

## Some Perspectives of the Assessment of Farm Animal Welfare in the European Union

Le Neindre, P.<sup>1</sup>

<sup>1</sup>INRA, 147 rue de l'Université, 75338 Paris cedex 07, France. E-mail: pierre.leneindre@tours.inra.fr

### Summary

This text presents information about the European set-up concerning the animal welfare question in Europe. The importance of the roles of the European Commission (EC) is described through its scientific and ethical committees and in particular the relatively new founded European Food Safety Authority. It further presents some information concerning the research projects on the topic. It also gives some information on the training programs on ethics. The general design of the various scientific reports, which have been published is detailed.

**Key words:** Scientific assessment, EFSA, farm animal, ethical assessment, training and education

### Resumen

## Algunas Perspectivas de la Evaluación de Bienestar Animal en la Unión Europea

Esta nota presenta información acerca de la organización europea acerca de la cuestión de bienestar animal en Europa. Se describirá la importancia de los roles de la Comisión Europea a través de sus comités científico y ético y, en particular, la Autoridad Europea de Seguridad Alimenticia fundada relativamente reciente. Además se presentará información acerca de proyectos de investigación en esta materia. Se proporcionará información sobre los programas de entrenamiento en ética. Se detalla el diseño general de varios reportes científicos que han sido publicados.

**Palabras clave:** Evaluación científica, EFSA, animal productivo, evaluación ética, entrenamiento y educación

### Introduction

Farm animal welfare has been of increasing concern in the European Union for several years. This concern has risen from several perspectives. The first one is a change in the way we consider our own pain and suffering. Pain is more and more considered as to be avoided at any price, for us but also for other humans and, by extension, to animals, which are under our responsibility and our will. At the same time farm animal husbandry has undergone significant changes. It became more industrialised with rationalisation of production. Feeding, housing, and working practises, as well as animal selection have been shaped as to limit the cost and increase the return without concern about the quality of life of the animals and probably of the

workers. The markets are now international and the competition worldwide. That is especially true for the intensive production systems of poultry, pig, veal calves and, to some extent, dairy cattle. It is also the case for the abattoirs, the number of which has decreased steadily in Europe during the last thirty years while production has increased. At the same time the urban proportion of the population has been increasing steadily. Nowadays few people in Europe have direct contact with farm animals. Most of the contact with animals is with pets, which are included in the family network, adopted and treated so as to provide them in all their needs. As a consequence of those changes the general public has no real contact with farm animals and has developed a negative feeling about the way the farm animals are treated. This growing ethical concern is becoming more

and more vocal, in particular through animal welfare organisations, about the husbandry practices, including transport and slaughtering. Those organisations are all asking for a change in the way farm animals are treated, but they are very diverse in their objectives. Some are asking for more humane treatment of the animals and techniques, which avoid unnecessary suffering. Others are more radical asking sometimes in an aggressive way to stop any use of animals, in particular in research and farming. The ethical background of the treatment of farm animals has been developed and different views have been given; from a need to suppress useless sufferings to the right of the animals to live their free lives. A vast amount of literature has been published in that matter and is available on the web (for example <http://www.iep.utm.edu/anim-eth/>), but also specific books have been published (for example a French book: Burgat and Dantzer, 2001).

To answer to those concerns the European Union has adopted a series of regulations to define the minimal requirements for the husbandry practices. It has also set up bodies to prepare the future in terms of scientific and ethical assessment, research, training and information. Other initiatives have been taken in particular for the experimental animals, which will not be dealt with in this text. The way each European country handles those questions will not be addressed either. Apart from some information about OIE, initiatives in other parts of the world will not be discussed.

### **The European regulatory set-up and other initiatives**

The European set-up concerning the farm animal welfare has been built up since several years so as to bring answers to those different concerns. The first step was taken by the Council of Europe (which includes most of the European countries) issuing several recommendations concerning animal welfare questions (<http://www.search.coe.int/texis/search>). Those recommendations are not mandatory but can be implemented in the different countries, which signed those recommendations. However, the European Union has been the main driver through regulation so as to avoid distortion of competence within the European market. It aims to avoid that if one European country takes particular restrictive measures in order to promote animal welfare it results in import from countries with less restrictive regulations. Apparently this has been the case in Great Britain, which during the last decades imported huge quantities of cheaper pork meat produced

under less restrictive animal welfare regulations (Bock and Van Huik, 2007).

National regulations against cruelty have existed since the XIX century in several European countries, particularly in the United Kingdom, but also in France. Their purposes were varied. For example in France only the cruelty in public was forbidden and the objective was more to maintain a «public hygiene» than a concern about the welfare of the animals. The first European regulation was introduced as early as 1978 (Directive 78/923/EEC). Thereafter, a key step was an Annex of the Amsterdam Treaty (1992) which recognised the animals as **sentient beings** and therefore should be treated as such (<http://www.europarl.europa.eu/topics/treaty/pdf/amst-en.pdf>, «In formulating and implementing the Community's agriculture, transport, internal market and research policies, the Community and the Member States shall pay full regard to the welfare requirements of animals, while respecting the legislative or administrative provisions and customs of the Member States relating in particular to religious rites, cultural traditions and regional heritage.»). It was followed by the Protocol on animal welfare in the European Commission treaty in 1999 ([http://ec.europa.eu/food/animal/welfare/actionplan/actionplan\\_en.htm](http://ec.europa.eu/food/animal/welfare/actionplan/actionplan_en.htm)). Europe has now adopted several main regulatory texts of general nature or concerning different types of animals (in particular laying hens, pigs and calves).

Market based initiatives have been developed to take into account public concern. The labelling of welfare-friendly products issued from animals, which have received specific treatment has been promoted by some countries or by specific retailers and specific manufacturers. The organic farming schemes usually have some specifications related to the question of animal welfare. Some retailers have promoted their products through quality insurance schemes on specific measures concerning the animal welfare (Veissier *et al.*, 2008).

Another European initiative is envisaged in the revision of the Common Agricultural Policy, which will decrease the link between the quantities of products and the subsidies to promote several externalities, including animal welfare ([http://ec.europa.eu/agriculture/capreform/index\\_en.htm](http://ec.europa.eu/agriculture/capreform/index_en.htm)).

Furthermore, the European Union also needs to take the international regulations into account. Among those, the regulations from the WTO have a very strong impact. They specify that the products should not be subjected to tariff barriers or quantitative restrictions if they are

«like products» with a substantial equivalence. Taking into account that the required animal welfare criteria are usually not valid for differentiating the products, restrictions cannot be made on that ground as they relate in most cases on differences in the processes and not in the end-products. In practice it means that non European countries with fewer regulations on animal welfare could produce at lower prices and export their products to the European Union.

The European Commission has developed an overall policy concerning animal welfare ([http://ec.europa.eu/food/animal/welfare/index\\_en.htm](http://ec.europa.eu/food/animal/welfare/index_en.htm)) by funding research projects but also education initiatives (<http://www.fve.org/veterinary/welfare.html>).

### The assessment of animal welfare

The general policy of the European Union is to found its regulations on scientific evidence and systematic risk assessment. For quite a long time Scientific Committees have been preparing scientific reports for the European Commission under the umbrella of European Directorates (DG). Concerning animal welfare questions the Scientific Committee in charge of the Animal Welfare was under the responsibility of the DG Agriculture. The Mad Cow crisis in particular induced a change and the Committee was then placed under the responsibility of the DG SANCO (Health and Consumers). The main aim was to make a clear difference between the risk assessors and the risk managers. The risk managers make the request and they receive the reports for either taking or not taking actions they feel are required. The whole process has to be transparent and the requests are publicly available on the web. In 2003 the European Parliament founded the **European Food Safety Authority (EFSA)** (<http://www.efsa.europa.eu/>). It is located in Parma and has nowadays the responsibility to prepare scientific reports on questions related to food safety, animal and plant health, and animal welfare. An **Animal health and animal welfare panel** is responsible for producing reports, in particular on animal welfare questions.

Since the beginning of those committees some changes have occurred. In particular the reports are focussing more on risk assessment and not, until now, on the benefit assessment. Only biologists are involved in the panel and they do not deal with economic and ethical questions. The different committees have produced a large amount of reports and opinions. Some of them are listed in the Table 1. Those texts are prepared at the request of the European Commission, the

European Parliament and member states or as a self-task. The self-task opinions are usually of broad nature and deal most of the time with defining the set-up of the evaluation. In general, the requests are made by the DG SANCO but, like the report of the killing of the seals ([http://www.efsa.europa.eu/EFSA/efsa\\_locale-1178620753812\\_1178671319178.htm](http://www.efsa.europa.eu/EFSA/efsa_locale-1178620753812_1178671319178.htm)), they can originate from other DGs.

The elaboration of opinions is mostly done in several steps. A working group of experts, selected on the basis of their competences in the specific fields necessary to answer the question, has to prepare a report. Such a report is usually large and includes most of the knowledge on that subject. The panel Animal Health and Animal Welfare has then to prepare and endorse an opinion using the report to build it. It is usually much smaller than the report and focuses on answering the specific questions. For some years, EFSA has been commissioning several organisations to prepare reports. Most of those reports are aiming at making literature surveys. It also organises meetings to deal with specific questions. For example one meeting will be organized on the consequence of selection on the welfare of broilers and on their parents and grand parents ([http://www.efsa.europa.eu/EFSA/efsa\\_locale-1178620753812\\_1211902787079.htm](http://www.efsa.europa.eu/EFSA/efsa_locale-1178620753812_1211902787079.htm)).

The opinions dealing with welfare questions have been mainly on different species (e.g. dairy cattle, pigs, poultry, calves, rabbits, and various species of farmed fish) or on types of production systems of farm animals. Some of those questions were also related to wild animals (e.g. the killing of seals) or to laboratory animals. Stunning and killing are important questions and several opinions dealt with them. Some of the reports are done jointly between the biohazard panel and the animal health and animal welfare panels, particularly when the husbandry system might have an impact on the safety of the product (meat or milk). One report, which concerned several panels, has been prepared by the EFSA Scientific Committee on the consequences of cloning on animal welfare as well as on food safety and environment.

These reports and opinions are based primarily on texts published in scientific journals. They can use information from the grey literature in particular country surveys. Expert judgements are usually not part of the analysis. Each report consists of several parts, which are specific for answering the questions. Basically the reports and opinions have to cover the different steps of the risk assessment procedure as defined internationally (risk exposure, hazard characterisation,

**Table 1.** Some of the European reports and opinions from the scientific committees dealing with animal welfare questions.

Year	Report
1995	<i>Report on the animal welfare section on the welfare of calves.</i> Broom D.M., Blokhuis W.J., Canali E., Dijkhuizen, A.A. Fallon R., Le Neindre P., Saloniemi H., Webster A.J.F. Report of the scientific veterinary committee. Commission Européenne, 120 pp.
1996	<i>Report on the welfare of laying hens.</i> Bessei, W., Blokhuis, H., Elson, A., Groot Koerkamp, P., Faure, J., Simonsen, H., DG Agriculture.
1997	<i>Report on the slaughter and killing of animals.</i> Barton-Gade, P., Dantzer, R., Forslid, A., Ladewig, J., Lambooi, E., Raj, A., Troeger, K., DG Agriculture. <i>Report on the welfare of intensively kept pigs.</i> Van Borell, E., Broom, D., Csermely, D., Dijkhuizen, A., Edwards, S., Jensen, P., Madec, F., Stamataris, C., DG Agriculture.
1998	<i>Welfare aspects of the production of foie gras in ducks and geese.</i> Le Neindre P., Willeberg P., Jensen P., Broom D.M., Hartung J., Dantzer R., Morton D., Bénard P., Verga M., Faure J.M., Nicks B., Report of the Scientific Committee on Animal Health and Animal Welfare, 89 pp.
1999	<i>Standards for the microclimate inside animal transport road vehicles.</i> Report of the scientific committee on Animal Health and Animal welfare, European Commission, Health and Consumer Protection Directorate-General, 149 pp.
2000	<i>The welfare of chickens kept for meat production.</i> Report of the scientific committee on Animal Health and Animal welfare, European Commission, Health and Consumer Protection Directorate-General, 149 pp.
2001	<i>The welfare of cattle kept for beef production.</i> Canali E., Fallon R., Le Neindre P., Lidfors L., Manteca X., Sundrum A., Scientific Committee on Animal Health and Animal welfare, 150 pp.
2002	<i>Preliminary report on scientific quality of life assessment in risk benefit analysis.</i> Klein W., Le Neindre P. (Co-rapporteur), Boissel J.P., Tarazona J., Vermersch D., Wiedemann P., Scientific Steering committee, 33 pp.
2003	<i>Review of the operation of the scientific committee on animal health and animal welfare.</i> Le Neindre P., Ahl R., Alexander D., Broom D., Dantzer R., Gunn M., Have P., Jensen P., Moennig V., Morton D., Noordhuisen J., Panina G., Parodi A.-L., Sharp M., van Oirschot J., Vanopdenbosch E., Verga M., Wierup M., DG Sanco.
2004	<i>The welfare of animals during transport.</i> EFSA. <i>Welfare aspects of animal stunning and killing methods.</i> EFSA. <i>Welfare aspects of the castration of piglets.</i> The EFSA Journal, 91, 1-18. <i>Standards for the microclimate inside animal road transport.</i> The EFSA Journal, 122, 1-25.
2005	<i>The welfare aspects of various systems of keeping laying hens.</i> Annex to The EFSA Journal, 197, 1-23. <i>The Impact of the current housing and husbandry systems on the health and welfare of farmed domestic rabbits.</i> Annex to the EFSA Journal, 267, 1-31. <i>Aspects of the biology and welfare of animals used for experimental and other scientific purposes.</i> Annex to the EFSA Journal, 292, 1-136.
2006	<i>The welfare aspects of the main systems of stunning and killing applied to commercially farmed deer, goats, rabbits, ostriches, ducks, geese and quail.</i> Annex to the EFSA Journal, 326, 1-18. <i>The risks of poor welfare in intensive calf farming systems. An update of the Scientific Veterinary Committee Report on the Welfare of Calves.</i> Annex to The EFSA Journal, 366, 1-36,
2007	<i>Animal health and welfare of fattening pigs in relation to housing and husbandry.</i> The EFSA Journal, 564, 1-14. <i>Animal health and welfare aspects of different housing and husbandry systems for adult breeding boars, pregnant, farrowing sows and unweaned piglets.</i> The EFSA Journal, 572, 1-13. <i>Animal Welfare aspects of the killing and skinning of seals.</i> The EFSA Journal, 610, 1-122. <i>Risks associated with tail biting and possible means to reduce the need for tail docking.</i> The EFSA Journal, 611, 1-13.
2008	<i>Scientific Report on animal welfare aspects of husbandry systems for farmed Atlantic salmon.</i> Annex I to the EFSA Journal, 736, 1-122.

risk assessment) ([http://ec.europa.eu/food/fs/sc/ssc/out83\\_en.pdf](http://ec.europa.eu/food/fs/sc/ssc/out83_en.pdf)).

However, since there are no validated international standards for assessing animal welfare, most of the reports have a first chapter defining the concept of animal welfare and the different ways to assess it, as it will be used in the report. Several definitions of animal welfare have been published which are used. For example, «animal welfare is reached when the animal is in harmony with its environment and with itself, both physically and mentally» (Hughes, 1976), or animal welfare can be defined in terms of «attempts to cope with the environment» (Broom, 1996). Animal welfare is in fact very similar to the WHO definition «Health is a state of complete physical, mental and social well-being and not merely the absence of disease and injury» (Anonymous, 1948).

When considering welfare it is important to distinguish between pain, stress, distress and suffering. The International Association for the Study of Pain (Anonymous, 1986) gives a definition of pain for humans as «an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage». It combines a sensory perception and an emotional component. For animals **pain** has been defined as «an aversive sensory and emotional experience representing awareness by the animal of damage or threat to the integrity of its tissues» (Molony and Kent, 1997). It is necessary to distinguish between acute pain, which is a mechanism necessary to avoid harmful situations, and chronic pain, which is pathological. **Suffering** is defined as a negative physiological or psychological state, which the animal tries to avoid and to which it has to adapt. **Stress** is the physiological response to adapt to challenging situations. **Distress** is found when animal is subject to psychological difficulties (such as boredom or loss of a social partner).

On the positive side it is necessary to assess the fulfilment of the biological and behavioural needs. An operational definition has been given by the five freedoms published by the Farm Animal Council (1993, <http://www.fawc.org.uk/freedoms.htm>):

«**1. Freedom from Hunger and Thirst** - by ready access to fresh water and a diet to maintain full health and vigour.

**2. Freedom from Discomfort** - by providing an appropriate environment including shelter and a comfortable resting area.

**3. Freedom from Pain, Injury or Disease** - by prevention or rapid diagnosis and treatment.

**4. Freedom to Express Normal Behaviour** - by providing sufficient space, proper facilities and company of the animal's own kind.

**5. Freedom from Fear and Distress** - by ensuring conditions and treatment which avoid mental suffering.»

A whole range of information is in fact necessary to give a clear picture of the welfare state of animals:

**Mortality and morbidity** are the first key elements. It is assumed that a production system inducing high mortality and morbidity is also triggering pain and sufferings. The direct relation between mortality and bad welfare is however not always obvious. For example the sudden death syndrome in poultry, which is probably linked to the high level of growth, does not seem to trigger suffering.

**Physiological parameters** are important to determine, and define some key elements particularly concerning stress and inflammation.

**Behavioural parameters** are also important for understanding the way the animal feels about the situation and the ways it finds to avoid it. It should be kept in mind that the way the animals are reacting depends on the context, on the species and on previous experiences. For example a lot of prey animals (most of the farm animals are prey animals) react to pain and stress by a tonic immobility and not by escaping the situation. The first step is often to build an ethogram of the activities of the animals in free range and then to measure the consequences of specific constraints.

**Zootechnical parameters** can give information whether a situation has a negative impact on the animal. However the maximum production is not an indication of the best welfare for the animals.

In fact it is necessary to combine these different parameters on **multiparametric scales** to have a clear picture of the welfare of the animals. Those scales have to be designed for each species and type of environment and, generally, have not been internationally validated.

The housing systems, the technical practices and animal types, which have to be assessed, are described. For example it is rather important to define the different housing systems used for rearing laying hens and the genetic types in these different systems. It is also important to have a clear idea what the current practices for castrating pigs are, and the variation between the types of production (e.g. intensive, organic farming, labels, quality insurance schemes) and between the different European countries.

Then, the consequences of the types of production or of practices are assessed and the different solutions compared in terms of animal welfare. Housing design

can vary depending on the floor type, and on environment enrichment. The social environment is also very important and changes of that environment can have important consequences on the hierarchy but also in the loss of animals with specific affinities. Specific mutilations (branding, castration, dehorning, debeaking, etc.) have to be considered. The stunning and killing of the animals are triggering specific questions.

Conclusions and recommendations are in a specific part of the report, which is more specifically dedicated to answer the question asked by the risk managers.

All those reports are prepared for the European Commission by biologist of different disciplines (pathologists, epidemiologists, physiologists, neurobiologists, ethologists, etc.). They do not cover other aspects such as the economic and sociologic ones. Other organizations can produce texts covering those aspects (for example: MacIverney, 2004, <https://statistics.defra.gov.uk/esg/reports/animalwelfare.pdf>). The European Commission usually asks working groups to prepare impact assessment to deal with those questions ([http://ec.europa.eu/food/animal/welfare/comm\\_staff\\_work\\_doc\\_protection230106\\_en.pdf](http://ec.europa.eu/food/animal/welfare/comm_staff_work_doc_protection230106_en.pdf)). Those impact assessments cover economical and political perspectives in order to help the European Commission to take decisions.

The ethical questions is not addressed by the Scientific Committee and Panels, but specific groups are requested to prepare reports, which is especially the case for the European Group on Ethics and New Technologies ([http://ec.europa.eu/european\\_group\\_ethics/index\\_en.htm](http://ec.europa.eu/european_group_ethics/index_en.htm)). For example it did a report on the ethical consequences of animal cloning ([http://ec.europa.eu/european\\_group\\_ethics/publications/docs/press\\_release\\_opinion\\_23\\_es.pdf](http://ec.europa.eu/european_group_ethics/publications/docs/press_release_opinion_23_es.pdf)).

The implementation of the assessment procedures at international levels is still to be done. However, OIE is now preparing animal welfare standards on an international basis, concerning the assessment of pain in farm animals (Mellor *et al.*, 2008) and laboratory animals and of welfare of animals on long distance transport ([http://www.oie.int/Eng/bien\\_etre/en\\_introduction.htm](http://www.oie.int/Eng/bien_etre/en_introduction.htm)).

## Research activities

To be able to answer to those questions Europe is dedicating a fair amount of money to develop research

in these areas. The European Commission and more particularly the DG Research are funding specific projects on welfare. Chosen consortia from public research and private organisations then receive funds to do their research. One good example has been the **Welfare Quality Project**, which has coordinated forty research groups from thirteen countries to study animal welfare (<http://www.welfarequality.net/everyone>, [http://ec.europa.eu/food/animal/welfare/factsheet\\_farmed03-2007\\_en.pdf](http://ec.europa.eu/food/animal/welfare/factsheet_farmed03-2007_en.pdf)). In Europe a lot of research is also conducted. In some countries, such as France, research groups are working coordinately ([http://www.tours.inra.fr/animation\\_scientifique/groupe\\_d\\_animation\\_scientifique/agri\\_bien\\_etre\\_animal](http://www.tours.inra.fr/animation_scientifique/groupe_d_animation_scientifique/agri_bien_etre_animal)). The standing Committee on Agricultural Research is also coordinating the different national European activities on the topic ([http://ec.europa.eu/research/agriculture/scar/index\\_en.cfm](http://ec.europa.eu/research/agriculture/scar/index_en.cfm)).

## The way forward

Information on the way the question of animal welfare is dealt with within the European Community is given. It describes the regulatory set-up and the assessment processes, which provide stakeholders interacting in that process with key elements. It presents the importance of the European Commission and of the different European states for preparing the regulatory set-up and of the European Parliament to adopt directives and regulations. It shows that it is necessary to have such integrated perspectives with all the stakeholders involved to reach some constructive achievements.

The assessment is based on a multidisciplinary approach, and therefore it is necessary to involve scientists from different disciplines and not only from the biological sciences but from the human sciences as well. The aspects of training and education are also very important to make the key players aware of the main questions and of the different answers given in the literature.

One of the main problems is the implementation of such policy at an international basis. For introducing rules on animal welfare ground in the exchange between states it will be necessary to have assessment standards validated on an international basis. For the time being such a consensus does not exist. It is possible to foresee in the future a harmonisation of that assessment or of part of the assessment following the work of the OIE.

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