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## International drivers for animal welfare change and implications for New Zealand

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### ABSTRACT

Standards of animal welfare accepted in the international (mainly European and North American) marketplace are influenced by a wide range of factors, including lobby groups and retailers. In addition, voluntary labelling of products (one of the tools advocated by lobbyists and retailers) is likely to have considerable influence over consumer purchasing choices (for foods derived from animal friendly products and production systems). The EU is determined, through a combination of policy adjustment, research and monitoring of animals, and provision of information, to make improvements to the welfare of animals that contribute to the food supply of European consumers. The changed regime for CAP payments will mean that systems for monitoring livestock welfare will be in place in Europe from 2007. The EU's Welfare Quality research project will have a draft set of welfare monitoring standards available for "road testing" at the beginning of 2007. Similarly, validated measurement tools that are relevant to New Zealand conditions are required (to facilitate continued success in premium-priced welfare-sensitive markets). Ideally, the measurement tools and systems need to be outcome-based and applicable to the assessment of all aspects of welfare covered under the Five Freedoms and in New Zealand's production systems.

**Keywords:** animal welfare; markets; livestock production; welfare assessment.

### INTRODUCTION

New Zealand has an enviable reputation internationally for its standards of livestock welfare and associated animal welfare regulations. Nevertheless, the climate for change in animal welfare standards (*i.e.* for demonstrable improvements) is intensifying. This paper describes the key international drivers for change, which includes:

- the demands and activities of non-governmental organisations (NGOs) and consumers;
- corporate and retailer actions;
- international trade/animal welfare policies;
- research trends.

A number of different sources were consulted in the preparation of this paper including: the published international scientific literature, appraisal of websites of the most prominent international animal welfare/activist groups, discussions with the Milk Development Council and Department for Environment, Food and Rural Affairs (Defra) in the UK, European Commission - Health and Consumer Protection Directorate General, Biosecurity New Zealand, and the major pastoral livestock industry bodies in New Zealand. The implications for New Zealand pastoral livestock industry and research are also described.

### DRIVERS FOR CHANGE IN ANIMAL WELFARE STANDARDS

#### Activities of NGOs, corporates and retailers

There is large and increasing number of organisations active in campaigning against livestock production around the world. Much of the activity has focused on intensively-housed animals although practices used in pastoral systems have also been targeted (*e.g.* mulesing, live export and slaughter). The less radical groups, such as the World Society for the Protection of Animals (WSPA, whose membership includes the likes of the RNZSPCA) and the EuroGroup for Animal Welfare use dialogue with industries and regulatory bodies as one of their tools. The more radical organizations such as People for the Ethical Treatment of Animals (PETA), and vegetarian and animal liberation groups are concerned with issues in addition to animal welfare *e.g.* animal rights and vegetarianism, and tend to be more confrontational.

Several of the leading lobby groups (such as the UK based Compassion in World Farming (CIWF), WSPA), while seeking to abolish factory farming, are becoming more sophisticated and less confrontational in their approach as witnessed by their funding of mainstream animal welfare conferences (*e.g.* CIWF Animal Sentience conference), commissioning of scientific reviews and building links with governmental agencies and scientists (*e.g.* Viva! (Vegetarian International

Voice for Animals), one of the more radical organisations, has published a report entitled “The Dark Side of Dairy” (Viva!, 2006) acknowledging the assistance of Professor John Webster). Interestingly, organisations such as WSPA, CIWF and PETA have strong bases in the Northern Hemisphere (mainly Europe and the United States of America), but their activities and aspirations extend globally, as evidenced by the recent campaign by PETA against the practice of mulesing used by many Australian and some New Zealand Merino sheep farmers (PETA, 2005). The mulesing campaign has prompted the Australian Merino industry to invest in alternative methods for the control of fly strike and a phase out of the practice by 2010. WSPA has notified its intention to conduct an international campaign against long distance transport, which has already had some influence in Australia (*e.g.* stimulating further research on the welfare consequences of long distance transport).

Targeting of retailers and consumers is one of the more effective strategies used by welfare lobby groups to effect change in livestock production practices (*e.g.* as evidenced by the speed with which the Australian wool industry has proposed to phase out of mulesing following the targeting of retailers of up-market Merino wool products by PETA). Such success is likely to encourage more of this type of activity. Other welfare lobby groups (*e.g.* CIWF) indirectly target consumers through publishing lists of retailers together with ratings of the welfare status of animals/production systems used in the products sold in their stores (CIWF, 2006a).

Partly in response to this kind of pressure, many major food retailers in the UK and restaurant chains originating in the USA (*e.g.* McDonalds, Burger King) now require suppliers to adhere to specific standards of welfare in the raising and slaughter of their livestock (Mench, 2003). Smithfield Foods Inc, the USA’s leading processor and marketer of fresh pork (and also the largest pig producer), has just announced a phase out of gestation crates for pregnant sows. The company credited the change to customer pressure. Compliance with the retailers’ standards is maintained via independent audits of suppliers (*e.g.* Grandin, 2006).

An informal survey of the websites of several lobby groups indicates concern with the following types of farming practice (*e.g.* CIWF, 2006b):

- Short, very demanding life;
- Tiredness;
- Hunger and low body reserves;
- Artificial Insemination;

- Early separation of calf and its mother;
- Transport (especially of calves);
- Lameness;
- Diseases (*e.g.* mastitis, milk fever, grass staggers);
- Low quality/quantity of feed;
- Tissue removal (*e.g.* disbudding);
- Inadequate protection from adverse climates;
- High numbers of animals per stockperson.

One of the difficulties faced by industry when they become the target of a welfare campaign (as illustrated by the “Dark side of dairy” in the UK) is the difficulty in countering inaccurate claims or in promoting positive aspects of their industry while being in reactionary mode (Milk Development Council UK, pers. comm.).

### **International trade and animal welfare regulations and policies**

Rights and obligations of international trade in agricultural products are set out by the World Trade Organisation under the Agreement on Sanitary and Phytosanitary Measures (WTO-SPS) (Thierman, 2004). This agreement applies to the health of animals and their products in international trade, but there is no provision in the Agreement for setting standards of animal welfare. Thus, there are no internationally-binding rules to regulate livestock welfare. The World Organisation for Animal Health (OIE), which sets animal health standards under WTO rules, has assumed the mantle for the development of international animal welfare guidelines (Bayvel, 2004). In May 2005, the International Committee of OIE Member Countries adopted four animal welfare standards to be included in the OIE Terrestrial Animal Health Code (OIE, 2005). These standards, which are voluntary, cover:

- the transport of animals by land;
- the transport of animals by sea;
- the slaughter of animals;
- the killing of animals for disease control purposes.

Codes to cover other areas of animal use are under development.

While there are no mandatory international animal welfare guidelines, the influence of local governmental or inter-governmental agreements on animal welfare, particularly in countries with which we trade, should not be underestimated. Of our trading partners, the EU and the UK have been the most influential in developing animal welfare regulations. Most of the EU requirements are

specified in Directives as laid down by the Council of the European Union. In the past, the Directives have focused mainly on particular aspects of housing within the intensive poultry, pig and veal industries, and transport. The welfare directives are based, in part, on scientific information provided by the European Food Safety Authority's Panel on Animal Health and Welfare. This Panel is currently chaired by Professor Don Broom (Cambridge University, UK) and is in the process of preparing a report on the welfare of dairy cattle. Thus, it is reasonable to expect that Directives on the welfare of dairy cattle husbandry will be issued in due course.

The EU is intensifying its activities in the animal welfare arena, partly as a result of a survey which "noted a seismic shift in consumer opinion towards promoting animal welfare" (Eurobarometer, 2005). The survey results showed that, for an animal welfare conscious (e.g. northern EU) consumer, more than 50% consider animal welfare when purchasing meat, 56-72% identify the production system on the label, and 70-94% believe animal welfare on farms can be influenced by purchasing behaviour. Further, the Eurobarometer report identified several significant barriers for consumers in exercising their choice of products, namely, lack of information, lack of availability and lack of trust in the food production systems. It was considered that labelling would be one effective way to overcome the lack of information and help consumers choose between "minimum" and "higher" welfare standards.

In concert with the Eurobarometer study, the EU has developed a 5 Year Action Plan (2006-2010) (EU, 2006) with the broad aim of developing mechanisms to prevent differences in animal welfare standards internationally from undermining higher animal welfare elsewhere (e.g. EU). The mechanisms proposed include: the marketplace, international dialogue, promotion on animal welfare standards in trade agreements, improvement of labelling regimes, and strengthening animal welfare in EU agricultural policy.

The proposed actions to bring about change through these diverse mechanisms are:

#### **Action 1**

Upgrading existing minimum standards for animal protection and welfare given that: it is recognised that there is a lack of animal welfare standards for most livestock even though scientific evidence is available; there is a demand from society for improved animal welfare; there is a new basis for calculating CAP payments based, in part, on animal welfare standards from 2007. Further,

there will be enhanced "investments" for improvements in animal welfare above minimum standards and payment for participation in food quality/animal welfare schemes.

#### **Action 2**

Giving a higher priority to promoting policy-orientated future research on animal protection and welfare to improve EU competitiveness. This will be achieved in part through the establishment of a European Centre/Laboratory for animal welfare with responsibilities for a standardisation/certification process for new animal welfare indicators (see Action 3) and to facilitate the establishment of an EU label for animal welfare by providing for a *harmonised set of science-based benchmarks*.

#### **Action 3**

Introducing standardised animal welfare indicators. These require development of precise and measurable animal welfare indicators and will be used: to classify the hierarchy of welfare standards in production systems (from minimum to higher); to differentiate products based on animal welfare standards in the market place; on an EU label for animal welfare.

#### **Action 4**

Ensuring that animal keepers/handlers and general public are more involved and informed and fully appreciate their role in promoting animal welfare. The intention is to create a virtuous cycle linking consumer demand to production systems with high animal welfare through provision of improved information and clearer marketing/labelling of products.

#### **Action 5**

Continue to support and initiate further international initiatives to raise awareness and create a greater consensus on animal welfare. This requires a monitoring instrument to compare animal welfare standards internationally and has links to the OIE initiatives on global animal welfare standards. The EU intends to negotiate animal welfare activities in bilateral agreements between the EU and Third Countries such as has occurred with Chile (EU, 2006).

The development of a validated, quantitative monitoring instrument for measuring livestock welfare is an essential pre-requisite if the EU is to achieve many of the goals in its Action Plan. A large EU research project (Welfare Quality, 2007a) has been funded to develop such instruments for all the common European farming systems (see below

for more details). Indeed, the push for welfare assurance by some industries, regulatory agencies (e.g. EU CAP payments based on welfare standards), retailers, restaurant chains, and welfare NGOs requires similar validated measurement systems. There is some urgency in the development of these tools elsewhere as, for example, the new system for calculating CAP payments is to be introduced this year.

### Key research trends

As mentioned previously, the EU is funding a large research project entitled “Welfare Quality”. The aims and aspirations of the research programme are unique internationally in that they involve working across the supply chain (producers, processors, retailers, food service sector and consumers) to promote the application of animal welfare measurement at all stages of the process from consumption right back to production. Their success in developing the partnerships and research is described in their latest newsletter (Welfare Quality, 2007b). The monitoring system being developed involves making assessments under 12 criteria (under four main topics or “principles”) as listed in Table 1 (Keeling & Veissier, 2005). In addition, Welfare Quality undertakes research to improve specific husbandry practices e.g. reducing stress on heifers during integration into the herd (Welfare Quality, 2007c). New Zealand, Australia and many other countries are also embarking on research programmes to identify objective measures of welfare that can be applied under commercial conditions.

Currently there is no single approach that

integrates and links the various societal and scientific aspects of the animal welfare debate. Recent research at the Scottish Agricultural College (Rousing & Wemelsfelder, 2006; Defra, 2006) has demonstrated the potential of the qualitative assessment of animal behavioural expressions as a valid scientific tool for the integration of different scientific approaches to animal welfare. This work has applied Free-Choice-Profiling methodology (FPC), and the associated statistical approach of Generalised Procrustes Analysis (GPA), to the qualitative assessment of animal behaviour. FCP elicits spontaneous qualitative descriptions of animal behaviour (e.g. “conflict”, “anxious”), and the level of consensus in those assessments can be calculated with GPA. To date the FCP/GPA approach has been shown to have high internal validity (*i.e.* high levels of inter- and intra-observer reliability) and to be highly correlated to quantitative behavioural measures.

These results suggest that the FCP/GPA method for qualitative behaviour assessment has the potential to integrate other scientific measurements of animal welfare and to be used as a practical tool for on-farm welfare assessment and surveillance.

As consumers are particularly interested in the mental aspects of animal welfare (Fraser 2006), there is a need for scientists to develop a better understanding of the emotional capabilities of livestock and associated objective measures of the capacities of animals to suffer. This is being matched by an increase in research on the emotional capacities of animals (e.g. Boissy *et al.*, 2005).

**Table 1:** Welfare principles, criteria and some examples of potential measures for each welfare criterion

Principle	Welfare criteria	Examples of potential measures
Good feeding	1. Absence of prolonged hunger	Body condition score
	2. Absence of prolonged thirst	Access to water
Good housing	3. Comfort around resting	Frequencies of different lying positions, standing up and lying down behaviour
	4. Thermal comfort	Panting, shivering
	5. Ease of Movement	Slipping or falling
Good health	6. Absence of injuries	Clinical scoring of integument, carcass damage, lameness
	7. Absence of disease	Enteric problems, downgrades at slaughter
	8. Absence of pain induced by management procedures	Evidence of routine mutilations such as tail docking and dehorning, stunning effectiveness at slaughter
Appropriate behaviour	9. Expression of social behaviours	Social licking, aggression
	10. Expression of other behaviours	Play, abnormal behaviour
	11. Good human-animal relationship	Approach and/or avoidance tests
	12. Absence of general fear	Novel object test

There is increasing concern that genetic selection of livestock for increased productivity has exceeded the animal's capacity to readily cope with the challenges presented throughout its life. This concern is manifested most intensively with broiler (meat) chickens and dairy cattle. Research is under way in the UK (Defra, 2006) and elsewhere to develop measures of robustness (ability to cope with production systems) in dairy cattle, and to define the biological characteristics and adaptability of robust animals.

### IMPLICATIONS FOR RESEARCH

Under the auspices of Biosecurity New Zealand and the Ministry of Agriculture and Forestry (MAF), New Zealand has a world class policy and regulatory infrastructure to manage the welfare of production and other animals and identify research needs (Biosecurity, 2007). Similarly, the major livestock production industries have been proactive in identifying research requirements in animal welfare (e.g. Dairy Insight, 2007; Fisher *et al.*, 2006). Research has tended to be orientated towards particular issues (e.g. transportation, Matthews, 2000; winter management practices, Fisher *et al.*, 2002; Jensen *et al.*, 2004; exposure to climatic conditions, Tucker *et al.*, 2007) or development of objective methods to quantify welfare (e.g. behavioural requirements, Matthews & Roberts, 2001; pain, Stewart *et al.*, 2005). The main aim of much of this work has been to quantify the extent of any welfare compromise experienced and identify alternative, less compromising practices if required. The research has typically been multi-disciplinary, thereby providing information across several dimensions of animal welfare (e.g. stress, health, pain/discomfort, behavioural freedom).

In order for research to continue to play its role in addressing the demands arising in the international arena, particularly the trend for increasing welfare assurance sought by retailers and consumers, there is a need to widen the range of topics researched (see list above), give greater consideration to the mental experiences of livestock, and develop integrated welfare assessment procedures for use in practical situations. For example, nutrition in livestock has been well-studied but there are no adequate measures of the degree to which animal's experience hunger when body fat reserves are low or during periods of negative energy balance. We have recently developed a methodology to help answer this type of question (Matthews *et al.*, 2006). Briefly, the method measures changes in the level of feeding motivation as forage accessibility

and body condition are varied. Further, we are collaborating with INRA scientists to develop techniques for assessing the emotional experiences of animals to varying levels of food deprivation using the techniques similar to those reported in Boissy *et al.* (2005). In parallel, there is a need to build these and other measures into a validated welfare assessment system with the capacity to address all aspects of welfare covered under the Five Freedoms (Appleby & Hughes, 1997) and relevant to New Zealand conditions, including the provisions of animal welfare legislation. New Zealand's animal welfare statutes require livestock to be kept according to their physical, health and behavioural needs which comprises: proper and sufficient food and water; adequate shelter; opportunity to display normal patterns of behaviour; physical handling in a manner which minimises the likelihood of unreasonable or unnecessary pain or distress; protection from, and rapid diagnosis of, any significant injury or disease.

Ideally, the measurement tools and systems need to be outcome-based. The Swedish system used in the meat chicken industry provides an excellent model for such a system (Berg & Algers, 2004). A measure of the severity of foot pad dermatitis is scored on a random sample of birds by reference to a standardised (photographic) scoring protocol, and an overall flock score is derived. The measure is outcome based, and is an objective and quantitative and reflection of the adequacy of atmospheric and underfoot (litter) conditions prevailing during the animals life. In addition, it provides an indication of leg and foot health, and the mobility of the birds. Bagshaw *et al.* (2006) have demonstrated the utility of this approach, in combination with a range of additional outcome-based measures, for assessing the welfare of commercial broiler flocks in New Zealand. The measures used by Bagshaw *et al.* (2006) included mortalities (natural and culls, and causes), incidence and severity of foot pad, hock and breast lesions, and incidence and severity of leg weakness. The challenge for researchers is to identify similarly useful, practical outcome-based measures of animal welfare for New Zealand's pastoral industries. Ideally, this research should be conducted in collaboration with other leading groups overseas to facilitate its international acceptance.

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