the majority of cases problems with access to pasture are related to the climate and soils, but some answers indicated problems with farmers implementing the required changes. Several respondents referred to the lack of space, suitable equipment or fencing that prevents animals' access to pasture. The respondent from France indicated that where farmers are aware of the benefits they make more effort in providing access, indicating that in many other countries the benefits of outdoor access are not yet fully understood. This is confirmed by several reports where herds do not have access to outdoor runs. Lack of knowledge in grazing management can increase the risk of parasitic infection and therefore clearly have a negative impact on animal health.

Disease treatments

The responses illustrate some contradictions and confusion with regard to health prevention and disease treatment issues. Some of the issues raised need to be resolved at regulatory level, for example the lack of consistency between directives concerning veterinary homoeopathy and the organic regulation. The interpretation of the organic regulation would be improved by issuing clear guidelines on how to distinguish between prevention and treatment, and a clear definition of what is meant by one course of treatment. Although alternative treatment is encouraged, the final choice of treatment should be left to the veterinarians in collaboration with the farmer.

Food safety issues

The responses indicate that existing knowledge about food safety risks is limited to the area of residues from treatment. Presentations in several SAFO workshops indicate that food safety is an area of growing importance but only very few studies have been carried out so far or are currently ongoing (such as www.qlif.org). More research is needed to identify the risks and how to control these risks in a number of organic livestock food chains from farm to fork.

Lack of knowledge in disease prevention and organic principles

Many respondents referred to the lack of knowledge and education in disease prevention as an organic principle, and in the use of alternative treatments by farmers, veterinarians and other professionals. In many countries there appears to be a lack of understanding by veterinarians and other professionals that organic livestock production poses different challenges and requires different practices to overcome problems compared with conventional production. Animal health professionals do not appear to support farmers in building up robust systems, which promote health and prevent diseases and in which diseases can be handled in alternative ways, as is required by the organic regulation. This emphasises the need to offer education and training not only to farmers but also to other health professionals and advisors, who should support farmers in improving their systems.

Challenges linked to diverse conditions between countries

The majority of respondents in this area referred to a specific climate and was related to feeding, buildings and access to pasture and outdoor runs. Respondents also referred to different traditions in housing and animal husbandry.

Outdoor access in difficult climatic situations

The regulation already provides a considerable amount of flexibility if there are climatic restrictions to outdoor access (Art. 8.3.1), so that it should be possible to find appropriate innovative solutions that correspond with general principles of regular exercise, and access to fresh air to encourage the natural immunological defence of the animal.

Lack of straw or certain feedstuffs in difficult climates

In remote grassland areas with high rainfall and/or low temperatures (e.g. mountain areas, parts of Scandinavia and Scotland) it is very difficult or impossible to grow cereals, so that home grown concentrate feed and straw for bedding is not available locally and would have to be transported at high cost. Traditional housing systems have slatted floors and /or use other materials for bedding. Greater flexibility in the choice of housing systems and bedding materials could be permitted, if other important principles of the regulation, such as the inclusion of sufficient forage in the diet and the provision of smooth floors were not violated and the resting areas were comfortable for the animals.

Lack of home market

Organic livestock production carries in most cases higher costs of production and products have to be sold at a higher price. Whether or not this price is achieved depends on the demand as well as the infrastructure for marketing and processing of organic livestock products. Official statistics on organic market development in all EU member states do not exist, but reports from the SAFO partners at the third workshop and from the one-day roadshows in five new member and candidate countries indicated that the domestic market for organic livestock products in a number of existing and many new EU member states is not well developed and farmers have problems selling their organic livestock products with a premium. This influences the farmers' ability and willingness to buy more expensive feedstuffs, or invest in new housing or outdoor access. It is outside the ability of SAFO to make recommendations on how this situation could be improved.

Traditional housing and farming methods, smallholdings and farms in urban areas

It appears that conversion to organic farming is difficult in some regions, because the traditional farming systems in the area are based on housing systems or husbandry practices which are not acceptable in organic farming, such as tethering of larger herds and lack of

outdoor access. The regulation allows for some flexibility to grant derogations (for example for indoor housing and tethering in buildings built before 1999 if the cattle housed in them have exercise twice a week). However, in the long term, alterations to existing or new more welfare friendly housing systems would be desirable.

A number of respondents also drew attention to the difficulties of converting under the current legislation that are faced by smallholders and farms in urban areas, because of the small numbers of livestock involved or because of restrictions on the environment in which they farm. It is not possible to make general recommendations, but examples of innovative solutions and best practise could and should be shared, e.g. in a future data base and among farmers, advisors and researchers in Europe.

Challenges related to understanding and interpretation of the EU regulation

Finally, the responses to the survey indicate a number of areas where the articles of the current regulation have been interpreted differently or where respondents have identified a lack of clarity in the formulations. Instances of this include:

- The definition of an ‘appropriate breed or strain’ (mentioned in Art. 5.1 with details in Art. 3.1),
- Interpretation of ‘natural milk’ (Art 4.5, Annex IIC) ,
- Interpretation of regular exercise (Annex IB, Art 5.1 and 6.1.5, although it is specified in Art. 6.1.6 for tethered cattle that they have to have access to pasture at least twice a week)
- Interpretation of the smallholder derogation for tethering (Art 6.1.6)
- The response from Norway indicated that farmers consider it a constraint that fishmeal is no longer permitted as a protein source for cattle (Annex IIC);
- Distinguishing between treatment and prevention in the case of subclinical conditions, and in the use of anthelmintics and vaccines. (Art 5.4 and Art 5.8)
- One course of a treatment (Art 5.8)

For several of these areas the current formulation in the regulation provides some clarification, for example the understanding of ‘appropriate breeds’ is provided in Annex I 3.1. However, this does not include a list of ‘appropriate’ breeds but rather sets out the criteria for choosing a breed. The difficulty in interpretation is probably also in deciding what is NOT an appropriate breed, when preference should be given to indigenous breeds and strains. Lists could only be drawn up locally and would limit the choice to the individual farmer. Similarly, Annex II C permits a range of milk products as permitted feed ingredients with the intention that these can be used to replace maternal milk if this is not available, although it is likely that these permitted ingredients would not have the same health benefits that maternal milk would have, and they can definitely not be classified as ‘natural’.

It therefore appears likely that some confusion arises because there is only limited knowledge about the underlying principles and about the detail of the provision in the standards. Guidelines for interpretation using good examples from a range of European countries would facilitate a better understanding.

Conclusions

This report is based on a brief survey of participants in the European concerted action network project ‘Sustaining Animal Health and Food Safety in Organic Farming’ about problems with the implementation of articles of the EU-regulation 2092/91 on organic production related to animal health and welfare. The responses to the questionnaire from 20 countries provide a good overview of areas that are considered to be particularly challenging, or where implementation appears to have considerable shortcomings insofar as breaches to regulation appear to be widespread. In our opinion the challenges identified fall into three categories, which require different actions.

Conclusions for challenges related to the current status, practices and ways of farming

Challenges related to the current practices and ways of farming mainly at farm level exist in relation to disease prevention, breeding, feeding, housing, outdoor access and disease treatment. Breaches of the EU Regulations seem to be as much related to knowledge about the detailed provision, lack of knowledge about or awareness of the underlying principles and experience with appropriate husbandry systems. These challenges can be overcome through dialogue between organic farmers, producer organisations, certification bodies, governments etc. at a national and international level, where experiences with innovative solutions and examples of best practice can be shared. Some regions need more knowledge; others have valuable experience to contribute. In some areas further research would help to support the development of husbandry systems in line with organic principles and regulations. We further suggest requiring mandatory animal health planning and regular monitoring of health plans and animal based parameters of health and welfare as part of the inspection and certification systems. The implementation of animal based parameters as part of the inspection, which would supplement existing input-based parameters, can be based on research as was reported at the second SAFO workshop in Witzenhausen (Hovi et al., 2004), and discussed further in the final SAFO workshop in 2006.

The perceived problems that were reported highlight the need for action to be taken in three areas:

- 1) There is a need to raise awareness and educate organic livestock farmers and all professionals that encouraging animal health and welfare and active disease prevention are fundamental principles of organic livestock farming. Improving knowledge by offering training to the whole profession should result in more support for farmers in developing robust systems and should enable local solutions to be found to local problems.
- 2) In some areas and regions the organic sector is not well developed and farmers, their advisors and other professionals have only limited experience with organic farming. In other regions, substantial experience exists. There is a need to share experiences and best practice in health management and disease prevention across the EU.
- 3) There is a need to raise awareness among certification bodies of animal health and welfare status and of breaches of standard requirements that have an impact on animal health and welfare.

Conclusions related to regional diversity

Challenges exist that are linked to the diversity between countries, such as differences in the climate and soils, farming traditions and the development of the organic livestock sector and domestic market. Greater flexibility to adapt the regulation to local conditions as envisaged in

the proposals for a new regulation on organic food would help to overcome most of these challenges.

In the proposal for a new Council Regulation on organic production and labelling of organic products published in December 2005 a new Article 16 allowing flexibility under certain conditions has been introduced. In the light of the challenges in organic livestock production arising from diversity this is a welcome move. The following conditions for flexibility are envisaged which appear to cover the areas where flexibility was needed that have been identified by SAFO:

‘Exceptions as referred to in paragraph 1 shall be kept to a minimum and may only be provided for in the following cases:

- (a) where they are necessary in order to enable farm units initiating organic production to become viable, in particular for holdings located in areas in the early stages of development of organic production (this covers the constraints associated with the lack of a domestic market),*
- (b) where they are necessary in order to ensure that organic production can be maintained on holdings confronted with climatic, geographical or structural constraints (this covers the constraints associated with climatic challenges),*
- (c) where it is necessary in order to ensure access to feed, seed and vegetative propagating material, live animals and other farm inputs, where such inputs are not commercially available in organic form (this covers the constraints associated with the lack of organic feed),*
- (d) where it is necessary in order to ensure access to ingredients of agricultural origin, where such ingredients are not commercially available in organic form,*
- (e) where they are necessary in order to solve specific problems related to the management of organic livestock ...etc. (this covers the constraints associated with traditional housing systems, lack of straw etc).*

Conclusions related to the formulation of the regulation

Challenges that can be met at EU level through improvement in the formulation of the regulations arise from a need for clearer definitions or guidelines for interpretation. Only a very few areas were identified where several respondents indicated ambiguity in the existing wording of the regulation. However, strengthening the animal health and welfare aspects of organic livestock farming, and the need for disease prevention and health planning in the regulation would also help to raise awareness among all professionals that deal with organic farms.

Recommendations

General recommendations to improve the current status, practices and ways of farming

- Training for farmers in conversion with particular emphasis on disease prevention and health planning should be offered by producer organisations.
- Training for veterinarians, other animal health professionals, advisory bodies and inspectors in order to build up the necessary capacity to support and inspect organic farms.
- Breeding programmes for all animal species involved in organic farming should be encouraged and supported at a national and EU level, including testing of breeds under organic conditions.

- Producing a collection of good examples illustrating the implementation of the EU regulation under diverse conditions. We suggest that practical solutions on how to meet the EU regulation is collected in one database, e.g. through EU network activities, and made available for farmers, advisors, researchers, certification bodies and other stakeholder organisations. This will enable people in various areas to envisage how the EU regulation might be implemented in various local and regional conditions.

Recommendation for changes of the EU regulation 2092/91

Changes to improve awareness about animal health and welfare and the need for prevention

- Highlight the need for preventive animal health management in the principles of organic livestock production.
- Include a requirement to include livestock enterprises in conversion plans that are submitted to the certification bodies in CR 20921/91.
- Include a requirement to develop an animal health and welfare plan for each organic farm keeping livestock in CR 2092/91. The plans should be developed by the farmers and submitted to the certification authorities and updated regularly. A template for animal health plans should be developed at national level and/or by the certification bodies. Assistance in drawing up the plan from veterinarians and advisors should be encouraged but not required.
- Include some animal-based parameters of health and welfare in the regular certification and inspection of organic farms. This should be specified at EU level, but adjusted to what is possible at a national level, e.g. availability of data.

Changes to improve the clarity of the formulation and interpretation

We suggest the following definitions of terms are used in the EU regulation in order to improve the clarity of wording in the text of the regulation

'One treatment course' (Annex IB, Art 5.8) should be clearly defined or reference made to relevant regulations concerning veterinary treatments. One relevant definition suggested at the fourth SAFO workshop^(Hovi et al., 2005) would be 'treatment of a disease and conditions following this disease within a time period of a maximum of 14 days'.

'Natural milk' (Annex IB, Art 4.5). It is our understanding that the term is defined by the list in Annex II part C, 2.1 which also includes milk powder, skimmed milk powder, buttermilk powder, whey, whey powder low in sugar, whey protein powder (extracted by physical treatment), casein powder and lactose powder. The health benefits of feeding natural milk are best achieved if the daily feeding of young mammals consists of maternal milk or milk from other female animals of the same species, which can be used either as raw or soured milk. Replacement products such as milk powder should be the exception, not the rule, to ensure good welfare in the case of death of the mother. Substitutes based on milk powder and other ingredients permitted in Annex II C 2.1 should only be allowed in emergencies.

Article 4.5 should be rephrased as follows: "The feeding of young mammals must be based on natural milk, preferably maternal milk *or milk of a female of the same species, which can be fed sour. Substitutes based on the ingredients permitted in Annex II C 2.1 should only be allowed in emergencies.*

Further suggestions regarding the formulation of rules about alternative treatments are described in the Fourth Report on standard development in the proceedings of the fourth SAFO workshop (Hovi et al., 2005), which is also available from the website www.safonetwork.org.

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Current and proposed EU legislation on organic livestock production, with a focus on animal health, welfare and food safety: a review

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Executive summary

The EU Regulation (EEC-No. 1804/1999 amending 2092/91) was introduced to harmonise the rules of organic livestock production across member states and to set a minimum standards. It follows a systems oriented approach to obtain a good status of animal health and food safety at farm level through various mainly indirect provisions, such as on feeding, husbandry and housing as well as disease prevention and treatment. Within the EU network ‘Sustaining animal health and food safety in organic farming’ (SAFO), the work package on standard development has considered how and to what extent the EU Regulation contributes to high animal health status and food safety in organic livestock production.

Challenges related to the diverse conditions of different regions of Europe were identified and discussed in relation to the issue of harmonising organic standards. Farm practises and research in organic livestock production is not as well developed as in crop production. Climate, soil, cropping systems, stocking density, market development and traditions and vary greatly across Europe, creating very different conditions for livestock production on organic farms. Also experiences, expectations and the perception of problems and challenges vary greatly, and in many countries animal health and welfare professionals to deal with problems are not available. This leads to differences in the implementation of organic livestock standards across the EU. The EU Regulation includes some terms such as ‘regular exercise’ or ‘appropriate breeds’ which are not well defined and appear to be interpreted differently.

A literature review shows that the current animal health situation in organic livestock production is not significantly different from that on conventional farms. The variation between farms is greater than the difference between farming systems. A high incidence of disease is often found to be associated with the farm management, resources limitations and the lack of training and education of farmers in disease prevention and animal health promotion. Veterinarians, consultants and inspectors also often lack training in organic principles, and conversion plans from conventional to organic farming seldom cover the livestock enterprises.

The EU Regulation provides a framework which should ensure that the living conditions of organic livestock are acceptable, and better than the minimum conditions required in

conventional livestock production. A high level of animal health and welfare and food safety is mainly ensured through the quality of the farm management, and the daily practices and routines. However, organic premiums are under similar pressure as conventional prices, and when faced with limited resources and conflicting aims farmers do not always give animal health the highest priority. Thus, there is a need for strategies which ensure that the goals of good animal health and food safety on organic farms can be achieved throughout the EU by measures that are adapted to local conditions.

Main recommendations

To ensure the highest possible animal health and welfare and food safety in organic livestock farming, the following strategies are recommended:

- Sustaining animal health should be stated as a key principle in the EU Regulation.
- Each organic livestock herd should produce an animal health plan, in which the current animal health status and animal health promotion strategies on the farm are described. The animal health plan should be updated at least once a year and should be assessed independently.
- There is a need to focus not only on inputs (such as feed, housing, and medication) but also on animal health outputs in organic livestock production in particular in inspection and certification.
- Certification bodies should establish a regular monitoring system of data describing the animal disease status. Producers failing to meet certain agreed threshold values in the longer term should face consequences (e.g. agreed improvement targets in the animal health plan, loss of product certification).

Introduction

Standards were an integral part of the development of organic agriculture from the very beginning. The first guidelines were developed by private associations to formalise an alternative production system to conventional production. Labelling for organic products started in 1954 with the bio-dynamic association '*Demeter*' in Germany. The starting point was the trademark legislation that required clear criteria to identify organically produced goods. Because the variety of production sites and the resultant product properties did not allow identification of certain product quality that could be described exactly and confirmed analytically, the production method itself became the criterion for identification. In the following decades the standards have been further developed at both a national and international level. The basic standards of the International Federation of Organic Farming Movements (IFOAM) are applied worldwide. The fundamental principle to describe the production method as the identifying criterion has been kept in all basic standards to the present day and has also been adopted in the EU-Regulation (EEC-2092/91) initially covering only organic crop production.

The EU-Regulation (EEC-1804/1999) was introduced to harmonise the rules of organic livestock production across member states and establish minimum standards across the EU. The main purposes of the standards are to protect consumers from unjustified claims and to avoid unfair competition between those who label their products as being organic. In addition, the Community rules of production, labelling and inspection are intended to facilitate market development by ensuring transparency at all stages of production and processing and inspection, thereby improving the credibility of such products in the eyes of the consumer.

The EU Regulation (EEC-No 1804/1999 amending 2092/91) follows a systems oriented approach to obtain a good status of animal health and food safety at the farm level. Some sections in Appendix IIB are directly related to the issue of animal health and food safety, but the majority have a more indirect effect. Box 1 summarises the sections of Annex II B of that are likely to have an impact on animal health and food safety (for details of the wording of the sections see Appendix). The EU-Regulation does not demand organic farmers meet a minimum level of animal health and food safety. It is, however, possible that there is an assumption by consumers that organic products represent higher standards of animal welfare, health and food safety than conventional products.

Box 8. Summary of sections of Annex II B of 2092/91 relevant to animal health

5.1-5.2	Disease prevention
5.3-5.8	Veterinary treatment
1.4	Access to pasturage
3.1	Origin of animals and choice of breeds
4	Feeding
4.1	Quality rather than maximising production
4.2-4.8	Availability of feedstuffs in quantity and quality
4.7, 4.11	Adequate formulation of diets
6	Husbandry practise
8	Free range areas and livestock housing

Within the SAFO network discussion in the working group on standard development have focussed on the question of how and to what degree the standards influence and contribute to the objective of a high animal health status, and what modifications to the standards might improve the current situation. The working group referred to a broad definition of health as a state of unrestricted physical, physiological and psychological well-being, rather than just the absence of disease and infirmity. Five standard development reports have been provided so far, reflecting the various debates about the benefits and disadvantages of the standards in relation to the issue of animal health at the each of the SAFO workshops. The standard working group in SAFO also carried out a survey of the implementation of standards among its members (see Vaarst et al., 2006). In this paper, the outcome of this debate is summarised and general conclusions are drawn.

Diversity within EU member states and candidate countries

Organic livestock production has undergone substantial changes over the last decade across EU member states, but it is still well behind organic crop production in terms of development and research. A range of parameters, such as climate, soil, cropping systems, stocking density, traditional husbandry and feeding practices vary considerably between farms across Europe, creating very different opportunities and needs in relation to resources and external inputs. Substantial differences between countries and regions also exist in the state of the economy and in the markets for organic livestock products, in terms of food prices, consumers' interests, access to processing facilities, and quality expectations. Hence, the role of livestock as an integrated part of the organic production system and its importance for future development differs considerably between countries and regions in both the EU and in candidate countries (Vaarst et al., 2006).

The work in SAFO suggests that the degree of implementation of the livestock standards varies between the established and new EU member states and the candidate countries. There

also appears to be considerable variation in the perception of animal health and welfare problems on organic farms among various stakeholders and in the expertise to deal with arising problems (Vaarst et al., 2006). Furthermore, the existing EU-Regulation refers to various terms such as ‘regular exercise’, or ‘appropriate breeds’ which are not well defined and leave room for different interpretations between EU member states.

Status of animal health in organic livestock production

Based on the literature, it can be concluded that at the present moment the health status of farm animals in both organic and conventional livestock production is similar (Hovi et al., 2003; Sundrum et al., 2004)¹. Levels of diseases are high, regardless of the production method. Differences between farms within each group are greater than differences between the organic and the conventional production method. The greatest source of variation in relation to disease occurrence is the farm management. A high prevalence of diseases within a farm system is primarily related to the absence of effective monitoring and feedback mechanisms. Limitations in the availability of labour and capital as well as structural problems often impede efforts to improve the animal health situation at the farm level.

Imbalanced diets caused by a restricted availability of high quality feed in organic farming are particularly relevant in the case of poultry and pig production. The risk of diseases and welfare problems because of suboptimal nutrient supply occurs mainly in the animal’s first weeks of life and can be handled by proper management (Sundrum et al., 2005a).

On the other hand, organic farming can offer clear advantages for animal health and welfare by setting limits to the intensification process of animal production, in particular by limiting growth rates. According to a working group commissioned by the European Commission (2000), animal welfare problems in poultry can be explained principally as the result of selection solely on the basis of growth rate and feed utilisation efficiency. The working group suggest that reduced nutrient supply may have a positive effect by reducing growth rates, thereby reducing the incidence of metabolic disorders and limb damage. Hence, the limitation in the availability of high protein feed in organic farming may be a suitable means of restricting intensification and related undesirable effects on animal health and welfare.

Because of the huge variation in the prevalence of diseases between organic farms, general claims that organic animal products derive from healthy animals or from animals that are healthier than those in conventional production cannot be justified, but the organic standards set a framework under which improvements could be achieved. Strategies for improvement need to target farm management as one of the most important sources of variation in the prevalence of disease between organic farms.

Constraints to enhance animal health on organic farms

Contributions to the SAFO workshops revealed a range of constraints to enhancing animal health and food safety on organic farms. They can be divided into internal (farm level) and external constraints and differ between the different animal species. A comprehensive overview is presented in the Proceedings of the Second SAFO Workshop (Hovi et al., 2004a). The most relevant constraints at the farm level are: management skills of the farmer, availability of capital, labour, nutrients and genotypes adapted to the specific farm conditions. The nature of these constraints varies considerably both between individual farms and between regions and countries. There appears to be a lack of training and education of farmers

¹ See also the Proceedings of the Second SAFO Workshop (Hovi et al., 2004) at www.safo-network.org

in disease prevention and animal health promotion on organic farms (Vaarst et al., 2006) and a lack of analysis of economic implications of disease levels under the conditions of organic management.

External constraints can be categorised broadly into market factors and institutional support. The market factors encompass those that enhance the effectiveness of marketing, that provide clear incentives to improve animal health and food safety, and secure an adequate price that covers the cost of production and yields some profit. Currently, the marketing of organic animal products is difficult in some regions because of imbalances between supply and demand, a lack of availability of certified abattoirs and dairies, and a poor flow of information between producers and processors. Prices for organic products face the same pressure of the market as conventional products and leave little room for investments in animal health. Lack of knowledge also appears to be an external constraint. Veterinarians, consultants and inspectors often lack basic knowledge of organic farming principles and practices and do not have sufficient training in preventive health management and alternative treatment options. The current charging system for veterinary support may also not be conducive to the provision of health promotion management (Hovi, 2003). It would therefore appear likely that animal health and food safety on organic farms could be enhanced if improved advisory support from veterinary practitioners was available. In addition, the introduction of an improved certification and quality management procedure (e.g. HACCP) in combination with improved traceability might further improve animal health and food safety.

Impact of the standards on animal health and food safety

There is general agreement among the various stakeholders that animal health plays a dominant role in organic livestock production, but opinions as to what constitutes an acceptable health status are likely to differ between consumers, farmers and also between veterinarians. There is no clear science based definition of the term ‘animal health’ (ranging from the absence of disease to broad definition of health as a state of unrestricted physical, physiological and psychological well-being) or clear criteria against which the state of animal health and food safety could be assessed satisfactorily.

The impact of the EU Regulation on animal health and food safety on organic farms is therefore difficult to either describe or assess. Data such as mortality or morbidity rates, the frequency of use of veterinary medicines, or the veterinary costs incurred would be helpful but do not cover all aspects of animal health and are only available for some regions or farm types (see Sundrum et al. 2004 for a review). They also give no indication of whether such incidences of disease occur ‘because of’, or ‘in spite of’, adherence to the EU Regulation. The development of disease is often a consequence of a range of sub-optimal conditions involving various factors.

It is difficult to assess whether any or which requirements in the organic production standards directly influence on animal health for several reasons.

- i. Farm animals are complex organisms which react individually to their environment. When their ability to cope with the environment is overtaxed, the occurrence of disease differs widely both in nature and severity.
- ii. Any organic farm is a complex system which is characterised not only by the production method but also by a large number of farm and management specific aspects.

- iii. Interactions between individual farm animals and the farm system are complex and site specific making it difficult to draw conclusions that can be generalised and transferred directly from one farm to the other.

Nevertheless, organic standards are likely to provide some benefits for the animal health status, as the following examples show. This list is not comprehensive and further examples are provided in the fourth report on standard development (Sundrum et al., 2005b).

- High demands concerning livestock housing conditions (e.g. space allowance in the indoor and outdoor area, litter bedding etc.) provide improved possibilities for the farm animals to execute their natural behaviour patterns and reduce the stocking density of the animals kept.
- Restrictions concerning the bringing in of farm animals from other units into an organic livestock production unit can minimise the risk of distributing pathogens between herds.
- Provisions concerning the use of veterinary medicinal products or antibiotics require a clear diagnosis. This can avoid the use of 'blind therapy' covering up underlying causes, prohibits non-specific and inadequate use of those drugs, and promotes the implementation of preventive measures.
- The restrictions concerning feeding and bought-in feedstuffs mean that the organic farming approach protects farm animals from the negative effects of intensive livestock production by setting limits on the intensification process. The risks of diseases and welfare problems in organic livestock production because of suboptimal nutrient supply are comparatively low and can be handled by proper management.

Although these benefits of the standards contribute to improved animal health, there are also several constraints that make it more difficult for farmers to achieve high animal health status, for example:

- Under the restrictions on the application of chemically synthesised allopathic medicinal products and antibiotics (a maximum of three treatments), as well as the double withdrawal period farmers might be more inclined to avoid or delay the application of those drugs, even when they are necessary.
- According to the EU Regulation, phyto-therapeutic and homeopathic products, trace elements and products listed in Part C of the Annex II should be used in preference to chemically synthesised allopathic veterinary medicinal products or antibiotics. This leads to expectations of the therapeutic effects of alternative medications, which is not fully supported by research evidence. There also appears to be a lack of knowledge about and experience with alternative treatments by those who treat the animals (be they farmers or veterinarians).
- Statements in the introduction and the double withdrawal period in the case of a treatment with chemically synthesised drugs are the most relevant paragraphs in the standards in relation to food safety. Their implementation should reduce the concentration of chemical residues of veterinary drugs in organic livestock products, but cannot guarantee ensure the total absence of such residues. In addition, food safety is not characterised just by the absence of residues but also by the other potential risks to human health (e.g. zoonoses) that are not covered by the standards.
- The restrictions concerning bought-in feedstuffs mean that farmers often have to increase their efforts to establish a balanced diet for their animals. A shortage of certain feedstuffs

(for example in high quality protein feed for pigs and poultry or energy sources for ruminants) can cause nutritional deficiency, with negative impacts on animal health. The section in the standards setting out species specific aspects does not cover feeding which is one of the most important factors influencing animal health.

- Across Europe, the climate, stocking density, nutrient supply and livestock systems vary considerably between farms, regions and countries. These differences in the availability of resources (litter, feedstuffs, breeds, outdoor access etc.) generate incompatibilities between the different regions in Europe. The standards provide general statements and declarations of intent but do not give detailed instructions on practises that to ensure good animal health. (For more details in relation to the different species see the second and fifth report on standard development).
- The EU Regulation does not demand a minimum level of animal health and food safety that has to be attained by all organic farms, and does not promise such a premium level to consumers. However, consumers may expect a better animal health and welfare status on organic farms.

Summing up, the standards set minimum requirements to establish and maintain a high animal health and welfare status on organic farms, but cannot guarantee that this framework is implemented in an optimal way. Optimal allocation of limited resources (labour, time, nutrients, investments etc.) varies from species to species, from farm to farm, and from country to country emphasising the need for skills to balance the various demands and strengthen preventative measures.

Animal health plans

The variation between regions in relation to housing conditions, availability of high quality feedstuffs and disease control means that precautionary health strategies need to be closely related to the farm specific situation. This demand could be comparatively easily integrated into the standards by requiring the implementation of an animal health plan designed to improve the efficiency of a range of preventive measures and reduce the level of incidence of disease as well as morbidity and mortality of farm animals.

In the UK, animal health plans are mandatory for organic farms. Experience shows that a good animal health plans should identify the availability of resources and structural problems that influence animal health situation at the farm, identify management strategies and set targets for reduction of the incidence of disease, and engage the farmer, the veterinarian and advisors in a constructive way. This requires special expertise and skills, which are rarely part of the curriculum in education programmes at either agricultural universities or veterinary schools. The experience in Britain and Germany has shown that certification bodies need to monitor the initial implementation of health plans as well as regular updates, so that the plans do not just become an additional bureaucratic requirement. For further details, see the fourth report on standard development (Sundrum et al., 2005b) and Löser and Measures (2006).

Conclusions

The development of organic livestock production into a sound, high-quality and cost-effective alternative to conventional production systems involves multiple factors that need to be carefully balanced to obtain optimal systems. Much knowledge has already been gained about factors important for animal health and welfare and food safety but the challenge lies in

ensuring that these are implemented on all farms and that introducing new management strategies to improve one does not conflict with others factors.

The EU Regulation provides a framework ensuring that the living conditions of organic livestock in many areas clearly exceed the legal minimum requirements and therefore has the potential to achieve a good status of animal health. Furthermore, the implementation of the standards is supervised by independent certifying authorities. To maintain credibility it is important that in complying with organic standards self-proclaimed quality claims and consumer expectations are met.

However, analysis of the literature shows that there is no general advantage of organic compared with conventional farming in relation to animal health. The variation in disease prevalence is greater within each rather than between organic and conventional production methods. The main health problems in organic livestock production are production diseases, primarily caused by multiple factors. Farm management appears to be an important factor for variation. The implementation of the framework of organic livestock farming as set by the current regulation, standards and inspection system appears to have limited effect on the incidence of diseases in farm animals.

The implementation of systems conferring a high animal health status often requires additional skills and the use of additional resources (labour, capital etc.). Limited availability of these resources and structural problems impede efforts to improve the status of animal health at farm level. When faced with conflicting aims and resource limitations farmers do not always give the highest priority to animal health and food safety. Hence, there is a need to develop and implement strategies to improve animal health and food safety in organic systems that target farm management and that respect the diversity of conditions in throughout the EU. The SAFO work package on 'standard development' has generated an overview of the problems with regard to animal health in organic livestock production. Changes to the standards alone will not overcome the identified challenges that are related to multiple factors, but some changes to the standards could help to improve the current situation. The SAFO working group provides the following general recommendations for modifications to the standards².

SAFO Recommendations for Standard Development

Focus on animal health

- The EU regulation should include a strong principle of animal health promotion in line with the definition that health is not just the absence of disease.
- The standards should require each organic livestock unit to develop an animal health plan, which identifies risk factors and outlines strategies to improve or maintain a good health status of all animals. Further details (e.g. a template for the health plan) should be worked out by the national authorities who are familiar with specific situations at different levels.
- There is a need to focus not only on livestock inputs (such as feed, housing, and medication) but also on animal health outputs in organic livestock standards and in particular in inspection and certification.

² Suggestions for modifications of the standards were also provided in the fourth report on standard development (Sundrum et al., 2005b).

- To support the implementation of standards at the farm level there is a need for training and education in preventative animal health management and health planning of farmers during conversion and of other professionals that work with organic livestock producers.
- The regular inspection and certification systems should include animal based indicators, such as animal disease data, such as mortality and morbidity rates, pathological findings in the carcasses of fattening animals, monthly individual somatic cell counts in milk production, and administration of disease treatments. Threshold values and should be established with the involvement of experts from each country. If producers fail to meet these threshold values, the animal health plan of the farm should set out agreed improvements, and if these are not met loss of organic certification can be the ultimate consequence.

Diversity and flexibility

- Considerable diversity exists in relation to organic livestock production in Europe (climate, tradition and market development) and there is a need for some flexibility to adapt livestock standards to the regional conditions.
- In terms of climate the following challenges were identified in some regions of Europe:
 - Extreme climate limiting access to outdoor areas,
 - Straw for bedding not readily available.

Appropriate solutions should be agreed between national and EU decision makers and could include: indoor exercise areas and/or smaller outdoor exercise areas.

- Other areas where strong regional differences exist are in traditional housing systems and the challenges this presents in meeting the standards' requirements, the development of the market for organic livestock, and availability of organic feedstuffs. Time limited derogations and extended conversion periods could be used to allow farms to cope with this situation.

Clarity of some terms in the existing regulations

- 'Natural milk' (4.5, Annex IIC): It should be stated that maternal milk is preferable to other fresh milk of the same species, which itself is preferable to the use of permitted products listed in Annex II. Clearer conditions under which Annex II ingredients can be used should be established.
- 'Regular exercise' in (5.1 and 6.1.5) should be replaced with 'daily exercise'
- 'Small holder derogation' for tethering (6.1.6) needs guidelines for its interpretation
- Treatment or prevention (5.4 and 5.8) of sub-clinical conditions, and the use of anthelmintics and vaccines needs to be clarified.
- 'One course of a treatment' (5.8) needs a clearer definition

Recommendations for specific articles in the EC Commission proposals for total revision of 2092/91

Article 3 (Objectives)

A statement should be included to the effect that organic production systems sustain and enhance the health of soils, plants, animals, humans and the environment.

A reference to the maintenance of genetic diversity should be made; the decline of genetic diversity is a problem for some species and within some breeds of livestock and may not necessarily be understood under the concept of bio-diversity.

Respect for animal health as well as welfare should be highlighted. Many, but not all, definitions of animal welfare include health as a prerequisite for welfare. From a food safety point of view respecting animal health is very important as healthy animals produce products with fewer health risks to the consumer.

Article 4 (Overall principles)

Maintaining animal health and the need for prevention and risk assessment should be included as fundamental to the overall principles.

Article 5 (Principles applicable to farming)

In addition to the proposed text, the principles applicable to farming should include a separate statement of the requirement to practise preventive health management for animals.

The land based character of organic livestock production that was included in the general principles of organic livestock production (Annex IB Section 1.4) is an important principle related to the whole farm and relates directly to several of the overall objectives state in Article 3:

- Minimising the impact on the environment
- Balance between crops and livestock
- Respect for animal welfare

We consider the land-base character to be of equal importance to some of the principles that are already stated, for example (d) recycling of crop and livestock by-products; (h) feed shall come from the unit; (e) local or regional balance.

Article 9: Livestock production rules

Unless stated in full in the principles for farming (see above), the rules related to disease prevention should be placed before the individual sections to emphasise the need for the integration of various practises for the purpose of maintaining animal health, welfare and food safety. The section on disease prevention should include a requirement for each organic farm to develop an animal health plan. An appropriate template for an animal health plan should become part of the implementation rules.

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Appendix: Standards associated with animal health and food safety

To obtain a good status of animal health and food safety at farm level, organic livestock production follows a systems oriented approach based on the EU-Regulation (EEC-No 2092/91). Some specific Regulations are directly related to the issue of animal health and food safety, but most have a more indirect effect. Those regulations that have an impact on animal health and food safety are listed here.

Regulations directly related to animal health and food safety

These include the regulations concerned with:

- The principle of disease prevention.
- The appropriate treatment of diseased animals
- Food safety issues

Disease prevention principle

5.1. *Disease prevention in organic livestock production shall be based on the following principles:*

- (a) the selection of appropriate breeds or strains of animals*
- (b) animal husbandry practices that encourage strong resistance to disease and the prevention of infections;*
- (c) high quality feed, regular exercise and access to pasturage, to encourage the natural immunological defence of the animal;*
- (d) appropriate density of livestock, thus avoiding overstocking and any resulting animal health problems.*

5.2. *Animal-health problems should be controlled mainly by prevention.*

Appropriate treatment of diseased animals

5.3. *If an animal becomes sick or injured, it must be treated immediately, if necessary in isolation, and in suitable housing.*

5.4. *The use of veterinary medicinal products in organic farming shall comply with the following principles:*

- (a) Phytotherapeutic, homeopathic products and trace elements and products shall be used in preference to chemically-synthesised allopathic veterinary*

medicinal products or antibiotics, provided that their therapeutic effect is effective for the species of animal and the condition for which the treatment is intended;

(b) If the use of the above products should not prove, or is unlikely to be effective in combating illness or injury, and treatment is essential to avoid suffering or distress to the animal, chemically-synthesised allopathic veterinary medicinal products or antibiotics may be used under the direction of a veterinarian;

(c) The use of chemically-synthesised allopathic veterinary medicinal products or antibiotics for preventive treatment is forbidden.

- 5.5. *(b) veterinary treatments to animals, or treatments to buildings, equipment and facilities which are compulsory under national or Community legislation shall be authorised (...) when a disease has been recognised (...).*

Food safety issues

The introduction to the Regulation it states that:

'Whereas the procedures laid down make possible, if this appears necessary, the addition to Annex I of more specific provisions aimed at avoiding the presence of certain residues of synthetic chemicals from sources other than agriculture (environmental contamination) in the products obtained by such production methods', and then goes on to elaborate that:

- 4.1.7. (...) *Antibiotics, coccidiostats, medical substances, growth promoters or any other substances intended to stimulate growth or production shall not be used in animal feeding.*
- 5.4. *(c) The use of chemically-synthesised allopathic veterinary medicinal products or antibiotics for preventive treatment is forbidden.*
- 5.5. *In addition to the above principles, the following rules apply:*
- (a) the use of substances to promote growth or production and the use of hormones or similar substances to control reproduction, or for other purposes, is prohibited. Hormones may be administered to an individual animal as a therapeutic veterinary treatment,*
- (b) veterinary treatments to animals, or treatments to buildings, equipment and facilities which are compulsory under national or Community legislation shall be authorised (...) when a disease has been recognised (...).*
- 5.7. *The withdrawal period is to be twice the legal withdrawal period or, in cases in which the period is not specified, 48 hours.*
- 5.8. *With the exception of vaccinations, treatments for parasites and any compulsory eradication schemes established by Member States, where an animal or group receive more than two or a maximum of three courses of treatments with chemically-synthesised allopathic veterinary medicinal products or antibiotics within one year (or more than one course of treatment if their productive life cycle is less than one year) the livestock concerned or produce derived from them, may not be sold as being products produced in accordance with this Regulation (...).*

Regulations indirectly related to animal health and food safety

Regulations that have an indirect effect on animal health and food safety include those regulations that govern:

- The selection of robust breeds and strains
- The provision of feedstuffs (quantity and quality), and the formulation of adequate diets

- The provision of appropriate housing conditions, which has specific and different aspects for mammals and poultry.
- Issues concerned with animal welfare.

Selection of robust breeds and strains

- 3.1. *In the choice of breeds account must be taken of the capacity of animals to adapt to local conditions; their vitality, and their resistance to disease. In addition, breeds and strains of animals shall be selected to avoid specific diseases or health problems associated with some breeds or strains used in intensive production (e.g. ...). Preference is to be given to indigenous breeds and strains.*
- 5.1. *(a) the selection of appropriate breeds or strains of animals as detailed in section 3;*

Provision of feedstuffs and formulation of adequate diets

- 4.1 *Feed is intended to ensure quality production rather than maximising production, while meeting the nutritional requirements of the livestock at various stages of their development. (...)*
- 4.2. *Livestock must be fed on organically produced feedstuffs.*
- 4.3. *Feed must come from the unit or (...), at least 50% of the feed shall come from the farm unit itself or be produced in cooperation with other organic farms,*
- 4.4. *30 % of the feed formula of rations on average may comprise in-conversion feedstuffs, if from the own holding: up to 60% in dry matter.*
- 4.5. *The feeding of young mammals must be based on natural milk, preferably maternal milk. All mammals must be fed on natural milk for a minimum period, depending on the species concerned: three months for bovines and equidae, 45 days for sheep and goats and 40 days for pigs.*
- 4.7. *Rearing systems for herbivores are to be based on maximum use of pasture according to the availability of pastures. At least 60% of the dry matter in daily rations is to consist of roughage, fresh or dried fodder, or silage. A reduction to 50% for animals in dairy production for a maximum period of three months in early lactation can be permitted.*
- 4.8. *Until 24 August 2005 the use of a limited proportion of conventional feedstuffs is authorised where it is not possible to obtain feed exclusively from organic production*
- 4.11. *Roughage, fresh or dried fodder, or silage must be added to the daily ration for pigs and poultry.*
- 5.1. *(c) The use of high quality feed, together with regular exercise and access to pasturage, having the effect of encouraging the natural immunological defence of the animal.*

Appropriate housing conditions

- 5.1. *(b) the application of animal husbandry practices appropriate to the requirements of each species, encouraging strong resistance to disease and the prevention of infections;*
(c) The use of high quality feed, together with regular exercise and access to pasture, having the effect of encouraging the natural immunological defence of the animal;

(d) ensuring an appropriate density of livestock, thus avoiding overstocking and any resulting animal health problems.

- 8.1.1. Housing conditions for livestock must meet the livestock's biological and ethological needs. The livestock must have easy access to feed and water. The building must permit natural ventilation and light to enter.*
- 8.1.2. Free-range, open-air exercise areas, or open-air runs must, if necessary, provide sufficient protection against rain, wind, sun and extreme temperatures, depending on the local weather conditions and the breed concerned.*
- 8.2.1. Housing for livestock will not be mandatory in areas with appropriate climatic conditions to enable animals to live outdoors.*
- 8.2.2. The stocking density in buildings shall provide for the comfort and well being of the animals.*
- 8.2.3. The minimum surface areas for indoor housing and outdoor exercise areas, and other for different species are laid down in Annex VIII.*
- 8.2.5. Housing, pens equipment and utensils must be properly cleaned and disinfected. Only the products listed in Part E of Annex II can be used for cleaning and disinfection (...).*

Specific aspects concerning the housing of mammals

- 8.3.1. (...) all mammals must have access to pasturage or an open-air exercise area or open air run, which may be partially covered, and they must be able to use those areas whenever (...) possible, unless there are Community or National requirements relating to specific animal health problems that prevent this. Herbivores must have access to pasture whenever conditions allow.*
- 8.3.2. In cases where herbivores have access to pasturage during the grazing period and where the winter-housing system gives freedom of movement to the animals, the obligation to provide open-air exercise areas (...) during the winter months may be waived.*
- 8.3.3. (...) bulls over one year old must have access to pasturage or an open-air exercise area or an open-air run.*
- 8.3.4. (...) the final fattening phase of cattle, pigs and sheep for meat production may take place indoors (...).*
- 8.3.5. Livestock housing must have smooth, not slippery floors. At least half of the floor area must be solid, that is, not slatted or of grid construction.*
- 8.3.6. The housing must be provided with a comfortable, clean and dry laying/ rest area of sufficient size, consisting of a solid construction which is not slatted. Ample dry space strewn with litter material must be provided in the rest area. The litter must comprise straw or other suitable natural material.*

Specific aspects concerning the housing conditions for poultry

- 8.4.1. Poultry must be reared in open-range conditions and cannot be kept in cages.*
- 8.4.2. Water fowl must have access to a stream, pond or lake whenever the weather conditions permit.*
- 8.4.3. Buildings for all poultry must meet the following minimum conditions: at least one third shall be solid, that is, not of slatted or of grid construction, and covered with a litter material such as straw, wood shavings, sand or turf;*
- 8.4.5. Poultry must have access to an open-air run whenever the weather conditions permit and, whenever possible, must have such access for at least one third of their life. These open-air runs must be mainly covered with vegetation, be provided with protective facilities and permit animals to have easy access to adequate numbers of drinking and feeding troughs.*

8.4.6. *For health reasons, buildings must be emptied of livestock between each batch of poultry reared. The buildings and fittings are to be cleaned and disinfected during this time. Between batches, runs must be left empty to allow vegetation to grow back, and for health reasons. These requirements shall not apply to small numbers of poultry in runs.*

Animal welfare issues

- 6.1.2. *Operations such as attaching elastic bands to the tail of sheep, tail docking, cutting of teeth, trimming of beaks and dehorning must not be carried out systematically in organic farming.*
- 6.1.3. *Physical castration is allowed in order to maintain the quality of products and traditional production practices (...) but only under conditions set out in the last sentence of 6.1.2.*
- 6.1.4. *Keeping livestock tethered is forbidden. Nevertheless, this practice can be authorised for individual animals if this is necessary for safety or welfare reasons, and that such tethering is only for a limited period of time.*
- 6.1.5. *(...) cattle can be tethered in buildings already existing before 24 August 2000, provided that regular exercise is provided and rearing takes place in line with animal welfare requirements (...) transitional period expiring on 31 December 2010.*
- 6.1.8. *Where livestock are reared in groups, the size of the group must be adequate. The keeping of livestock in conditions or on a diet, which may encourage anaemia, is prohibited.*
- 6.2.1. *Transport of livestock must be carried out so as to limit the stress suffered by the animals (...). Loading and unloading must be carried out with caution and without the use of any type of electrical stimulation to coerce the animals. The use of allopathic tranquillisers prior to and during transport is prohibited.*
- 8.2.2. *The stocking density in buildings shall provide for the comfort and well being of the animals (...). It shall also take account of the behavioural needs of the animals (...). The optimum density (...) provides sufficient space to stand naturally, lie down easily, turn around, groom themselves, assume all natural postures and make all natural movements such as stretching and wing flapping.*
- 8.3.7. *(...) The housing of calves in individual boxes is forbidden after the age of one week.*
- 8.3.8. *(...) sows must be kept in groups, except in the last stages of pregnancy and during the suckling period. Piglets may not be kept on flat decks or in piglet cages. Exercise areas must permit dunging and rooting by the animals.*
- 8.4.3. *Buildings for all poultry must meet (...) minimum conditions: (...) at least one third [of the floor area] shall be solid (...), they must have perches of a size and number commensurate with the size of the group and of the birds; they must have entry/ exit pop-holes of a size adequate for the birds.*
- 8.4.4. *In the case of laying hens natural light may be supplemented by artificial means to provide a maximum of 16 hours light per day with a continuous nocturnal rest period without artificial light of at least eight hours.*
- 8.4.5. *Poultry must have access to an open-air run whenever the weather conditions permit and, whenever possible, must have such access for at least one third of their life. These open-air runs must be mainly covered with vegetation, be provided with protective facilities and permit animals to have easy access to adequate numbers of drinking and feeding troughs.*

Description of the changes regarding livestock production according to the proposal for a new Council Regulation on Organic Production.

K.H. Boesen

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Introduction

The European Commission has reviewed its regulations regarding organic production of agricultural products and indications referring thereto on agricultural products and foodstuffs (Regulation 2092/91). This review was done by Unit FP5 and presented to the Council in December 2005. This paper summarises the current situation, and the likely changes that will occur in the regulations covering organic livestock production, with a strong reservation for the outcome of the current negotiations in Council.

Unit FP5: what is it and what does it do?

Unit FP5 consists of eight people; five policy officers, one assistant policy officer and two secretaries. It is responsible for the implementation of Council Regulation (EEC) Number 2092/91, which covers the organic production, processing and labelling of agricultural products. It manages questions and notifications that come from the European Parliament, Member States (MS) and the Public. FP5 supports research, and is responsible for CODEX and other international relations on this topic. Currently, it is heavily involved in the further development of the proposal for a new Council Regulation on organic production, and it is also responsible for the implementation of the European Action Plan (EAP) for organic food and farming.

Structure of the new Council Regulation

The new Council Regulation will define the objectives and principles for organic production, and will proscribe basic rules of organic production to ensure the legal basis for the implementing rules. It will state where flexibility in the implementation of these rules may be applied, and will legislate on the labelling of organic products, the controls that need to be applied on the certification of organic products, and what standards need to be applied for imports of organic products.

The primary objective of the Council Regulation with regard to organic livestock production is that high animal welfare standards are respected, which meet the animals' species-specific behavioural needs.

Principles of the Council Regulation

A key principle related to organic produce is that genetically modified organisms may not be used, with the exception of veterinary medicinal products. With regard to the Council Regulations, a second principle is that the rules of organic production should be adapted to local conditions (recognising the enormous diversity in climate and topography within the

EU), the stages of development of the animals, and the specific husbandry practices in use throughout the community, while maintaining a common concept of organic production.

Certain farming principles were borne in mind when constructing the Council Regulation, which are also fundamental to the practice of organic production. First among these are that farming should aim to produce high quality products rather than maximise production. The maintenance of plant and animal health should be based on preventative techniques, and this would include the selection of appropriate breeds and varieties. Livestock feed should come primarily from the unit where the animals are kept, or produced in co-operation with other organic farms in the same region. The highest level of animal welfare should be observed, and products of organic livestock production should come from animals that since birth or hatching, and throughout their lives, have been raised on organic units.

Rules for organic livestock production.

The details of the rules regarding organic livestock production are being debated in Council, but the key criteria for organic livestock production are that the personnel keeping livestock should possess the necessary knowledge and competence regarding the health and welfare needs of the animals. Disease outbreaks must be treated immediately to avoid suffering by the animal, and allopathic products (including antibiotics) may be used where necessary when the use of phytotherapeutic, homeopathic and other products is inappropriate. Milk and milk products from formerly non-organic dairy animals, which are now being managed according to organic principles, may be sold as organic products after a conversion period. Hexane and other organic solvents may not be used in feed processing.

The technical standards in 2092/91 are to be transposed without change, but they will be updated with Community legislation. Allowed substances will be updated with inputs from CODEX and research projects, and the positive lists will be reviewed (but only after advice from the Expert panel, which will be set up in line with the EAP).

Current 'legislation by derogation'

In the current regulation, there are a number of derogations and exceptions that occur so frequently that they are essentially changes to the common rule. Some of these 'common derogations' are authorised by the control bodies, some by member states and some are not authorised. Normally these derogations are set by MS (though the Standing Committee of Organic farming, SCOF), and the control bodies set the enforcement rules.

The new Council Regulation will introduce either a common set of rules or let SCOF set Community guidelines to MS by which they can set the implementing rules.

Amongst these 'common derogations' that will be made permanent rules by the new Council Regulation are: the grazing of non-organic animals on organic land, the use of common land, the introduction of non-organic animals for breeding and non-organic queens and swarms in beekeeping, the tethering of individual animals, certain mutilation practices, rules governing the conversion of non-organic land to organic land and the separation in time of feed production lines.

Others will become 'common but exceptional rules', derogations for limited periods on individual farms and would include: the tethering and space allowances for livestock in old

stables and on smallholdings, the use of non-organic beeswax, the proportion of fibre in herbivore diets, the use of non-organic feed, the reconversion of animals after treatment, and the restocking of farms and apiaries after catastrophic circumstances.

In such instances, there must be transparency between operators and control bodies. Common but exceptional rules that are currently authorised by MS cover catastrophic circumstances when the use of non-organic feed for livestock, or the use of artificial feeding of bees is allowed, (and judgment is needed on the extent of such a catastrophe). The Community Guidelines should then be used for MS to set local parameters with transparency between the operators and control bodies. This is also going to be the case when MS shall set parameters such as N levels from manure and fallow periods.

These requirements would also include the over-riding of requirements for outdoor access for livestock, and the use of allopathic treatments in the face of necessary statutory disease measures during an epizootic disease outbreak (such as avian influenza).

Simpler, clearer and more transparent Council Regulation

The objective of the new Council Regulation is to simplify, clarify and make more transparent the rules governing organic agriculture in the EU.

It should as a result produce a more unified definition of the standards that have been used in producing organic products, and the marketing of such produce will be facilitated by promoting the use of the common EU logo.

The logo will help to overcome the plethora of logos and labels that currently confuse and make the marketing of organic produce so expensive.

Acknowledgements

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Part B: Working Group reports

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Discussion on the current revision of the EU Regulation (2092/91) in relation to the issue of animal health and food safety

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Introduction

This discussion was chaired by Albert Sundrum, with Monique Bestman acting as rapporteur. It was attended by Kim Holm Boesen (representative of the EU Commission, Unit F5) and 22 SAFO participants from different EU member states. The presence of a representative of the EU Commission in this session provided the chance to ask specific questions in order to get further knowledge and explanation in relation to the revision of the current EU Regulation, for example ‘what issues are included and why are they in place’, whether things were (legally) possible and whether things belonged at the level of the EU Commission or were to be decided at the level of the EU Member States (MS). In the following report, the basic content of the discussion is summarised thematically.

Structure of the regulations

At the beginning of the discussion, a general overview of the structure of the current EU Regulation on organic farming (EEC 2092/91) was given, highlighting in particular the differences between the current Regulation 2092/91 and the proposals for a new Regulation, where the principles of organic farming are to be laid down in the main Council regulation and the content of the annexes are to be set in the implementing rules at Commission level. In the current Regulation there is a mixture of principles in the various articles encompassing different subjects ranging from definitions to administrative provisions, implementation and technical standards. The annexes contain both specifications in relation to the various articles, for example which feed additives are allowed or the minimum space allowance, but also some of the principles, e.g. animal welfare.

The discussion during the session focussed primarily on the formulations of the principles, especially because it was highlighted by Kim Holm Boesen that the revision of the EU Regulation does not intend to change the implementing rules of all annexes but that they have to be aligned with all other Community legislation. The references are outdated, so that they need to be updated. For example the reference to the calf directive has changed. This detailed work still remains to be done. The Commission wants very few details to be included in the upcoming Council Regulation and has transferred the work with the implementing rules to the new committee, whatever form this will have. Also from a legal point of view it is not wise to have every detail of the implementing rules integrated into the Council Regulation.

Degree of details in the EU Regulation

There was some discussion about how detailed the Regulation should be. It was emphasised by Kim Holm Boesen that according to the EU Commission the regulation could not and should not provide all the details, but rather should provide a legal framework with which the MS could set the specific details in line with the objectives and principles of organic farming

(this allows for the obvious difference, for example, between dairy production in Sweden and on Malta). The Commission also wants to keep some flexibility in the regulations instead of writing a complete book. One of the main motivations for a revision of the current EU Regulation is the fact that the high number of derogations gives rise to a number of problems, amongst others in relation to free trade, access to the internal market, unfair competition, and the integrity of organic farming. Therefore, from the perspective of the EU Commission, the current situation of ‘legislation by derogations’ needs to be improved.

Variety in implementation between the different member states

Currently, a huge variety exists between countries in relation to the implementation of the EU Regulations. Furthermore, in all countries several logos exist for making their organic products recognisable, and this works against the objective of free trade and an internal market. This is the reason why, for example, cheese that has been produced in Greece organically cannot easily be sold as organic in other countries in the EU. From the perspective of the EU Commission, free trade is of high priority and should not be aggravated by different organic standards. A solution could be the greater promotion of the common European logo for organic products, but some countries (especially those importing organic products) seem to be against the promotion of the common EU logo.

Output oriented standards

When asked whether output oriented standards, which are favoured by the SAFO members, can be implemented in the EU Regulation, Kim Holm Boesen explained that he himself and, as far as it can be assessed, also the EU Commission is not arguing against output oriented standards. He also highlighted that the provision about qualified stock personnel is an attempt to introduce this thinking into the proposed new Regulation. However he stated that the main place for output oriented standards should be in the implementation rules at Commission level, rather than in the Council Regulation. After all, conditions vary to a large degree between the different EU MS. Every MS is free to organise a more output oriented control system. Kim Holm Boesen argued that from his point of view it is a misunderstanding that the principle of output control has to be in the revised Council Regulation for it to be used. Already under the existing 2092/91 Regulation there is an opportunity for MS to include output oriented standards in their requirements. Denmark has gone some way in this direction by a welfare control on poultry. It is also already set in the control on feed processing (see Annex III, E of 2092/91). However, MS do not, on the whole, make use of this opportunity. From the UK the example was given of the Soil Association (controlling body) using protocols for assessing animal health and welfare on organic farms. These protocols were made together with experts from Bristol University. Kim Holm Boesen mentioned that the EU-project ‘Welfare Quality’ was a group working together to make protocols for the assessment of health and welfare by controlling bodies. From the audience it was mentioned that a revised EU Regulation is no guarantee of a high level of animal health and welfare. Again the example of the Soil Association was mentioned as an attempt to guarantee this. If SAFO really wants the obligation of health plans included in the standards, SAFO and/or the MS should request it at the EU Commission. When asked whether it is possible for the EU Commission to force MS to control outputs, Kim Holm Boesen explained that this is, in principle, impossible because the EU Commission is the ‘servant’ of the MS and therefore cannot go beyond what MS want.

Conclusion

Although the EU Commission is not able to force MS to control the output of the organic production process, such an approach does fit within the framework of both the existing and the proposed new EU Regulation. However, the Commission cannot propose any more new issues for inclusion at this stage of the negotiating process in Council. The Commission's task now is only to respond to issues addressed by MS and the Presidency. New initiatives can only come from MS and the Presidency. Therefore, if SAFO has a recommendation, it should seek co-operation with a MS to bring the issue to the negotiating table in Council.

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Certification and inspection of organic livestock production.

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Participants

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Introduction

The working group considered the role of animal health planning and animal welfare assessment in organic certification and the potential for these tools to have a positive influence on animal health and welfare in organic farming. The extent to which the different approaches used might lead to a consistent and effective approach to ensuring animal health and welfare both within and between countries was also considered.

Current situation

The current situation in countries represented in the working group was discussed.

Italy

Animal health plans are used, but they are often no more than a list of medicines used. There are a large number of certification bodies, at least 20, and it is not clear if there is any formal system of welfare assessment, nor whether there is any mechanism for ensuring consistency between organisations.

Romania

The cost of certification is a major barrier to small producers, especially those in remote areas, gaining access to formal organic status. Structural difficulties due to the immature organic sector (e.g. lack of organic feed and poor livestock housing) also mean poor uptake to formal organic certification. It was felt that if mechanisms and funding were to be made available to help overcome these barriers, then organic certification would have a positive role in improving animal health and welfare.

Latvia

The supervision of animal health and welfare by the state is already at a high level. It was reported that all farms receive regular inspections and there was not yet any evidence to suggest that additional organic requirements would have a significant impact on the already high standards of care.

Poland

Six certification bodies are responsible for approximately 7000 farms. Most of these farms have livestock. It was reported that the pasture based systems used on organic farms are generally associated with good animal welfare; however, buildings are often not readily compatible with the organic requirements and may be the main problem for good welfare. No index or measure of animal welfare is generally used by certification bodies.

United Kingdom

Animal health plans are well established and are required by UK national organic standards. The quality and relevance of the plans is often variable. A tool for the assessment of animal welfare, the Bristol Welfare Assessment Programme (BWAP) has been developed by Bristol University (Leeb et al., 2004). Most of the major certification bodies have been involved in the development of this tool and the extent to which it is to be used is now being considered. The Soil Association is using some aspects of BWAP as a part of their inspection and certification system.

Slovenia

The Austrian Animal Needs Index (ANI) system is used to back up the inspector's impression of the farm.

Discussion

The group acknowledged that the different stages of development of organic farming across the European Union now presents serious challenges in ensuring an even approach to certification. Differences may arise from both the experience of certification bodies and the different types of farms. It was agreed that poor farm facilities and infrastructure often limit the ability of producers to meet organic standards and it was felt that these limitations are as important as technical ability.

It was agreed that in theory animal health planning and welfare assessment would offer positive benefits, but several constraints and areas for further work were identified.

For health planning it was noted that the extra bureaucracy for the producer and the Certification Body may add to costs and thereby act as a barrier to certification. This problem is likely to be greatest in countries where farm size is small. The problem of lack of accurate record keeping by producers to demonstrate the implementation and effectiveness of the plan was also highlighted. In some cases doubt was expressed as to the ability of Certification Bodies to have sufficient expertise to allow for proper monitoring of animal health plans.

For animal welfare assessment there was some discussion of the merits of systems based on inputs e.g. ANI, as opposed to those that look at animal based parameters e.g. BWAP. It was agreed that any systems should be readily understood by the farmer and that it would be an advantage if the producer could use the technique to undertake ongoing evaluation of their management.

Reference

Leeb, C., Whay, H.R. Hovi, M. and Main, D.C.J. (2004). Incorporation of existing animal welfare assessment techniques into organic certification and farming. In: Hovi, M., Sundrum, A. and Padel, S. (eds). *Organic livestock farming: potential and limitations of husbandry practice to secure animal health and welfare and food quality*. Proceedings of the 2nd SAFO Workshop, 25-27 March 2004, Witzenhausen, Germany. University of Reading, Reading, UK, p169-175.

Summary of discussion: Advisory provision related to animal health, food, quality and safety.

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Scene setting and current situation

In Germany the poor profitability of organic farming and the high cost of advice create major obstacles to the use of advisers and adoption of technologies. There are over 200 organic advisers in Germany, but many are experiencing difficulty in getting advisory work, particularly development work and management planning. The question that this working group addressed was: to what extent are farmers developing their businesses without reference to advisers and researchers?

Advisory needs

The range of farmers' needs requires a similar breadth of advisory expertise to assist the farmers' business development. Specialist advice to help with technical, financial, farming systems, marketing, management and conversion issues mean that the farmer needs to be able to draw on a range of specialist advisers. The best solution for farmers to meet their disparate advisory needs is an integration of advice by cooperation between advisors with different expertise (feeding, housing systems, climate, veterinary, hygiene management, etc.) This requires communication between experts but may also require the development of methods, instruments and tools (both hard and software) and changes in the training methods used in consultancy work to enable staff to change habits as situations develop, produce win-win situations (personal success of staff), and create environments where there is transparency of facts and evaluation methods (eg. of financial and physical performances).

Advisory objectives and process

The advisor(s) should aim to accompany the farmer in the process of growing his farm (or unit within his farm) from a sub-optimal situation to a profitable and satisfying enterprise. The process through which an advisor and farmer may go is from management plan, through implementing change and then to assessment. A view expressed from Germany was that after two to five years the need for advice ended, while others thought that ongoing technical and management advice is essential.

There was some discussion about the role of long term (conversion or management) plans, which some strongly advocated, while there was a view from Denmark that, rather than a series of three to five year plans, it is better to start small and evolve. In that case the role of ongoing advice becomes even more important. In practice many farmers are using their advisers for form filling and not the technical and management issues which also need to be addressed.

The organic standards do not in themselves ensure acceptable standards of animal health and welfare; ongoing advice and information and the provision of tools to enable farms to develop and meet high standards is essential.

Reducing the cost of advice

In Scotland some limited subsidised advice is available (and is needed), but increasingly schemes are moving to systems of farmers having to pay for advice. There is some free advice for conversion, but this is less than in England and Wales. Group advice and training provides an opportunity for sharing costs but is not always appropriate. There is potential for processors to pay for farm advice to ensure that all suppliers reach a minimum specified standard or quality, and is an opportunity to support the further technical development and financial performance of those farms.

Advisory services

Group advice

The provision of advice through groups can in some instances be both effective and cheaper for the farmer. In France, group advisory schemes with vets working with a group of 100 farmers, all focused on quality milk for cheese, is functioning well. In this case the farmer pays with a little support from the processor.

In the UK there has been good experience of ongoing farming systems and management advice, which has been facilitated by the development of a Farm Sustainability Audit based on IFOAM principles. It was generally agreed that there is an important role for benchmarking, be this of financial, technical and/or sustainability parameters, tied in with ongoing advice to monitor results and review.

Animal health plans

There was considerable discussion about the relevance and role of Health Plans (HP) in organic management and certification. One view (Germany) was that Health Plans should not be an obligation in the EU-Standards because they become just a tick-box exercise and therefore a waste of time. However, the certification body should assess the status of animal welfare and health (and request improvements if necessary). In extreme cases, poor animal health and welfare should lead to loss of product certification (for example, see the SAFO Recommendations point 3 for the revision of the EU-Regulation on livestock production). The management plan, which is surely necessary, should be implemented by training and education of the farmers and ensured by the pressure of the market partners (farmers' associations, trade and processors).

All of the participants were of the view that Health Plans do have a useful role in identifying health issues for the farm, setting targets for reduction in the incidence of disease, identifying agreed management strategies and engaging the farmer, their vet and advisers in a constructive way. The main function of a Health Plan is to assist in the management of the animals. While it is considered by some that the Plan should be required for Organic Certification the main role of the Inspector is to ensure that the Plan is in place and is being implemented, no more than that.

In Switzerland the problem of engaging farmers and vets in Health Plans is being overcome by developing a tool which demonstrates the benefits. However, they do experience problems of vets not being familiar with organic standards or alternative treatments. In the UK there is considerable experience of compulsory implementation of Animal Health Plans within organic certification standards and the development of Health Plan templates and the successful operation of the Plans with farmers and vets. (Health Plans are also becoming commonplace in conventional dairy herds now). While historically farmers have wanted quick solutions to specific problems, they are now changing their perspective to embrace herd health planning.

It is not clear whether or how Health Plans should be introduced in the EU Regulations and Standards for use in individual countries.

One view is that a conventional vet does not need any special organic expertise, however others made the point that knowledge of organic standards and principles is essential and that conventional vets need organic training, although we can't expect them to necessarily be organic or homeopathic specialists. The role of the vet needs to change towards a management input and away from the use of medicines, from which they have historically made a significant amount of their income in many countries.

Summary

What do participants expect of SAFO in future?

1. There is potential to raise awareness about issues through a strategy of 'fashions' e.g. there is currently a 'fashion' for 'cow comfort' in Germany. How can organic farming create a 'fashion' for animal welfare?
2. Find new ways of communicating:
 - up, down and sideways
 - look at positive experiences of different methods of communication
 - development and use of farmer groups
3. Build up a database of good advisory systems and techniques.
4. Development, implementation and use of Animal Health Plans. These should involve farmers, vets and advisers, primarily as an advisory/management tool. It will also need monitoring/benchmarking procedures. There was some difference of opinion as to whether Health Plans should be compulsory in organic standards.
5. Market partners should establish quality management programmes including quality rules and procedures. Farmers and market partners should finance the quality management programme together.

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Part C:
**Animal health and welfare in organic inspection and
certifying using animal based parameters**

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Animal health and welfare in organic inspection and certification - Which parameters could be used?

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Why assess animal health and welfare?

Animal welfare is one of the key principles of organic farming (Pye-Smith, 2003), laid down in national and European organic standards. Definitions of resources and inputs to an organic livestock farm constitute an important basis for achieving high levels of animal welfare, but the influence of management practices are not accounted for. This is evidenced by several scientific studies (e.g. Huxley et al, 2003) and experience from practice, which show considerable potential for increasing animal health and welfare on organic farms.

What is health and welfare?

A variety of definitions for animal health and welfare are commonly used (e.g. Dawkins, 1980, Rollin, 1992). Most of them include the following three concepts, either on their own or in a combination:

- Physical welfare – “being fit” ;
- Mental welfare – “being happy” ; and
- Naturalness – “being able to perform normal behaviour” without impaired “integrity”.

Which parameters could potentially be used to assess animal welfare?

In order for a parameter to be a “good” welfare assessment tool for inclusion in the certification process on farms, the following requirements have to be met:

- **Validity** or meaningfulness of the parameter:
 - to the WELFARE of the animal (covering aspects of all three animal welfare concepts);
 - to organic standards and animal welfare legislation; and
 - optimally to the farmer as well.
- **Feasibility/Practicability** for use on farm and during a half day visit, i.e. can assessment be carried out within a reasonable time, without expensive techniques and without handling of animals?
- **Reliability**, amount of random error, including repeatability (agreement between and within observers).
- **Identification and quantification of problems** allowing monitoring and improvement of the situation.

Inputs – Resource based parameters

These parameters include the assessment of the stockman (training, skills, knowledge, attitude), the environment (housing, nutrition) and the breeding policy of the farmer. In different combinations, they can lead to a very different outcome. For instance, for different breeds of cows within one housing system with the same stockman, these indicators can show very different levels of welfare.

Resource based parameters should be used for resources where the importance of the resource for the animal is shown but that are difficult to assess using animal based parameters (e.g. access to water). Resource based parameters are also useful if the presence of a resource is known definitely to lead to certain behaviours (e.g. presence of calving box allows calving in an adequate environment).

In Austria, an index scoring system (Animal Needs Index/TGI, Bartussek, 1999) is an existing additional requirement of organic certification bodies. This index includes various housing and stockmanship measures, which produce an overall score.

Box 9. Evaluation of input or resource based indicators for use in organic certification

	Validity	Reliability	Practicality
Inputs	☹ Animal: little judgment of actual WELFARE outcome possible ☹ Many parameters not validated ☹ Farmer: poor acceptance if relevance is unclear ☺ Standards: Sometimes directly related ☺ Quick improvement possible	☹ Good Repeatability ☹ Training necessary	☹ Mostly quick and practical assessment

Outcomes – animal based parameters (group and individual assessment)

Quantitative animal based parameters

These include physical condition (e.g. skin lesions and body condition scores (BCS)), behaviour (e.g. rising restrictions, playing) and records (e.g. mastitis treatment records), which can be quantified during a farm visit. Some of these measures, such as BCS and lameness scores, are already well validated and commonly used in research projects (Whay et al, 2002, 2003, Main et al, 2003) and in (organic) certification systems, such as the Bristol Welfare Assurance system (www.vetschool.bris.ac.uk/animalwelfare; Leeb et al., 2004). More parameters are currently being investigated in depth within the European project Welfare Quality (Blokhuis et al, 2003).

Qualitative assessment of animals

This method was developed by Wemelsfelder (2000) and describes “how an animal does what it does”. It integrates different behavioural parameters, using terms such as ‘calm’, ‘relaxed’, ‘active’ and ‘playful’. For example a goat kid walking around with wide pupils, bleating and with erect ears and tail would be described as “anxious” or “tense”. There is significant agreement between different groups of people (vets, farmers, animal welfare scientists) independent from the background of the animal. This method can be used for parameters that are difficult to quantify but are too important to omit (the “mood” of the herd, activity levels, glossiness of coat).

Box 10. Evaluation of animal based indicators for use in organic certification

	Validity	Reliability	Practicality
Outcomes quantitative	☺ Animal: Better judgement of outcome ☺ Integrating parameter (housing, nutrition, management,..) ☺ Some well validated parameters available, but more work necessary ☺ Farmer: Good acceptance ☺ Monitoring/benchmarking possible ☺ Standards: relevant	☺ Training of assessors and careful definition of parameters necessary ☺ Repeatability is currently being investigated	☺ Time consuming, but possible ☺ Difficult for very extensively kept animals
Outcomes-qualitative	☺ Animal: Good judgment of outcome ☺ Integrating parameter (what is meant here?) ☺ More validation work under way ☺ Farmer: Good acceptance ☹ Standards: Difficult to use for certification?	☺ Repeatability has been shown ☺ On farm repeatability under way	☺ Quick and practical assessment

Farm Management

Finally, it is important to consider and assess the “farm management” to differentiate between farms with or without appropriate responses to problems. For instance, an animal based assessment could lead to a poor welfare score where an infectious disease, such as PDNS, affects the finishing pigs. However, a farm with appropriate management i.e. preventative and treatment protocols, (reviewed) records and descriptions of implementation of strategies should still be acceptable for compliance. But how can we assess “farm management”?

In general “Farm management” consists of:

- **Decision making function** of evaluating and choosing between alternative strategies. This is mostly done by the farm manager and includes planning for prevention and treatment of diseases (herd health plans) and use of records. Such planning should be regularly reviewed. These plans and records can be assessed for completeness. Their effectiveness needs to be reviewed using animal based parameters.
- **Application of routine technical skills** to the implementation of whatever strategies have been chosen. This is the “day to day operation” or “muddy boot” part of stockmanship, which can be assessed using mostly animal based parameters but also includes some inputs (cleanliness of drinking facilities).

Box 3. Evaluation of farm management indicators for use in organic certification

	Validity	Reliability	Practicality
Management	☺ Animal: systematic examination of normal day to day operation of the farm, includes inputs and outcomes ☺ Farmer: reflects handling of problems and prevention Standards: integral procedure to audit standards	☺ Experienced assessor necessary ☺ So far no repeatability work carried out- difficult to do	☹ Time consuming ☺ Structured management tool beneficial (Health and welfare plan, records) but often not available

Conclusion

Assessing farms for compliance with welfare criteria is a critical component of certification schemes that provide assurances to consumers. Welfare standards within certification schemes or legislation usually attempt to specify what resources should be provided to the animal. However, so far provision of resources alone has not ensured the desired outcome of improved animal welfare. Therefore, additional, more animal specific parameters need to be developed and included in the certification system. In order for assessment of the health and welfare situation of a farm to be as valid as possible during a half day visit, it is necessary to use a variety of parameters, including resource based and both qualitative and quantitative animal based parameters. It is important also to audit the farm management as thoroughly as possible to assess, not just the situation at the day of visit, but ensure that strategies to maintain and improve health and welfare over a longer period of time are in place. A formal health and welfare plan of any format is always beneficial but currently not a requirement in many countries. Finally, it is crucial to be aware of the ongoing work on validation of parameters and to be careful when judging a farm using our present limited knowledge.

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Adopting the Bristol Protocol in the certification of organic farms

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Introduction

I am an inspector manager for Soil Association Certification Ltd (SACL), a wholly owned company belonging to the Soil Association (SA). The Soil Association is a membership charity based in the UK which promotes organic food and farming. It lobbies the UK government, provides advice, training and education to farmers, industry and consumers and runs its own campaigns, for example on local food, genetic modification and antibiotic usage. It has also developed its own organic standards, which incorporate the EU regulation and the U.K. compendium and have additional standards, for example to provide for better animal welfare.

SA policy department and other organic supporters claim that organic production provides for higher animal welfare. However the Advertising Standards Agency in UK has challenged some companies' claims that their organic meat comes from animals that have been kept in better welfare conditions as 'there is no scientific evidence to support this'.

Organic standards should provide for good animal welfare, for example they provide for more space per animal or bird in housing, they are kept or have access to outdoors as much as possible and require that the integrity of the animal is maintained where possible. The only way to know that these standards and other factors on the farm such as the stockmanship is providing good welfare is to assess the animals themselves, to see whether they are in a state of good welfare. We at SACL want to be able to inspect organic farms to assess the welfare of animals and birds kept in organic systems. Our aim at SACL is to be able to:

- Measure and report animal welfare in a consistent way
- Demonstrate that welfare is good or improving on organic farms
- Collect data to show that organic farming provides as good or better welfare than conventional farming

Previous experience

We have always had a specific question in our inspection report for each class of livestock, which asked the inspector to make general comments on the welfare of the stock. This covered their behaviour, the quality of the handling facilities and housing, access to risk areas, evidence of bullying, injury and mutilations, and number of treatments administered. The replies were often brief and subjective.

The Bristol Welfare Assessment Programme (BWAP)

To improve the quality of our inspectors' assessment of animal welfare, we undertook to train all our inspectors in the techniques developed by Bristol University Veterinary School in their Bristol Welfare Assessment Programme (BWAP). Presently there are protocols for cattle (beef and dairy), laying birds and pigs.

Over the last 3 years, all our inspectors and key office staff have attended a general introductory day. Senior inspectors and Certification staff then attended a full week's course in the whole programme. Then in the last 12 months, all inspectors have been trained in the cattle and poultry assessment techniques and are now practising and developing their consistency out in the field. There is shortly to be a two day consolidation course for the cattle techniques and we are developing protocols for table (meat) birds.

To help train our inspectors and also improve our veterinary expertise within the Certification department we have gone into partnership with Bristol University to work with one of their residency veterinarians, Madeleine Neale. Madeleine is working with SACL for about four days a week for three years to:

- Train our inspectors in welfare assessment techniques by
 - Running initial training days
 - Accompanying inspectors on inspections to monitor their assessment technique and reporting
 - Attend potentially difficult inspections with the inspector
- Help certification staff to review health plans. A requirement of the UK compendium and SA standards is that all licensees should develop and work to a health plan for each type of livestock on their farm.
- Talk to farm vets on a vet to vet basis when they ring the office or query compliance requirements.
- By the end of her three years she will hopefully have run some organic awareness training for farm vets too.

How we are implementing welfare assessment

We are still building up our experience and practice within the inspectorate, but we are currently using the welfare assessment techniques in the following ways:

- Using full welfare assessments within follow up inspections when concerns over welfare have been raised at annual inspections or as a result of complaints
- All inspectors are reporting on five specific criteria for cattle and poultry, recording the number of cases seen. This is to help them get used to using the protocols. These criteria include:
 - For cattle - lameness, swollen hocks, lesions, coughing and thin/fat cows
 - For laying hens – abnormal beaks, feather pecking, comb colour, normal behaviour and respiratory problems
- Key inspectors are undergoing further training to ensure consistency and repeatability

In the future

We will continue to use welfare assessment in follow up inspections and where concerns have been raised. We will carry out regular welfare assessments on all our poultry and dairy farms, and collect data to monitor developments over time and compare with other assessments that may be done.

Potential problems

We need to ensure consistency over our 40 inspectors, some of whom are inspecting almost daily while others do only 60 inspections per year, of which only half might be on livestock farms. Adding a full welfare assessment to a regular organic inspection increases the inspection time by about two hours. Some inspections already last a day, so we need to consider both the farmer and the inspector when trying to do these inspections.

The extra inspection time plus the training (both initial and ongoing to maintain consistency) for our inspectors means that there is an extra cost to the inspectorate. Who will pay for this, the licensee? How do we deal with the results? At what level do we require intervention and issue non-compliance? Do farmers need advice and training on how to address welfare issues? We are still in the early stages of developing this approach but feel that it is the way to go to use outcomes as a means of assessing whether organic standards are being implemented and are effective. Further information on the Bristol Welfare Programme and its protocols can be found on the University website at www.vetschool.bris.ac.uk/animalwelfare.

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Improving animal health and welfare in Germany

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Introduction

Animal health and welfare in organic farming has been a topic of interest in Germany for some years. When organic farming began, little attention was paid to animal welfare. The EU standards for animal housing in organic agriculture provide the basis for assuring animal welfare, but they do not assure animal health. Improved animal health does not automatically result from following the EU standards. This, and the fact that the improvement of animal welfare in conventional farming is in some cases better than that in organic farming, is alarming. There is an increasing risk of animal health problems with the increased intensity of organic farming and farmers are becoming better educated at recognising animal health problems. Problems have to be solved not only for animal welfare reasons, but also to ensure the high quality of organic meat, milk and eggs.

Status of animal health and welfare in German organic systems

In 2003, the former German government promoted organic agriculture with the aim of reaching 20% of market share within ten years. The 'Federal Program for Organic Farming in Germany' was founded, in which projects were sponsored to promote organic production, the collecting and processing of organic products, the marketing and consumption of organic products and the technology of organic farming. The outcome of these projects was the creation of information material and informal networks for organic farming as well as lessons and workshops to educate farmers, advisors and veterinarians in good organic agricultural practices.

The evaluation of the animal health and welfare situation in German organic husbandry within the 'Federal Program' was disillusioning. Organic farms were found to have similar problems to conventional farms. A high rate of morbidity and mortality in animals was observed and many farmers were not even aware they had a problem with animal welfare in their herd. The reasons for the problems often lay in unsuitable housing facilities or a lack of manpower, both of which are difficult to improve when margins are low.

The main deficiencies in animal health differ between species. In cattle, the main problems are lameness, mastitis, scours and parasite infection. Pigs mainly show scours, lung disease and parasite infection, whereas in poultry featherpecking is severe.

Use of measures of animal health to improve health and welfare on organic farms

A recent project launched by the Federal Program for Organic Farming is named 'Implementing animal health and welfare in organic husbandry'. After the status of animal health in organic farming was evaluated in former projects, this new project was set up to improve the situation. The University of Kassel, Witzenhausen, the University of Goettingen, the Institute of Organic Farming, Trenthorst and the Bioland^o organisation of organic farming are all involved in the project. The project was divided by species into dairy cows, breeding

sows and laying hens. Each section is managed by one of the participating research institutes. In the first stage, checklists were developed and tested to evaluate the situation of animal welfare on farms. For each species, 20 to 30 organic farms were selected and evaluated. When the evaluation has been analysed, animal health plans for each farm will be developed to help them improve their animal welfare situation.

Besides taking part in this project, Bioland^o, the largest organic farming organisation in Germany, is implementing a “Manual of Animal Health Management” in its member farms. The certification body is provided with a short checklist (Fig. 1) in which the controllers can note, subjectively, perceived disorders in animal welfare on the farms during their routine visit.

Figure 1. Example of the Bioland checklist used by the certification body during a farm inspection.

Betrieb, Adresse oder Firmenstempel	Checkliste Tierhaltung		Bioland ÖKOLOGISCHER LANDBAU
	Datum:		
Tierhaltung <u>ohne</u> offensichtliche Auffälligkeiten			<input type="checkbox"/>
Tierhaltung <u>mit</u> offensichtlichen Auffälligkeiten und notwendigem Verbesserungsbedarf			<input type="checkbox"/>
Bereiche	Tierart / Stall	Bemerkung	
Äußeri. Eindruck Tiere (Ernährungszustand, Haar-, Federkleid)			
Technopathien, Verletzungen			
Lahmheiten, Defor- mationen, Eingriffe (Schwänze, Schnäbel, Zähne)			
Parasiten, Tierverluste, Umgang kranke/tote Tiere			
Stalleinrichtung (Aufstallung, Tränken, Abkalbebereich, Sitzstangen)			
Stallklima,			

The checklists are submitted to Bioland^o for analysis. If there are larger problems than those described in the list, an advisor from Bioland^o visits the farm to try and resolve these issues. The manual itself is a tool to help advisors and farmers detect problems with animal welfare on the farm. It gives benchmarks for critical parameters of animal health and welfare. The measures are divided into the categories (Figure 2): ‘best’ (marked in green on the form), ‘normal’ (marked in yellow) and ‘unacceptable’ (marked in red).

Figure 2. Example of the ‘Manual of Animal Health Management’ produced by Bioland°, illustrating the benchmarking of different parameters.

<p>Handbuch Tiergesundheitsmanagement</p>				
1. Rinder				
Prüfpunkte Rinder	Einstufung des Ergebnisses			
	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%; background-color: #92d050; text-align: center; padding: 5px;">Grün</td> <td style="width: 33%; background-color: #ffff00; text-align: center; padding: 5px;">Gelb</td> <td style="width: 33%; background-color: #ff8c00; text-align: center; padding: 5px;">Rot <i>(dringender Verbesserungbedarf)</i></td> </tr> </table>	Grün	Gelb	Rot <i>(dringender Verbesserungbedarf)</i>
Grün	Gelb	Rot <i>(dringender Verbesserungbedarf)</i>		

1.1 Äußerlicher Eindruck Tiere:

Der äußerliche Eindruck der Rinder liefert einen ersten Hinweis auf den Gesundheitszustand der Tiere. Um einen Überblick über alle Rinder zu bekommen, sollten für jeden Unterpunkt wenigstens 30 % der Tiere beurteilt werden.

Haarkleid	<input type="checkbox"/> < 5 % struppig, verschmutzt	<input type="checkbox"/> 5 - 20 % struppig, verschmutzt	<input type="checkbox"/> > 20 % struppig, verschmutzt
------------------	--	---	---

Der Zustand des Haarkleides der Rinder spiegelt den Gesundheitszustand der Tiere wieder. Das gesunde Rind hat ein glattes und glänzendes Fell, hierbei liegen die Haare dicht am Körper an und das Fell hat einen glänzenden Schimmer. Wenn in der Grundration nur Graskonserven und kein Silomais gefüttert werden, schimmert das Fell weniger. Teilweise wird der Schimmer auch durch Staub aus dem Futter oder der Einstreu gemindert. Bei Rindern, die im Herbst von der Weide kommen, ist ein längeres Fell normal. Ansonsten deutet ein längeres, struppiges Fell bei Jungtieren oft auf Mangelernährung oder Parasitenbefall hin.

Conclusion

This benchmarking procedure enables farmers to see how their animals perform compared with other units in terms of their health and welfare. It also illustrates what needs to be done to improve deficits. The manual makes suggestions for improvement and provides solutions to common problems. The aim of the manual is to educate farmers and to raise their interest in animal welfare issues.

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Problems with health and welfare inspection in Latvia

E. Selegovska

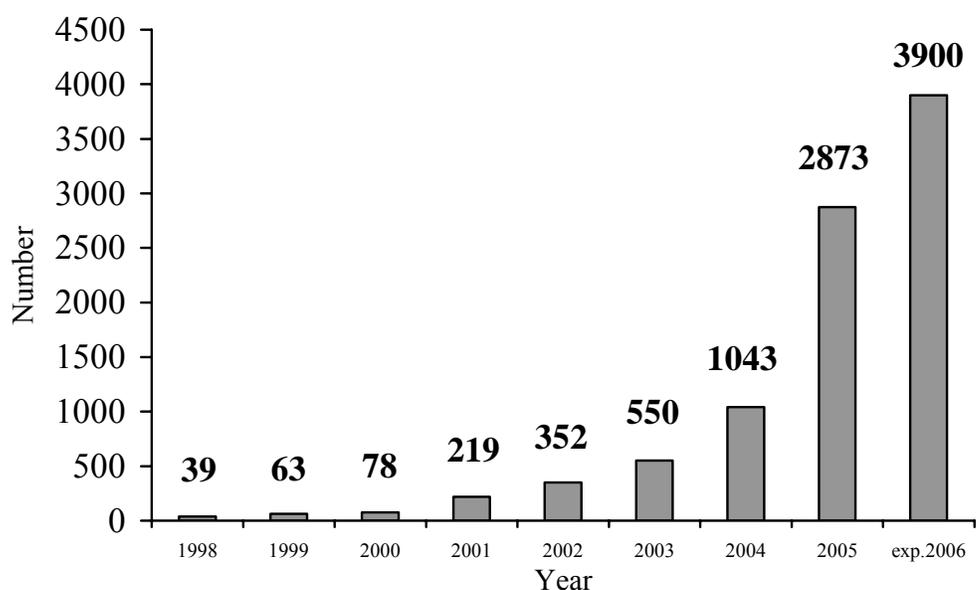
Faculty of Agriculture, Latvia University of Agriculture, Liela Street 2, LV 3001, Jelgava, Latvia

The control of organic farming systems in Latvia is conducted by two organizations, both of which can issue organic certificates:

Vides Kvalitate (Environment Quality) in Salaspils
Certification & Testing Centre in Priekuli

There has been a rapid increase in the last two years in both the number of registered organic farmers and in the area of registered organic land. This substantial increase was a result of increases in subsidy payments for conversion. During 2005 the numbers of organic agricultural enterprises under the supervision of the Food and Veterinary Service increased by 175% compared with 2004 (Figure 1), and certified organic land area is now approximately 5% of total agricultural land.

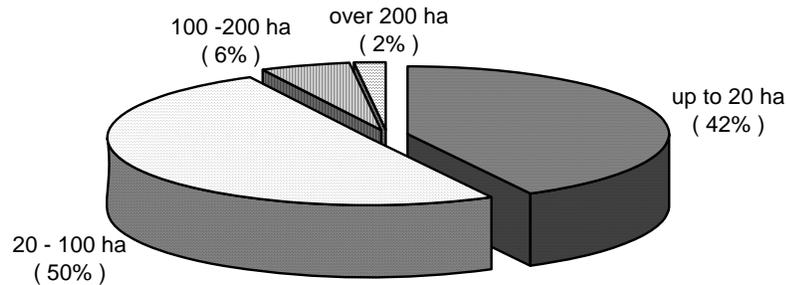
Figure 1. Numbers of certified organic and in-conversion farms in Latvia.



The accelerated expansion of organic agricultural enterprises was favoured by payments by the EU for certified agricultural land area. Enterprises beginning to manage their farm on an organic basis, or those in a transitional stage to organic farming, received payments of €139/ha, while certified organic enterprises receive €82/ha. The processing of organic products on farms was stimulated by state support (in the form of subsidies), which began in 2004.

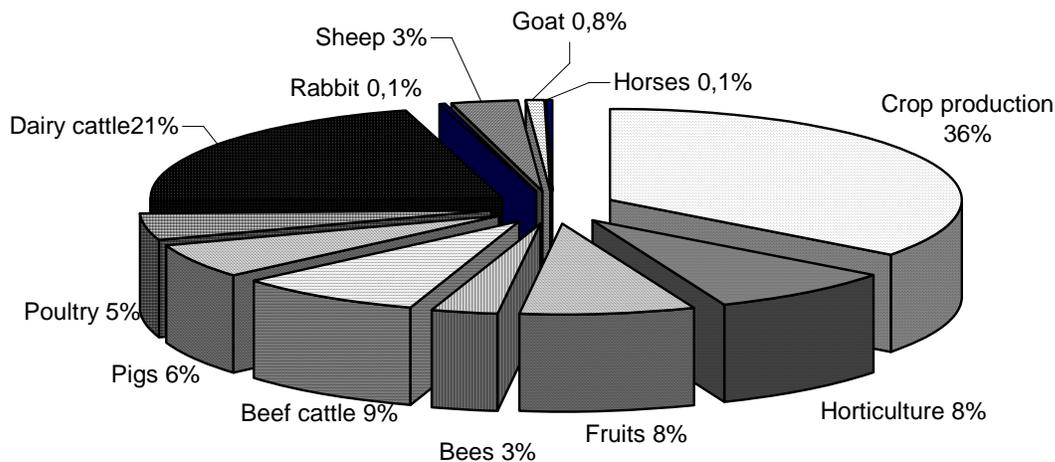
Figure 2 illustrates the size distribution of organic enterprises in Latvia and confirms that the majority of organic farms are relatively small, the average size of farm being 37 ha.

Figure 2. Structure of organic agricultural enterprises in Latvia by agricultural land area.



These farms are mostly mixed with different species of animals, vegetables, crops and other enterprises, and this results in insufficient volume of organic products, poor assortment and limited processing of products. Figure 3 illustrates the mix of certified organic enterprises in Latvia, and shows that crop and milk production account for most organic activity.

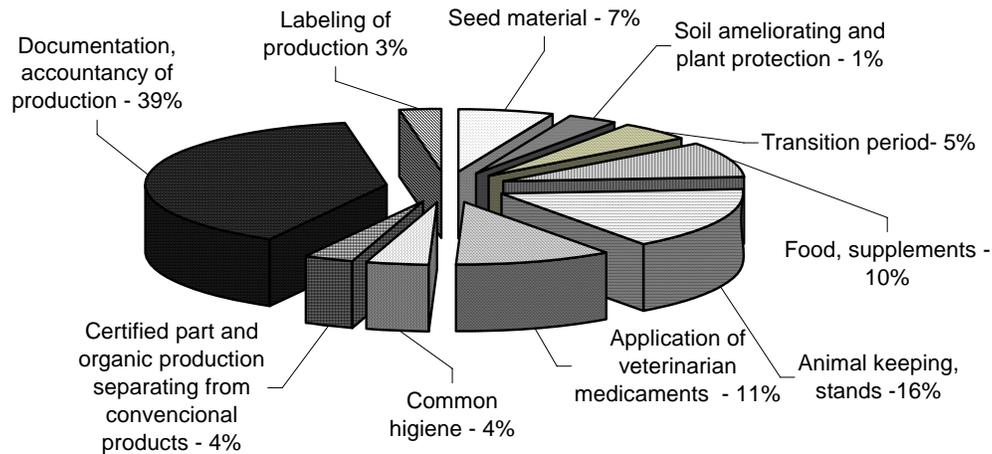
Figure 3. Types of organic farms in Latvia



The competent authority for inspecting and certifying organic farm production in Latvia is the Food and Veterinary Service, which controls the work of both the certification body and farmers. Every year inspectors visit and inspect organic enterprises, by the authority of the control institutions. Records of non-compliance on organic farms show that the main

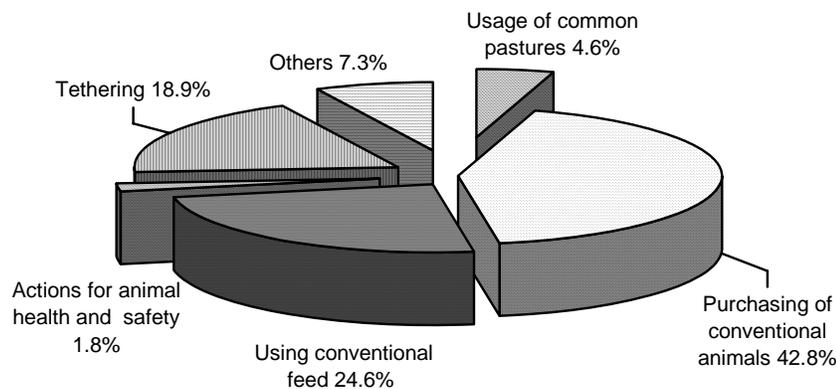
problems are associated with accounting documentation (39%), animal husbandry (16%) and providing animals with conventional feeds and veterinary treatments (Figure 4). Most of the incidences of non-compliance were associated with organic livestock production.

Figure 4. Incidences of non-compliance in organic production enterprises in Latvia.



In 2005, the control institutions issued about 1000 permissions for derogations from EU requirements as detailed in the Council Regulations associated with organic production. The reasons for these derogations are illustrated in Figure 5. Organic enterprises that would like to expand or renew their herd find that purchasing animals from other organic farms is not feasible. The main constraint associated with organic livestock production is therefore the need to obtain animals bred under conventional conditions.

Figure 5. Permissions issued by control institutions in Latvia (2005) for exceptions from requirements in Regulation (EC) No. 2092/91.



One of the main non-compliances in animal husbandry is the keeping of livestock in tie-up stall houses. When analysing this deviation, we came to the conclusion that in Latvia animals were predominantly housed in stall houses, which were built before the year 2000 and were fitted for small numbers of animals (from two to five). There is also a problem with forage supply as in Latvia there is neither a company nor enterprise which produces or offers animal feed, feed mixtures or feed components for organic agricultural enterprises. In 2005, 24% of permissions granted were to enable enterprises to purchase conventionally grown forage. In summary, the main problems in organic livestock farming in Latvia are:

- Insufficient organic forage, so that conventional forage is used to feed animals. The EU Regulation stipulates that 5% of ruminant feed may be conventional feed for ruminants, but farmers generally need a greater proportion than this to meet their animals' nutrient requirements.
- There are no feed mills in Latvia that can produce organic animal feed, and feed from other EU countries is very expensive. It seems likely that in Latvia the number of organic livestock enterprises will decrease.
- Many farms had unsuitable buildings (old Soviet buildings), which are dark, small and have poor ventilation. In small farms, many different species of livestock are kept together.
- Many animals are tethered, both when at pasture and when housed. These enterprises receive permission to keep their animals tethered year after year, but farmers need to prepare conversion plans for free-range systems.
- There are many instances of non-compliance with documentation because of poor farm record keeping. Very often in farms, especially small farms, farmers do not keep accounts and documentation of purchases of veterinary medicines, feeds and feed additives.
- It is difficult to source organic replacement stock, especially in pig and poultry production. Farmers have no information of where it is possible to purchase organic livestock.
- It is difficult to ensure access to range for poultry, especially in the winter.
- There is a lack of knowledge by veterinarians for alternative medicines.
- There is a lack of information available to producers on what feed products and additives can be used.
- There is a lack of advisory information on organic animal management and nutrition.

Inspectors from control bodies cannot help farmers improve the health and welfare of their livestock. This is the function of other inspectors and agents. Inspectors can only check to see whether the livestock are alive, in good condition, with appropriate housing and check other indicators of good welfare. If an inspector does see something that is wrong, they are not allowed to give advice to the farmer. However, farmers do not generally seek help from advisers because of the cost, and because of a lack of trust by farmers in the competency of advisers in organic farming. In the future, attention must be paid to solving these problems.

Part D:
Conclusions and recommendations from SAFO

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The SAFO project: outcomes, conclusions and challenges for the future

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Introduction

In 2003, the concerted action network project ‘Sustaining Animal Health and Food Safety in Organic Farming’ (SAFO) was initiated with the central aim of improving food safety and animal health in organic livestock production systems in existing and candidate member countries of the European Union. This was primarily met through exchange and communication of research results and conclusions between researchers, policy makers, farmers and the wider stakeholder community. The intermediate objectives of the project were to identify important food quality characteristics linked to organic livestock products and improve food quality, including food safety, with regard to zoonoses, drug residues and the development of anti-microbial resistance in the food chain. This objective also includes aspects of food processing quality with regard to animal health and welfare in organic livestock production systems. A further aim was to develop strategies for implementing and harmonising organic livestock production standards in existing and candidate member countries, and to improve the interaction between researchers, farmers, certification bodies and policy makers so as to guarantee that the development of organic livestock standards was driven by inputs from all stakeholders in the EU. In the following paper, the main themes, conclusions and future challenges identified through this process are presented and discussed.

Physical outputs of the SAFO Network

The physical outputs of the SAFO Network are listed in Box 1. Apart from these outputs, suggestions for research proposals have been formulated and discussed. The SAFO Network has also been represented at a number of international conferences, meetings and workshops and in journal articles.

Box 1. The physical outputs from the SAFO project.

- 1) Five workshops have formed the basis for the formal and active sharing and learning experience of the project (see Table 1). These workshops have focused on certain themes related to the objectives of the SAFO project, plus the conditions for organic livestock farming in the host country. The first four workshops included visits to farms and processing units of organic animal food.
- 2) A web-site is the focus for presentation and exchange of knowledge, results and products of the project (www.safonetwork.org), where reports and proceedings of the project are now available.
- 3) Workshop proceedings with papers (81 oral and 39 poster presentations) from all five workshops (including this volume) have been produced.
- 4) Translated summaries of all workshop proceedings in 18 partner country languages are available on the website and have been used as the basis for national publications in farmer journals, newsletters etc.
- 5) Five road shows (dissemination workshops focusing on organic livestock farming) were held in Latvia, Hungary, Romania, Slovakia (jointly with Czech Republic) and Estonia. Material from the roadshows is available on the SAFO website, and the report covering all five roadshows is presented in this set of proceedings.
- 6) Three consultations with SAFO participants have been held, dealing with (a) the participants' expectations of the SAFO network, (b) implementation of the EU Regulation on organic farming in the participating countries, and (c) key messages from the SAFO network.
- 7) Five Standard Development Reports presenting analysis of, and recommendations for, the EU Regulations have been prepared and are presented in the proceedings from this and previous workshops. These reports are also available from the SAFO website.

Conclusions from the SAFO Network***Value of research networks***

The participants' expectations of the network (as mentioned in the consultation at the second workshop) focus on three main areas:

- 1) Development of organic livestock farming under diverse European conditions
- 2) Creating a link between animal health and food safety
- 3) Creating links between research and stakeholder organisations.

There appears to be general agreement among participants that the network activities were of great value. Towards the end of the SAFO project, effort has been made to create sustainable networking facilities (e.g. via the internet), and to initiate new network projects.

Effect of diversity within Europe on the development of organic livestock farming

Many of the presentations given at SAFO workshops demonstrate that the conditions of organic animal husbandry throughout Europe are extremely diverse. During the project, a greater understanding developed between project participants of this diversity. This was combined with the identification of different and common challenges and solutions to problem areas, and was a major task in workshops and working group discussions. The diversity within Europe is vividly illustrated in the roadshow report (Younie et al., 2006) and in the report on the questionnaire survey that was conducted with SAFO participants (Vaarst

et al., 2006). The diversity reduces the extent of direct technology transfer that can be done between countries and regions, but nevertheless there are great opportunities and possibilities to learn from each other and share knowledge and experience. These opportunities were taken up on many occasions. A clear conclusion from the entire network process was that all developments must relate to the national, regional and local context, and that there are many different ways of living up to the organic principles and standards. With the inclusion of new member states into the EU, and the involvement of pre-accession countries in the SAFO network, many new dimensions were added to describe and discuss the diversity between livestock systems within the European Union. This is reflected in a number of the papers presented at the workshops and roadshows.

Food quality characteristics identified

One of the aims of SAFO was to identify important food quality characteristics associated with organic livestock products. The papers in the SAFO proceedings illustrate that we have taken the concepts of process quality and product quality of food as a starting point. Process quality refers to the production process, including the lives of the animals, their welfare, environment and the history of the food. This includes also some aspects of traditional products, e.g. the local origin of certain sausages or cheese products, which are highly valued in some regions and are specially marketed in farm and local shops. The product quality refers to 'the quality of the food alone', which means the characteristics and contents of nutrients, vitamins, minerals etc. and the food safety. Aspects of both of these quality concepts are briefly discussed below regarding the main conclusions from the SAFO project.

Process quality: animal health and welfare in organic agriculture

Several presentations and a consultation process among all the participants in the SAFO Network show that the existence of standards alone is no guarantee of good animal health and welfare on organic farms, or of safe livestock food products. A broad spectrum of different challenges were identified in both old and new EU member countries, which mitigate against the achievement of good animal health and welfare, as well as good food quality and safety. Some of these challenges were of a more general character, for example, the creation of good conditions for outdoor access especially for poultry, provision of adequate protein quantity and quality for monogastric animals, and the lack of breeding programs to meet the demands of organic production for all animal species. Other challenges were connected to regions, for example the use of old housing systems or climatic challenges in hot, cold or humid areas.

No major risks observed from zoonoses

The risk of many zoonoses appears at first sight to be higher in organic farming, because of the requirement for outdoor access, the fact that animals are group housed, have straw or other litter material, and the manure is circulated on the farm. There is only a limited amount of research in this area, but many of the risks have not been confirmed by research results or experience. However, it is acknowledged that these risks do exist and should be handled by careful management, for example, proper manure handling, feeding hygiene, reduced movements of animals in flocks or between farms and improved hygiene in general. In pigs, the risk of *Toxoplasma gondii* was found to be very low (non-existent) in conventional indoor systems, but present in free range and organic systems. The incidence of *Campylobacter* and *Salmonella* in pigs varies widely within systems, and a clear pattern of risks is difficult to identify, since it also varies between individual animals. The level of hygiene in, for example, outdoor huts is important and the whole processing chain of the products needs to be considered when determining the risk to the consumer. In working groups, it was concluded that consumer education was of great importance. In cattle, paratuberculosis was concluded

(Working Group report, 2004) to demand specific attention, as it was widespread and identified as a potential zoonosis, although the incidence seems to be the same in both conventional and organic herds. In poultry, *Campylobacter* and *Salmonella* are major challenges. The infected animals are not necessarily clinically affected. The incidence varies widely between countries, and some studies show that there are no systematic differences between conventional and organic production systems, and food safety risks are no higher in organic systems compared with conventional ones. However, it must be emphasised that very little research has been done in this area to date.

Food quality and safety of organic livestock products

The product quality of organic animal foods was investigated and presented in a number of papers. In situations (such as in Britain and Switzerland) where dairy animals are grazed (and because in such situations the diets of organic animals tend to have a greater proportion of grass than those of conventional animals), it was reported that the concentrations of conjugated linoleic acid (CLA), α -linolenic acid, and the ratio of n-3:n-6 fatty acids were greater in organic milk compared with conventional milk. However, this is a feature of the diet rather than the system, as the concentrations and ratios of these acids decrease when the proportion of concentrate, maize silage and grass silage in the diet is increased, according to Dutch studies. Similarly, somatic cell counts were found to be linked to farm practices and hygiene rather than system differences. A number of different studies were presented that also indicated no systematic differences, for example, between parasite burden and milk quality in small ruminants. Presentations and discussions on pork production also concluded that the quality of pork is more related to the genotype, feeding strategy and other factors than to the organic production method itself.

Apart from the zoonoses referred to briefly above, a number of papers dealt with the risk of residues from veterinary medicine, antimicrobial resistance, mycotoxins and other toxins in organic animal food products. Dioxin content was found to be the same (or lower, although not significantly) in organic milk compared with conventional milk, but the outdoor access of layers was identified as a risk factor for organic eggs compared with conventional eggs because of the potential to ingest contaminated soil. Dutch research highlighted the basis of model calculations that demonstrated silage could be a risk factor in relation to mycotoxin contamination. In an Italian study, it was concluded that the risk in organic herds was no higher than in conventional herds, and maize silage was shown to present the highest risk for mycotoxin ingestion by cows.

Recommendations concerning the EU Regulations

A number of challenges were identified with regard to the implementation of standards.

- 1) The greatest challenge relates to the current status, practices and management of organic livestock at farm level. These challenges can be met by dialogue between organic farmers, producer organisations, certification bodies, governments etc. on a national level in order to improve the situation. More knowledge is needed in some regions, but exists in others, which points to the benefit of active experience exchange and networking, as well as documenting examples of best practice. The EU Regulation appears to be violated in a number of cases as a consequence of lack of knowledge and experience, as well as a lack of enforcement of parts of the regulation in individual countries.
- 2) Challenges also arise from the diversity between countries, in characteristics such as climate. These have to be considered both when making regulations, and in their national interpretation. The new proposal for a Council Regulation introduces some

flexibility in implementing the standards in certain areas, but also promotes a more common understanding in clearly stating the principles of organic production.

- 3) Finally, a few terms were identified in which the regulation appears to have been misunderstood. These challenges can be met at EU level through improvement in the formulation of the regulation, and by providing clearer definitions. SAFO also suggests that animal health planning becomes mandatory for all organic livestock producers, in particular for those in conversion, and that animal based parameters should be included in the inspection of organic herds in order to ensure that good animal health and welfare is present in each organic herd.

The results of the SAFO participant consultation on the implementation of standards (Vaarst et al., 2006), and the final SAFO recommendations to the EU Regulation (Sundrum et al., 2006) are presented in this set of proceedings.

Knowledge dissemination of good organic animal husbandry

It was consistently concluded through a number of presentations and discussions in the SAFO project that the dissemination of knowledge about organic farming needs improvement, especially among animal health and production professionals, and in particular veterinarians. In many of the participating countries, veterinarians seemed to be unfamiliar with organic farming concepts, practices or regulations and could therefore not give organic farmers appropriate advice. During conversion to organic farming, farmers and the professionals that support them have to learn to focus on prevention rather than cure for animal health management. Many of the SAFO participants underlined this by expressing a need by veterinarians to focus on preventative measures as well as the so-called alternative treatment methods.

Future challenges

The publication of these proceedings marks the end of the SAFO project as an EU funded concerted action. In the SAFO network, much information, knowledge and insight has been exchanged. SAFO has highlighted that much knowledge exists, but it is very often only available in a national language, which limits the accessibility to these data. It remains a challenge to organise the future exchange of this knowledge in such a way that it can serve as an inspiration and a help to others, even in cases where direct technology transfer is not possible.

New initiatives and innovative approaches have been debated and steps have been taken to fulfil them. In the fifth and last SAFO workshop, one session focussed on the dissemination of results via the certification and the advisory services. In addition, the implementation of EU Regulations in new and pre-accession EU member states presents a major challenge. This network between researchers and other stakeholders has proven to be of great value in this process.

Relevant areas for future research both at local, national and international levels have been identified, including:

- breeding programmes for organic animals
- animal health planning
- improving milk quality
- small ruminants in organic production
- grassland farming
- alternatives to conventional veterinary medical treatment methods.

Research and development initiatives are also required on issues such as common grazing systems, transhumance, peri-urban farming, intensive farming, farming with mixed animal species and other specific topics within the very broad spectrum of diverse farming systems covering all animal species. Further identification of potential food safety risks also calls for future research initiatives and collaboration.

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