

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 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 has lead 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 1. 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.

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

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 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.
- 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

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

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 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 is 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.*