

## Science is not enough: how do we increase implementation?

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### Abstract

Science has been invaluable for increasing understanding of animal welfare and as a result we know of many ways in which animal treatment and housing can be improved. However, implementation is slow because of political and economic considerations. This is particularly clear for farm animals. This raises the question of what else is needed, besides science, for implementation of welfare improvements. At least three other disciplines need more attention in this respect: sociology, economics and ethics. Scientists will continue to be central in achieving improvements in animal welfare by providing credible, authoritative information on animal welfare and other issues. But to increase implementation of their results they need to increase dialogue with all of the players involved — producers, retailers, consumers, legislators and the media — as well as with specialists in other disciplines to improve cross-disciplinary understanding.

**Keywords:** animal welfare, economics, ethics, politics, science, sociology

### Introduction

Science has been invaluable for increasing understanding of animal welfare and as a result we know of many ways in which animal treatment and housing can be improved. However, implementation is often slow because of political and economic considerations. This is particularly clear for farm animals, including for some of the most obvious examples such as breeding and stocking density. Thus it is apparent that breeding broiler chickens for rapid growth has increased the incidence of leg and joint problems (Farm Animal Welfare Council 1992; Kestin *et al* 1992). It is known that many leg problems can be reduced by selective breeding (Sørensen 1989), but this has not been fully taken into account by breeding companies because selecting as strongly as possible for leg strength would retard progress on growth rate, and increasing growth rate is still their main priority. With regard to housing, it is apparent that at high stocking densities increasing space allowance increases freedom of movement (Appleby *in press*). For example, one study of furnished cages found that laying hens spent more time in locomotion when they were given more space, with the increase in activity continuing up to a space allowance of at least 3000 cm<sup>2</sup> per bird (Albentosa & Cooper 2002). Yet the latest European Union Directive for protection of laying hens, while providing better conditions than any previous legislation, will still mandate an allowance of only 750 cm<sup>2</sup> per bird (Commission of the European Communities 1999).

Fraser (1995, p 113) has suggested that “Instead of trying to ‘measure’ animal welfare, scientists should see their task as identifying, solving and preventing animal welfare problems.” Given the fact that livestock production became

rapidly more intensive following World War II, causing numerous problems for animal welfare, and that improvements in farm animal welfare are now proceeding much more gradually, it seems that scientists have been more successful at identifying and understanding animal welfare problems than at solving or preventing them. This raises the question of what else is needed, besides science, for implementation of welfare improvements. In this paper it will be argued that at least three other disciplines need more attention in this respect: sociology, economics and ethics.

### Sociology

A common tendency in developed countries over the last 50 years has been a drive for efficiency in agriculture: for cutting the cost of producing each egg, pound of meat or pint of milk. This was initiated by public policies — before, during and after World War II — in favour of more abundant, cheaper food (Williams 1960). It subsequently became market driven, with competition between producers and between retailers to sell food as cheaply as possible, and thereby acquired its own momentum. The pressure for cheap food production is sometimes described (including by the animal production industry) as a consumer demand for cheap food (Appleby *et al* 2003). But this is an oversimplification implying that people want cheapness at the expense of all other considerations, and that cutting prices is an end that justifies all possible means. Consumers are concerned with various other aspects of food, such as taste, the environmental effects of production and the welfare of the food-producing animals. In fact, some people are willing to seek out and pay more for food produced by methods, such as free-range, that are perceived to be better for welfare.

Furthermore, a larger proportion of people say that they want the welfare of farm animals to be improved, even if this increases food prices, than actually buy higher-priced welfare-friendly products in the shops (Bennett 1997). The disparity between what people say they want and how they spend their money is sometimes portrayed as hypocrisy, but it seems more reasonable to conclude that they are behaving as citizens when they answer the questionnaire and as consumers, juggling varied priorities, when they do their shopping. The only case where the public has actually been asked to vote on legislation to improve animal welfare, with associated higher costs, has been in Switzerland. In this case they approved the legislation and battery cages were banned in Switzerland as a result (Swiss Society for the Protection of Animals 1994).

It is not surprising, indeed it is reasonable, that when offered two otherwise similar products, most shoppers will buy the cheaper. In fact it is not reasonable to expect consumers to take day-by-day responsibility for animal welfare at the point of sale, any more than they are expected to do so for other issues of concern to society, such as pollution. It is increasingly apparent that people who do not look after farm animals themselves expect those who do to take responsibility for doing so properly — either voluntarily or involuntarily. A senior executive of one of the major fast food chains has commented that their customers expect them — the restaurant company — to ensure that the animals supplying them with food are properly looked after (England 2002). Similar comments have been made by executives of the Food Marketing Institute, which represents the major supermarket chains in the USA (Anonymous 2003). Different mechanisms are at work in Europe and in the USA to improve animal care in response to this expectation. In Europe the main mechanism is legislation (Eurogroup for Animal Welfare 2002). In the USA the lead is now being taken by the retail sector. The National Council of Chain Restaurants and the Food Marketing Institute have developed a collaborative program, producing husbandry guidelines for their suppliers of animal products (Hollingsworth 2002). These do not go as far as European legislation, but they are valuable in acknowledging the importance of animal welfare, and in forming a basis for the possible raising of welfare standards in the future.

It is clear that these sociological issues are critical for the welfare of animals that are affected by society, including farm animals, and publications on such issues are increasing (including in journals such as *Society & Animals* and *Anthrozoös*). However, it is also clear that information on these aspects of sociology is very incomplete. As just one example, while there have been some studies on cultural variation in attitudes to animals (eg Nakajima *et al* 2002), little is known about the basis for the well-established difference between Northern and Southern Europe in attitudes to animal welfare, despite the fundamental effects of this variation on how animals in Europe are treated.

## Economics

The sociological issues mentioned previously include monetary considerations. These are also a matter for economic analysis, but economics does not just involve money: “Economics is concerned with how we in society make decisions about using resources to achieve the things that we want” (Bennett 1997, p 235). In this context, while it might once have been reasonable for the agricultural industry to see its primary task as increasing output and lowering production costs, this emphasis has led to long-term reductions in animal welfare as well as other problems (Appleby *et al* 2003). It now needs to be challenged.

It turns out, surprisingly, that major improvements in farm animal welfare could be achieved with only minor increases in the price paid for food by consumers. As one illustration, the capital costs of animal production (housing and so on) typically account for about 10% of production costs (Haartsen & Elson 1989). Suppose we double the space and facilities provided for the animals, increasing production costs by 10%, and introduce new disease control measures at a cost that also amounts to 10% of the original total. Cost of production has then been increased by 20%. When a consumer buys a meal in a supermarket or restaurant, the cost of animal products in that meal accounts for only about 5% of its purchase price. So increasing the cost of production by 20%, with considerable improvement in animal welfare and food safety, need add only 1% to the price of the meal. It is reasonable to suggest that most consumers would not even notice such a change and would support it if asked.

A real example is provided by the UK ban on stalls and tethers for pregnant sows, for welfare reasons, which took effect in January 1999. McInerney (1998) estimated that this would increase pork production costs by 5%, but retail prices (which include transport, packing, marketing, and so on) by only 1%. Householders might buy slightly less pork than previously, so their expenditure on food would stay level or very slightly decrease (by perhaps 0.03%). Meanwhile it should be possible for the farmers to maintain their profits, offsetting increased costs with increased selling prices.

An obstacle to such change, however, is what may be called ‘economic inertia’ (Appleby *et al* 2003). Producers tend to resist legislation, or pressure from intermediary buyers, to improve conditions for animals because, in existing price structures, buyers continue to expect low prices. Any increased cost of production would therefore be borne by producers and they would suffer losses or reduced profits, at least in the short-term (Appleby *et al* 2003). If these short-term effects can be avoided, though, by making changes gradually or by deploying public subsidy, a new situation with increased costs and increased income from increased food prices need not be disadvantageous to producers. A major consideration, of course, is protection against imports of food products from countries without similar legislation (Scientific Veterinary Committee 1996). Such protection, taking into account animal welfare standards, is already being sought by the European Union (supported by welfare



groups) in negotiations at the World Trade Organisation (European Communities 2000). It may be noted, though, that producers who talk of whole industries going out of business in the absence of such protection (Jorêt 1998) may be overstating their position. For example, for many years, Denmark has required more space in battery cages than other European countries without being able to restrict imports. Its egg industry survives, albeit perhaps smaller than it might otherwise have been (Lysgaard 1994).

A general conclusion is that competition should no longer be the main determinant of food prices, where these affect major issues of concern to society, notably, animal welfare and the environment. Again, economic analysis of such issues has been limited, with the notable exception of the work of Bennett (eg 1997) and McInerney (eg 1998).

### Ethics

In contrast to sociology and economics, the ethics of animal welfare has received considerable attention from specialists (eg Sandøe *et al* 1997, 2003). The limitation in this case is that this area is still insufficiently understood and implemented, both by the general public and by people who most influence how animals are treated. For example, high-producing dairy cows are currently being cloned in the USA and there is pressure to allow their milk to be sold for human consumption (Mitol 2002). Cloning may have various implications for animal welfare and raises many ethical questions (Farm Animal Welfare Council 1998). Yet the only issue apparently being discussed by the regulatory authorities is whether meat and milk from cloned cows are safe to eat and drink (Food and Drug Administration 2002). Many people react to hearing about this matter with unease or distaste (Mitol 2002), but while statements such as “I don’t like the idea of cloning cows” are a valid avowal of personal preference, they are much less likely to persuade others than an objection to the practice based on clearly explained ethical arguments (Appleby 1999). In the absence of cogent ethical objections, use of milk from cloned cows is likely in the near future (Mitol 2002).

### Understanding of scientific approaches

The fact that scientific information on animal welfare is often devoid of sociological, economic and ethical context is sometimes exacerbated by a debatable approach to its interpretation. This can be illustrated by comments from United Egg Producers (2002, pp 3–4), who represent the majority of egg producers in the USA. In presenting animal husbandry guidelines based on recommendations from an independent scientific advisory committee, they state that:

“The scientific committee did not conclude that the existing management practices of the egg laying industry were inhumane, but that improvements could be made.”

“Space allowance should be in the range of 67 to 86 square inches [430–555 cm<sup>2</sup>] of usable space per bird to optimise hen welfare.”

“Space allowance can be at the low end of the range in shallow cages in which small Leghorn strains are housed ... (Science has shown that additional space may be more stressful as more aggressive tendencies become manifest.)”

Yet the fact that the committee did not describe existing practices as inhumane does not mean that it considered those practices to be ideal for welfare. The statement about optimising welfare seems to overstate the case because there are many other aspects of the environment that affect welfare, and the effects of space allowance will be influenced by these. Also, the phrase “Science has shown” in the final sentence is used to give emphasis to a weak result: one or two studies have found increased pecking with additional space (Polley *et al* 1974), but much other evidence contradicts this, indicating that it is not a general result (Scientific Veterinary Committee 1996). For example, Denmark has required 600 cm<sup>2</sup> per bird in cages since 1979 with no apparent ill effects (Lysgaard 1994).

Other US groups, such as retailers, also have animal welfare advisory committees, and in many of these the interpretation of scientific information is affected by the fact that their committees include not only welfare scientists but also welfare advocates, other scientists, and representatives of the food industry. As such, the influence of the welfare scientists is modified by that of the other committee members. Moreover, neither United Egg Producers’ scientific committee nor retailers’ committees publish their own conclusions: United Egg Producers and the retailers produce reports based on their advisors’ recommendations, which are thus modified further (United Egg Producers 2002). The European Commission’s Scientific Committee on Animal Health and Animal Welfare may provide a better model. It consists entirely of scientists and produces independent reports (eg Scientific Veterinary Committee 1996). The European Commission then makes political decisions based on those reports.

### Conclusions and animal welfare implications

Scientists will continue to be central in achieving improvements in animal welfare by providing credible, authoritative information on animal welfare and other issues. But to increase implementation of their results they need to increase dialogue with all of the players involved — producers, retailers, consumers, legislators and the media — as well as with specialists in other disciplines to improve cross-disciplinary understanding. For example, rather than organising primarily scientific conferences, they could be more active in setting up consultations with representatives of other fields and professions. In addition, more studies relevant to animal welfare in those other disciplines, notably sociology, economics and ethics, need to be carried out and taken fully into account if the factors restricting and delaying improvements in animal welfare are to be identified and overcome.

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