

Welfare and How it is Affected by Regulation

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Abstract

The scientific assessment of animal welfare has developed rapidly in recent years. Public concern about the welfare of farm animals has also increased substantially. The actions of farmers and others involved in animal production have major effects on animal welfare. These actions are affected by financial considerations but also by pressure from purchasers, legislation and the attitudes of family, friends, visitors, other farmers and the general public. At present, the greatest effects on animal welfare are the standards set by purchasers of animal products, principally supermarkets and fast food chains. Legislation also has an effect if adequately enforced and producers do take notice of the views of other people. Those who design and manufacture housing and equipment for farm animal management and those who breed animals for farm use can have substantial effects on animal welfare. Indeed, the consequences of breeding for high production efficiency have caused some of the most substantial of today's animal welfare problems. New legislation may be needed in relation to animal breeding and some aspects of system manufacture. The World Trade Organisation should include animal welfare as a criterion for refusing imports.

Tierschutz und dessen Beeinflussung durch die Gesetzgebung

Zusammenfassung

Die wissenschaftliche Bewertung des Tierschutzes hat sich in den letzten Jahren rapide entwickelt. Die öffentliche Aufmerksamkeit hinsichtlich des Tierschutzes bei landwirtschaftlichen Nutztieren ist ebenso deutlich angestiegen. Maßnahmen von Landwirten und anderen an der Tierhaltung beteiligten Personen haben bedeutende Auswirkungen auf den Tierschutz. Diese Maßnahmen werden von wirtschaftlichen Überlegungen getragen, können aber ebenso durch den Druck von Seiten der Vermarktung, der Gesetzgebung und die Einstellung der Familie, von Freunden, Besuchern oder durch andere Landwirte und die Öffentlichkeit beeinflusst werden. Zur Zeit geht der größte Druck auf den Tierschutz von den Vermarktern tierischer Produkte aus, im allgemeinen Supermärkte und Fast-Food-Ketten. Auch die Gesetzgebung nimmt starken Einfluß, sofern sie konsequent umgesetzt wird und die Erzeuger die Sicht anderer Personenkreise berücksichtigen. Diejenigen, die Ställe und Stalleinrichtungen entwickeln und herstellen und diejenigen, die mit der Züchtung landwirtschaftlicher Nutztiere befaßt sind, können ebenfalls erheblichen Einfluß auf den Tierschutz nehmen. Es ist eine Tatsache, daß die Folgen der Züchtung auf hohe Produktivität einige der größten tierschutzrelevanten Probleme in der heutigen Zeit aufgeworfen haben. Möglicherweise bedarf es neuer Gesetze hinsichtlich der Züchtung und der Entwicklung von Haltungssystemen. Die "WTO" (World Trade Organisation) sollte den Tierschutz als Kriterium zur Ablehnung von Importen aufnehmen.

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1 Introduction

The welfare of an animal is its state as regards its attempts to cope with its environment (BROOM, 1986). Hence welfare is a characteristic of an individual animal and includes extent of success in coping with all aspects of environmental effects, failure to cope which may lead to disease, injury and death, and extent of ease of coping or difficulty of coping. The mechanisms for trying to cope include behaviour, physiological systems, immunological systems, a range of feelings such as pain, fear and various forms of pleasure, etc. Health is a part of welfare, welfare varies on a scale from very good to very poor and welfare can be assessed scientifically provided that an adequate range of measures is used (BROOM, 1990, 1996, 1998; FRASER and BROOM, 1990; BROOM and JOHNSON, 1993). Animal welfare science has developed rapidly in recent years.

Public concern about animal welfare has increased in many countries during the last thirty years and especially in the last ten years. Evidence of this is summarised in table 1.

Table 1: Evidence for increased concern about animal welfare.

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| 1. | Letters from the public, media coverage. |
| 2. | References in parliamentary discussions and government statements. |
| 3. | Requests for scientific evidence concerning animal welfare. |
| 4. | Activity of scientific and other advisory committees. |
| 5. | Funding of scientific research on animal welfare. |
| 6. | Increased teaching and conferences. |
| 7. | More legislation. |

Many members of the European Parliament have stated that they receive more letters about animal welfare than about any other subject and the coverage of animal welfare topics in newspapers, on television and on radio is much greater in recent years. Similarly, there are now many discussions of animal welfare in national parliaments, many government statements on the topic and many requests for scientific evidence concerning animal welfare. Many E.U. Member States and other European Governments have formed national committees whose role is to consider animal welfare and other ethical issues concerning animals. Scientific research on animal welfare is now more likely to be funded by governments, producers' organisations and animal charities. There are many scientific conferences on the subject and animal welfare is taught in more and more veterinary, animal production and biological courses. More legislation and codes of practice are being produced.

The major animal welfare topic discussed within animal protection societies and by the general public during the 1980s was experimentation and testing involving laboratory animals. During the 1990s this subject has continued to elicit attention but more work and discussions have concerned farm animals. This is logical because approximately three hundred times as many animals are kept for food production as for laboratory use (NICOL and RUSSELL, 1990) so if there is a welfare problem in a common farm animal species, it involves many individuals and hence is important.

The term "regulation" is included in the title of this paper. Regulations which may affect the activities of individuals can come from various sources. Regulations can be produced by governments, either in the form of laws or in the form of codes of practice. Commercial companies, animal protection societies and other organisations including farmers' consortia can also lay down standards or codes of practice. The effects of these various regulations on the welfare of animals and the effects of the scientific study of animal welfare on such regulations are the subject of this paper.

2 Effects on animal treatment

It is the people who design and build farm animal facilities and the people who own, manage and work on farms, transport operations and slaughterhouses who have the principal effects on animal welfare. The actions of these people may depend to some extent on expert advice, for example that of veterinary surgeons.

The architects, builders and equipment companies who provide accommodation and other facilities for those in the food animal production industry, depend upon their customers in the sense that their products would not be bought if they were not economically viable but they also have freedom to be innovative and they are perceived by the public and the farmers to have moral obligations to animals similar to those of the farmers themselves. Some of these moral pressures are not as immediate, however, so these companies are not always ready to acknowledge their responsibilities.

People who run or work on farms are influenced by a variety of factors (table 2) when they are deciding on their housing and management policies and when they are executing these policies. They are involved in a commercial enterprise and will be endeavouring to make a profit so the monetary costs which they incur and the potential financial returns which they are likely to get for their product will be factors of major importance to them. Some other costs to the industry exist, for example, consumers who do not like some aspect of production may refuse to buy the product (BROOM, 1994). These costs are often ignored by individual farmers.

Table 2: Factors which influence practice in animal usage

1.	The knowledge and attitude of the farmer or other user.
2.	The demands of the purchaser of the animal.
3.	Legislation and the extent to which it is enforced.
4.	The attitudes of family, friends and those who see the animals.
5.	The attitudes of other users, especially as exemplified by the farming or other relevant press.
6.	The attitude of the general public, especially those who are vociferous, and hence the media.

2.1 The knowledge and attitude of the farmer or other animal user

These depend upon early training, traditional practices, acquisition of knowledge from others subsequent to any training, personal experience and general beliefs and philosophy. Training did not, until recently, include much information about animal welfare except where it impinged on profitability. Even diseases were often mentioned in agriculture training only in relation to effects on growth, offspring production or product quantity and quality. Recent training courses are more likely to have included information about the welfare of the animals and most agricultural trade journals nowadays do cover animal welfare issues. Traditional practices are often deemed by farmers to be right for the sole reason that "this is the way that we have always done it". Some of these methods are the best ones for good welfare but in a time of changing attitudes to animals, such arguments are untenable.

2.2 The demands of the purchaser of the animal

Farmers often sell animals or their production of milk, eggs etc. to single purchasers who represent large retail chains or wholesale distribution companies. The increase in direct selling to supermarket chains has led to considerable power being placed in the hands of these supermarket companies. It is possible for these purchasers to lay down conditions for animal production and to enforce these by inspection. The standards set by the supermarket chains are determined by what people will buy and by their reputation with the public.

The public image of large companies which retail food, including supermarket chains and fast-food companies, is of great importance to them. Bad publicity because of a risk to public health, a risk to the environment or the occurrence of poor welfare at any stage of the production process can be very damaging. Hence it is in the interest of such food companies to avoid any scandal which might threaten their good image. When these companies receive many letters from consumers complaining about a product which they sell, they have to take notice of the points which are being made.

As a consequence of consumer pressure, food retail companies are adopting standards which they impose on their suppliers. In some cases, these standards are quite simple, for example Albert Hein in the Netherlands and elsewhere limited their sales of eggs to "scharreleie" which meant that the hens were reared in conditions where they could scratch in litter. Marks and Spencer in the U.K. and elsewhere stopped selling eggs from battery cages. In other cases, elaborate standards have been descri-

bed in detail and sent to suppliers. One of the first systematic attempts to provide comprehensive information about the conditions under which animals were kept in the course of food production was the "Freedom Foods" scheme run by the R.S.P.C.A. in the U.K. In this scheme, the standards for housing and management have been set by a widely respected animal protection society and farms are inspected by Freedom Foods staff. Retailers who subscribe to the scheme are allowed to use the Freedom Foods logo which is accepted as honest by the purchasing public. Acceptance, by the public, of products which are produced in such a way that the welfare of the animals is good, depends upon trust in the organisation which is carrying out the labelling and inspection. Producer-run schemes are accepted by some people but there are others who have doubts about whether the standards or the policing of production are good enough. Some large supermarket chains and other food retailers are trusted because it is thought that they could not afford to be found out if they were not labelling and policing adequately. Animal protection groups are trusted in this respect and their label is a valuable asset for some retail companies.

The enforcement of standards by food retailers has led to substantial changes in the welfare of animals on farms because every producer has to conform to the standards in order to sell their products. The rapid development of such schemes in several countries has, in general, been based on scientific evidence about animal welfare. The retail food chains started to seek the advice of independent scientists in order to be able to reply to customers' questions. They subsequently sought such advice, or employed scientists or veterinary surgeons with extra qualifications in animal welfare, when setting up their animal welfare standards. Since the standards themselves are open to public scrutiny and those scrutinising can have expert scientific advice, most of the standards are soundly based.

2.3 Legislation and the extent to which it is enforced

Legislation is generally initiated by pressure from voters on elected politicians. The politicians would usually seek advice from civil servants before formulating new legislation. In recent years, whenever any legislation on animal welfare is proposed, advice is sought from committees or working groups of scientists. The non-government organisations who lobby the politicians, whether they are producers' organisations or animal protection organisations, will have some access to scientific advice so it is important for the legislators to know the latest state of scientific knowledge on the subject. As a consequence, the European Union has set up, via the European Commission, scientific committees on a range of subjects. The former committee was the Scientific Veterinary Committee, Animal Welfare Section. The present committee is the Scientific Committee on Animal Health and Animal Welfare, the title being a misnomer in that health is part of welfare. There are also various national scientific, or scientific and ethical committees. Indeed the subject matter of much of the possible legislation on farm animal welfare is so complex that it would be most unwise to proceed with it without expert advice.

Some E.U. Directives and Regulations are listed in table 3, an example of the sequence of events leading to the substantial modification of an E.U. Directive 97/2/EC is presented in table 4 and major provisions of this Directive are listed in table 5.

Table 3: Some E.U. Directives and Regulations relevant

	to animal welfare
74/577	stunning before slaughter
78/1027	veterinary training
Regulation 3626/82	wild animals
83/129	seal skins
86/113 88/166 99/74	laying-hens
86/609	laboratory animal tests etc.
88/320	inspection of laboratory practice
Regulation 1906/90, 1538/91	marketing standards for poultry
91/629 97/2	calves
91/630	pigs
Regulation 3254/91	leghold traps
93/119	slaughter or killing
95/29	transport (amending 91/628, 91/496, 90/425)
98/58	protection of farm animals

Legislation within European countries and E.U. Directives and Regulations have usually been preceded by Recommendations from Council of Europe committees. The committees have representatives from all European countries and observers from non-European countries, the European Confederation of Agriculture, animal protection societies and the International Society for Applied Ethology which provides scientific advice. In addition to ad hoc committees on Conventions on slaughter, transport, laboratory animals and companion animals there has been for 25 years the Standing Committee of the European Convention on the Protection of Animals Kept for Farming Purposes. This last Committee has produced Recommendations on: poultry kept for egg production, pigs, cattle, fur animals, sheep, goats, chickens kept for meat production and ducks. The information in the Convention and Recommendations has formed the basis for legislation and codes of practice in many countries.

Table 4: Example of events leading to an E.U. Directive

the welfare of calves	
1960-present	Public view that close confinement and inadequate diet lead to poor welfare e.g. Ruth Harrison 1964 <i>Animal Machines</i>
1970s and 1980s	Research results giving evidence for this from Andreae et al, Broom, Friend and Dellmeier, van Putten, Webster et al, Wierenga, and de Wilt
1988	Recommendation concerning cattle from the Council of Europe Committee
1990s	Further welfare research: effects of diet, confinement, space in groups, design of systems - Albright et al, Blum et al, Ketelaar de Lauwere, Le Neindre and Veissier, Müller and Schlichting, Trunkfield and Broom
1990	Report to European Commission by group of scientists
1991	Directive 91/629/EEC laying down minimum standards for the protection of calves. (Brief but specifies space allowance and requires report from E.U. Scientific Veterinary Committee by 1/10/97 which Ministers will act on)
1994-1995	Public pressure for action, scientific report requested
November 1995	Report on the welfare of calves by E.U. Scientific Veterinary Committee, Animal Welfare Section
1996	Proposal for legislation from European Commission staff and scientific report considered by Ministry staff from each member state. Revised proposal discussed by Ministers from each Member state
January 1997	Directive 97/2/EC amending 91/629/EEC

Table 5: Major provisions of E.U. Directive 97/2/EC on

keeping of calves
No calf in individual pen after 8 weeks.
Individual pen wider than height of withers of standing calf, longer than length from tip of nose to back of pin bone x 1.1.
Individual pen must not have solid walls - direct visual and tactile contact.
Groups 1.5 m ² per calf < 150 kg, 1.7 m ² < 220 kg, 1.8 m ² > 220 kg.
Not darkness, tethered (except 1 h feeding), muzzled.
Bedding < 2 weeks, inspect twice daily (once outdoors).
Colostrum in first 6 hours, food > twice daily, drinking water after 2 weeks.
Food with fibre: > 50 g per day 2-8 weeks250 g.
Iron in food sufficient to ensure blood haemoglobin > 4.5 mmol.l ⁻¹

The actual effect of legislation on the welfare of animals depends upon the responses of those owning and managing the animals. This response, in turn, depends upon the nature of any enforcement. Some systems for farm animal production will not continue if they are made illegal because they depend upon large manufacturers who are easily forced to change to a legal system. Other aspects of legislation can be enforced only by checks on farm, transport vehicles, markets, slaughterhouses etc. and the extent of law-breaking will be significantly affected by the frequency and quality of the checks. There are regional and national differences in the extent to which legislation is viewed seriously by those involved in the animal production business. The general direction of movement within the European Union in this respect is towards better enforcement in all member states because it is manifestly unfair for there to be significant differences in the extent of compliance with the laws.

2.4 The attitudes of people

Farmers and other animal users have to live with their families, friends and neighbours. If these people are critical of the effects on the welfare of animals of the methods used, the farmer may change these methods. In some cases, the animals are very obvious to all who pass by the farm. If a sheep or cattle farmer has many animals which are noticeably lame, there will be a considerable likelihood that someone will comment on this to the farmer. Farmers do not like to be thought incompetent or uncaring so they may respond to such comments by giving the animals veterinary treatment or changing the management system so as to avoid lameness. If the animals are inside a building or otherwise hidden from public view, the number of people who might comment on poor welfare will be smaller and there is a greater chance that the farmer can persuade himself or herself that there are no significant welfare problems.

Meetings with others in the same business and trade magazines will tend to help farmers and others to arrive at common views about their various problems. A farmer who has to reconcile himself or herself to poor welfare in some animals will find it easier to do so with the support of others. Such influences will tend to slow down change towards better welfare in the animals if economic factors mitigate against such change.

The views of the general public are largely made known to farmers and others involved in animal production via the media. There is frequent coverage of animal welfare issues in newspapers, on radio and on the television and this, by bringing scientific knowledge about animal complexity to the attention of most people, affects the attitudes of people and then comes to represent it. Farmers see themselves portrayed as uncaring in some respects. They are unfairly portrayed on some occasions but other portrayals are correct and the farmer cannot hide from them by retreating physically into buildings and socially into a farming only society. When public demonstrations about animal welfare issues occur, farmers cannot ignore these. The demonstrations by great numbers of largely orderly and apparently normal people against the shipping of calves to conditions which were illegal within the United Kingdom, had a big influence on farmers and politicians alike. It is not the most vociferous people, who are sometimes rather extreme in their views, who have the greatest influence on animal users or politicians but the moderate people who represent a groundswell of public opinion. In many recent surveys in Europe, animal welfare has been shown to be an important issue for the general public. For example about three quarters of people questioned in France regarded animal welfare as a problem affecting their purchasing of veal or eggs and 34 % of 420 schoolgirls questioned in Dublin stated that they avoided eating meat, principally (53 %) for animal welfare rather than nutrition (29 %) reasons.

3 The breeding of animals in relation to welfare

The breeding companies have a very great effect on animal welfare. As has been pointed out (BROOM, 1994; PHILLIPS, 1997) continuing efforts to achieve earlier and faster growth, greater production per individual, efficient feed conversion and partitioning, and increased prolificacy are the causes of some of the worst animal welfare problems. The direction of selection needs to be reversed, or at least causes of poor welfare need to be taken into account during selection, if animal welfare is not to get poorer and poorer.

This problem is not one which is effectively addressed by existing legislation. Those who run breeding companies are not prosecuted for cruelty because they sell animals which are unable to walk without pain before the end of their normal growth period. Hence it is clear that new legislation is needed to deal with this problem.

Standards set by retail companies can deal with the problem. These companies can insist on slower growth, less bodily distortion and eradication of undesirable, if profitable, traits. Farmers can also insist on more appropriate strains of animals when they buy from breeding companies.

4 World Trade Agreements

Future improvements in farm animal welfare depend to some extent on world trade agreements. Poor welfare in animals must be regarded, in any such agreement, as a moral issue in relation to imports. It is intolerable to most civilised people that all countries must drop their standards to that of the lowest when a moral issue is at stake so all European countries should endeavour to insure that the next World Trade Organisation agreement, or the interpretation of the present one, is changed to include animal welfare as a criterion for refusing imports.

5 Conclusions

The actions of farmers and other people involved in animal production in relation to animal welfare must be considered when asking how animal production is regulated. These actions are most affected by regulations imposed by those who purchase their products. The standards set by food retailers are having a considerable effect on the welfare of animals on farms. Secondly, animal welfare during animal production is affected by legislation but the extent of this effect depends upon the efficacy of enforcement and the general attitude to legislation. Thirdly, the knowledge of the individuals concerned in animal production and their philosophy in relation to animals will affect animal welfare. The actions of the farmers, transporter or slaughterhouse staff will also be affected by the attitudes of their family, friends, visitors, and colleagues and of the farming press and general media or other sources of information about public views. The breeding of animals, which causes significant and serious welfare problems, is not covered adequately by existing legislation although pressure from the purchasers of products may bring about some changes.

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