Animal Welfare and the New Zealand Dairy Industry –
A Guide for Veterinarians and Rural Professionals

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Comments and suggestions for the improvement of this document should be directed to:
Rob Gregory
DairyNZ Limited
Private Bag 3221
Hamilton
New Zealand

Tel: 0064 (0)7 858 3750
Fax: 0064 (0)7 858 3751
Email: rob.gregory@dairynz.co.nz

Cover photo – Cow on DairyNZ’s Greenfield farm, New Zealand’s first fully automated dairy farm

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# Table of Contents

**Introduction** 4

**Background to Modern Farm Animal Welfare** 5
   - A Brief History 5
   - Rights vs. Welfare 5
   - A Definition for Animal Welfare? 8
   - Other Ways of Looking at Welfare 10

**Animal Welfare in New Zealand** 13
   - Introduction 12
   - The Animal Welfare Act 1999 12
   - Codes of Welfare 13
   - Offences, Penalties and Liabilities 16
   - Inspectors 18
   - Case Studies 19
   - Assisting With an Investigation 20
   - Veterinary Responsibilities 21

**The Painful Husbandry Procedures Code of Welfare** 22
   - Introduction 22
   - Tail Shortening 23
   - De-horning and Disbudding 24
   - Age Limits 25
   - Pain Relief 26

**Further Information** 29
   - Resources 29
   - Websites 30

**References** 31
Introduction

The New Zealand dairy industry is highly regarded throughout the world for its sustainable pasture-based production systems and its commitment to animal welfare. A significant contributor to the New Zealand economy, in 2007 the dairy industry accounted for over 20% of all New Zealand exports and was valued at over $7.5 billion NZD (source: Statistics New Zealand).

In recent years, there has been a significant increase in public awareness of animal welfare, coupled with a global backlash against intensive animal production systems. As a result, consumers now increasingly expect their food to come from production systems which, in their eyes, have suitable regard for the wellbeing and welfare of the animals therein.

In this respect New Zealand is fortunate, because it has world leading legislation in place to safeguard the welfare of all production animals, including dairy cattle.

This legislation, the Animal Welfare Act 1999, is supported by a strong animal welfare research capability; policies based on robust science and ethical analysis; and an educational approach towards compliance, which nonetheless reserves heavy penalties for offenders where appropriate.

When these facts are coupled with the sustainability of its extensive production systems, it means that New Zealand is currently in a very strong position with regard to meeting the animal welfare expectations of consumers and the international community at large.

However, New Zealand’s ability to remain a leader in the animal welfare field does depend to a large extent on its compliance with legal requirements, a desire to embrace best practice and a commitment towards continuous improvement.

Non-compliance, be it unintentional or deliberate, damages this reputation and could ultimately affect the ability of the New Zealand dairy industry to export its quality products to markets around the globe.

This guide is primarily aimed at veterinarians and rural professionals, although other readers may also find it of interest.
Background to Modern Farm Animal Welfare

A Brief History

The modern farm animal welfare movement began in the mid-1960’s, with a book by Ruth Harrison, called ‘Animal Machines’. Outlining the conditions in which pigs, chickens and veal calves were kept at that time, the book was instrumental in raising public awareness of so-called ‘factory farming’ practices.

Public and political feeling was so strong that in 1965, just one year after the publication of Harrison’s book, the British government ordered an official inquiry into UK animal production methods, which culminated in a document known as the Brambell Report. The Brambell Report is most famous for defining the ‘Five Freedoms’, a concept which has since become the cornerstone of modern animal welfare thinking.

The ‘Five Freedoms’ are:

- **Freedom from Hunger and Thirst** - by ready access to fresh water and a diet to maintain full health and vigour.
- **Freedom from Discomfort** - by providing an appropriate environment including shelter and a comfortable resting area.
- **Freedom from Pain, Injury or Disease** - by prevention or rapid diagnosis and treatment.
- **Freedom to Express Normal Behaviour** - by providing sufficient space, proper facilities and company of the animal’s own kind.
- **Freedom from Fear and Distress** - by ensuring conditions and treatment which avoid mental suffering.

Two years after the Brambell Report, in 1967, the Farm Animal Welfare Committee (FAWC) was established and continues to this day\(^1\), advising the UK government on animal welfare issues and recommending changes to farming practices as necessary.

Ultimately these three steps: Harrison’s book, the Brambell Report, and the formation of FAWC, taken over 40 years ago, heralded the beginning of a significant shift in attitude towards the treatment of production animals and helped shape current global attitudes towards animal welfare in general.

Key points

*Modern animal welfare is over 40 years old.*

*People feel strongly about the welfare of animals. The ‘Five Freedoms’ are the key to good animal welfare.*

*The ‘Five Freedoms’ are ideals to be worked towards, not absolutes which must be met.*

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\(^1\) Became the Farm Animal Welfare Council in 1979.
Rights vs. Welfare

At this point, it is worth discussing the question of ‘animal rights’ versus ‘animal welfare’. Many people confuse animal welfare with animal rights, however, the two philosophies are fundamentally different, as outlined below:

**Animal Rights** – A moral position which argues that animals have certain rights, in the same way that humans have rights, and that these rights cannot and must not be broken. Central to this position is the belief that animals should not be exploited for human gain.

**Animal Welfare** – A moral position which accepts that animals may be used for human gain, but argues that such use should be done with the minimum of suffering and disruption to the animal.

Among the first and most influential of western philosophers to consider the moral status of animals was Jeremy Bentham, who in 1789 famously wrote:

“The question is not, Can they reason? nor Can they talk? but, Can they suffer?” (Bentham 1789; cited in Monamy 1996)

Bentham was a utilitarian, a movement which in its purest form considered animals and humans on equal terms, with both striving to achieve the greatest degree of ‘pleasure over pain’ in their lives. Although these views do not appear unduly controversial today, consider that when they were originally developed, the practice of slavery was still considered the norm in society.

Modern utilitarianism still has the notion of equality at its centre, but focuses more on the relative interests of each party (animal and human) in order to find an ethically acceptable outcome. From a utilitarian viewpoint, those with the greatest interests should prevail, no matter who has them. This idea has been most forcibly argued by Peter Singer, who suggests that putting human interests above animal interests is tantamount to ‘speciesism’ and should not be tolerated. However, as a utilitarian, Singer does acknowledge that it is acceptable to kill an animal, provided:

“...that it lives a pleasant life and, after being killed, will be replaced by another animal which will lead a similarly pleasant life and would not have existed if the first animal had not been killed.” (Singer 1979; cited in Appleby & Hughes 1997)

By weighing up animal and human needs, and ensuring that animals are treated in a way that maximises ‘pleasure’ and minimises ‘pain’, utilitarianism ultimately supports animal use and therefore an ‘animal welfare’ viewpoint. However, adherence to strict utilitarianism does have some potentially unpleasant consequences, such as the acceptance that human life is not sacred and that in some cases it may be in the greater good to kill or use a human, rather than an animal.

Key Points

Animal welfare is not the same as animal rights.

Utilitarians, e.g. Singer, believe in acting for the greater good and support animal welfare.

Rights advocates, e.g. Regan, do not support any use of animals by mankind.

Rollin’s ‘social ethic’ supports animal use, but in a way that respects their basic nature.
The utilitarian ethic described above is in stark contrast to the animal rights philosophy, popularised by Tom Regan. Regan supports the idea that all animals (including humans) have an inherent value, which is independent of ‘good and evil’ and must be respected at all times. The use of animals by humans constitutes ‘exploitation’ through non-observance of their fundamental rights, regardless of whether that use is for the greater good of humanity or not. Ultimately, the ‘rights’ view is abolitionist, seeking an end to those practices where animals are used for human gain, traditionally research, production and hunting. In the words of Regan:

“Giving farm animals more space, more natural environments, more companions does not right the fundamental wrong, any more than giving lab animals more anaesthesia or bigger, cleaner cages would right the fundamental wrong in their case. Nothing less than the total dissolution of commercial animal agriculture will do this…” (Regan 1989)

From a practical perspective, both Singer’s utilitarianism and Regan’s rights are quite brutal philosophies, so it is not surprising that a number of more mainstream concepts have emerged in recent years, blending aspects of the two. Among the most attractive is that of the ‘new social ethic’ championed by Bernard Rollin. As a utilitarian, Rollin accepts the use of animals by man, however, he also ascribes to them certain rights. These are not the same as Regan’s rights, but rights in the sense of respecting animals’ fundamental natures; in other words respecting the ‘pig-ness of the pig’ and the ‘cow-ness of the cow’:

“The ethic which has emerged in mainstream society does not say we should not use animals or animal products. It does say that the animals we use should live happy lives where they can meet the fundamental set of needs dictated by their natures and where they do not suffer at our hands.” (Rollin 1993)

Rollin argues that farmers do not deliberately seek to cause animal suffering, but may do so inadvertently, through the adoption of technologies aimed at maximising production at the expense of the animal’s psychological and biological nature. However, Rollin does not call for an immediate and wholesale return to traditional farming methods. Rather, he urges producers to embrace the new social ethic to make technology work for the benefit of both animals and humans, and by recognising and satisfying animals’ natures, to rekindle the tradition of care and husbandry he sees as lacking in modern agriculture:

“…animal use must be done in such a way as to respect the animals’ basic natures, and that is something mid-20th century agriculture has not done. It [the social ethic] is an attempt to preserve the ancient contract with domestic animals.” (Rollin 1993)

Most people involved in animal production in New Zealand, be they farmers, veterinarians, rural professionals or researchers, tend to adopt a quasi-utilitarian ethic, closer to Rollin than either Singer or Regan, which focuses on the need to use animals to achieve certain desired outcomes, while respecting (to a greater or lesser extent) certain basic needs of those animals, which it is their duty to meet.
A Definition for Animal Welfare?

As a basis for thinking about animal welfare outside of philosophy, the ‘Five Freedoms’ concept is extremely useful, especially as after 40 years of debate there is still no universally accepted definition of the term ‘animal welfare’.

Instead, definitions of animal welfare fall roughly into three broad categories, reflecting different attitudes and beliefs about animals and the most important determinants of their welfare.

The first are production definitions. These relate welfare to the production capability of an animal. In the case of a dairy cow, a high producing animal would have better welfare than a lower producing animal, all other things being equal. An example of this type of definition is:

“If an animal is healthy and producing well, it is faring well.” (Anon, cited in Hewson 2003)

Although intuitively attractive and not without a degree of validity (a lower producing animal might be sick and therefore have compromised welfare), there are limitations to this type of definition, especially at the upper limits of individual productivity.

The second category are functional definitions. These use measures of the animal’s physiological state to determine its welfare. Examples of this type of definition include:

“The welfare of an individual is its state as regards its attempts to cope with its environment.” (Broom & Johnson 1993).

“An animal is in a state of poor welfare only when physiological systems are disturbed to the point that survival or reproduction are impaired.” (McGlone 1993)

Although more rigorous than production definitions, functional definitions tend to discount the subjective experiences of animals and by doing so, may fail to determine the true welfare state of the animal. For example, two people may ride a rollercoaster. At the end of the ride, both have elevated heart rates, are breathless and have elevated levels of adrenaline and cortisol (flight or fight hormones). From a physiological perspective, both have had the same experience. However, one is a thrill seeker and enjoyed the ride, while the other is scared of heights and hated every moment of it. From an emotional and subjective perspective, they have had very different experiences.

Key Points

There is no universal definition of animal welfare. Instead, there are:
- Production definitions
- Functional definitions
- Feelings-based definitions

Considering more than one definition or viewpoint when dealing with animal welfare is important.
A Definition for Animal Welfare? (continued)

The third category are feelings-based definitions. These deal with subjective feelings and emotional states to determine an animals welfare. Examples of this type of approach include:

“Neither health nor lack of stress nor fitness is necessary and/or sufficient to conclude that an animal has good welfare. Welfare is dependent on what animals feel.” (Duncan 1993)

“The welfare of an animal includes both its physical and mental state... good animal welfare implies both fitness and a sense of well-being.” (Anon 1997)

Although potentially very powerful indicators of animal welfare, behaviours, emotions and states are by their definition internal and subjective experiences, and consequently very difficult, if not impossible, to measure accurately. This is complicated by the fact that animals may not always respond in the way we expect and that when tested, the choices they make may not ultimately be in their best interest. When given the chance, animals, like humans, tend to seek what they want, not what they need.

The Veterinary Council of New Zealand defines animal welfare as:

“The state of well-being in which an animal is in reasonable harmony with its environment, has adequate fulfilment of physical, health, and behavioural needs and is not subjected to unnecessary or unreasonable pain or distress.” (Anon 2006)

It is easy to see from the above discussion why a universally accepted definition of animal welfare has been so elusive and why the ‘Five Freedoms’ concept is so useful. It is also easy to see why an appreciation of more than one welfare indicator or point of view is essential when considering practical animal welfare issues.
Other Ways of Looking at Welfare

Definitions of animal welfare are useful for testing hypotheses or setting benchmarks, however, from a practical point of view, it is perhaps better to think of animal welfare as a concept. This section presents two frameworks for thinking about animal welfare. The first is based on the idea of satisfying animal ‘needs’, while the second approaches animal welfare from an economic viewpoint.

The Welfare Pyramid

The ‘welfare pyramid’ attempts to condense the most important biological components of animal welfare into a single system. It is based on Maslow’s ‘hierarchy of human needs’, a popular concept in human psychology to this day (Maslow 1943).

Figure 1. The Welfare Pyramid

The pyramid recognises three levels of animal need (figure 1). The bottom segment of the pyramid deals with an animal’s basic needs: those things which are essential for life and without which the animal would die, or fail to reproduce. The middle segment deals with intermediate needs: those things which are not essential for survival, but which improve conditions for the animal and may also translate into improved productivity. The top segment deals with advanced needs, or ‘wants’. These are things which may have no obvious financial or production benefits, but are what the animal chooses for itself when its other, more fundamental, needs have been met.

The dotted lines to the right of the pyramid indicate the current focus of various segments of society. Note, these are generalisations only and should not be taken as absolute.
Other Ways of Looking at Welfare (continued)

Farmers tend to think of welfare in terms of basic needs and some intermediate needs, e.g. a healthy, well-producing animal has good welfare.

Legislators tend to focus on the intermediate and some advanced needs, in addition to basic needs, when considering animal welfare. This can be found in some Code of Welfare requirements.

Finally idealists (in the true sense of the word, i.e. those striving to meet ideals) encompass all three segments, but tend to focus on advanced needs (and beyond) in their belief that animals should be kept in the most natural conditions possible, or simply not kept at all.

The Economic Framework

The economic framework for considering animal welfare was developed by the British economist, John McInerney. Unlike the welfare pyramid, which considers welfare from the perspective of the animal, the economic framework looks at the effect of increasing productivity on animal welfare, starting from the ‘wild’ state and ending at a point where the animal is functioning at its absolute biological limit.

Figure 2. The Economic Framework (from McInerney 2004)

Figure 2 shows the effect of increasing animal productivity on welfare. In the wild, no attempt is made to go beyond the animals’ natural productivity. Welfare however, is not maximal because of the effect of predation, disease, lack of food and other adverse natural events. As animals are managed by man, welfare improves, as animals are fed and protected from predators, disease, etc. Unfortunately this relationship does not hold true for long. Beyond a certain point (point B), attempts to increase productivity, such as through intensification, start to impinge on the animal’s welfare. Ultimately, the increased drive for production reaches (or exceeds) the animal’s biological limits, at which point the system collapses and welfare is severely compromised.
Other Ways of Looking at Welfare (continued)

The sharp decline in welfare between points C and E on the figure make it easy to see that for a relatively small increase in productivity, animal welfare can suffer greatly, dropping below the arbitrary ‘cruelty point’ (point D) at the extreme end of the scale.

The economic framework is currently gaining popularity in the European Union (EU), as a system for setting relative levels of welfare: the so-called ‘Bronze’, ‘Silver’ and ‘Gold’ standards. However, there are potential difficulties when attempting to rank different production systems, especially between countries, when there may be economic or market access issues at stake. This is why it is important to have a solid legislative framework in place and for all parties involved in trade and economic negotiations to have adopted an ‘outcome-based’ approach for dealing with animal welfare issues. New Zealand is fortunate in having both world leading legislation, in the form of the Animal Welfare Act 1999 and an outcome-based standards approach, both of which are discussed in the next section.

*Prize bulls grazed on pasture at LIC Newstead, NZ*
Animal Welfare in New Zealand

Introduction

New Zealand has a strong background in animal welfare, which began four years before Ruth Harrison’s groundbreaking book, with the Animals Protection Act 1960. Like the Farm Animal Welfare Council in the UK, the Animals Protection Act eventually led to the establishment of a committee, the Animal Welfare Advisory Committee (AWAC), to provide advice to Government on animal welfare issues. Unlike FAWC, AWAC was granted powers to develop and issue guidelines on animal welfare, which were embodied in documents such as the 1991 ‘Code of Recommendations and Minimum Standards for the Welfare of Dairy Cattle’. Although useful, the AWAC codes were voluntary and had no legal standing under the Animals Protection Act 1960.

All this changed with the introduction of the Animal Welfare Act 1999. Under the new Act, AWAC became the National Animal Welfare Advisory Committee (NAWAC) and was empowered to produce minimum standards with legal effect, contained in Codes of Welfare.

The following section describes key aspects of the Animal Welfare Act 1999 and Codes of Welfare in more detail.

The Animal Welfare Act 1999

The Animal Welfare Act 1999 is the primary piece of animal welfare legislation in New Zealand. It sets out the fundamental obligations of people who keep animals for any reason, including food, fibre or product. These include:

- Meeting the physical, health and behavioural needs of animals.
- Ensuring sick/injured animals are treated to relieve pain/suffering, or humanely killed instead.
- Not keeping animals alive in unnecessary pain/distress.
- Not selling an animal in pain/distress unless it is to be killed.
- Not deserting an animal without providing for its needs.
- Not ill-treating an animal or killing it in such a way that it feels unnecessary pain/distress.
- Ensuring that animals are fit for transport.

This list includes many features in common with the ‘Five Freedoms’. Like the ‘Five Freedoms’, the Animal Welfare Act 1999 does not provide any detail on how these obligations of people towards animals are to be met. This is taken care of in Codes of Welfare.

Cows at the dairy on DairyNZ’s Lye Farm
**Codes of Welfare**

Codes of Welfare provide the detail surrounding animal welfare requirements for individual animal species, or animals in particular situations, e.g. those in circuses. Despite being important documents, there are a number of important features of Codes of Welfare which are not well understood in the public domain, but which have important ramifications for the pastoral sector. These include the facts that:

- Codes of Welfare are regulations under the Regulations (Disallowance) Act 1989. This means that they can be reviewed at any time by Parliament’s Regulations Review Committee, if serious concerns are levelled against them.
- Anyone can write a Code of Welfare. Although most Codes of Welfare to date have been written by special interest groups, there is nothing to stop other organisations from drafting Codes of Welfare which aim to set more stringent requirements than a particular industry would like.
- NAWAC is not obliged to consider economic impacts when considering draft Codes of Welfare. Although NAWAC can, and generally does consider the economic implications of draft Codes of Welfare on affected industries, it is not explicitly required to. The only exception to this is when recommending minimum standards and recommended best practices which do not fully meet the fundamental obligations of people towards animals, in which case it must have regard to –
  - The feasibility and practicality of effecting a transition from current practices to new practices and any adverse effects that may result from such a transition.
  - The requirements of religious practices or cultural practices, or both.
  - The economic effects of any transition from current practices to new practices (source: Section 73, sub-section 4 of the Animal Welfare Act 1999).
- Duplicate Codes of Welfare are not permitted. There cannot be two ‘Dairy Cattle Codes of Welfare’ in existence at the same time. Neither can there be duplication between Codes of Welfare, e.g. the Dairy Code cannot cover cow transport, if this is already covered by the Transport Code. This explains why farmers and the wider industry need to be aware of a range of Codes of Welfare, rather than just a single one.

**Key Points**

- The Animal Welfare Act sets obligations and penalties for animal care.
- Codes of Welfare are outcome based.
- Minimum standards must be followed.
- Recommended best practices should be adopted.
- More than one Code of Welfare may affect farmers.
- Codes are reviewed by NAWAC every 10 years.
- Anyone can draft and submit a Code of Welfare to NAWAC.

*Cows walking on tree-lined raceway at DairyNZ’s Lye Farm*
Codes of Welfare (continued)

Codes of Welfare contain both ‘minimum standards’ and ‘recommended best practices’. Only minimum standards have legal effect. These mechanisms are outlined below:

**Minimum standards** – set out the basic requirements for animal welfare. Failure to comply with a minimum standard can leave you vulnerable to prosecution under the Animal Welfare Act 1999. In Codes of Welfare, minimum standards are identified by the word ‘must’.

**Recommended best practice** - These are not legally binding. They give suggestions on how animal welfare can be improved over and above the bare minimum. In Codes of Welfare, recommended best practices are identified by the word ‘should’.

Although Codes of Welfare provide considerable detail, they are not intended as husbandry manuals, nor do they offer prescriptive solutions for meeting minimum standard requirements. By remaining ‘outcome-based’, they instead give those responsible for the care of animals considerable choice in the methods they use to comply with minimum standards and by doing so, recognise the wide range of farming systems currently in use in New Zealand.

In order to reflect major developments in science, public opinion and animal husbandry, Codes of Welfare are required to be reviewed at least every 10 years. As with the development of original Codes of Welfare, reviews involve a consultation period, allowing industries and the public to comment on the Code of Welfare. In special cases, for example where new scientific information becomes available, Codes of Welfare may be reviewed earlier.

Cows walk themselves to milking at DairyNZ’s Greenfield Farm

Important Note

Animal Welfare And The New Zealand Dairy Industry – A Guide For Veterinarians and Rural Professionals

Offences and Penalties

The Animal Welfare Act 1999 sets out a number of penalties for non-compliance. The main offences and their maximum penalties are outlined below. It is not an exhaustive list and is open to legal interpretation. It is important however, to note that penalties can be applied to both the individual and company (body corporate) held responsible for an offence. In addition, an offence can relate to a group of animals, or to each individual in a group.

<table>
<thead>
<tr>
<th>Offence</th>
<th>Maximum Penalty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wilful ill-treatment of animals</td>
<td>Individual: $50,000 fine and/or 3 years imprisonment</td>
</tr>
<tr>
<td>Failing to meet physical, health &amp; behavioural needs</td>
<td>Body corporate: $250,000 fine</td>
</tr>
<tr>
<td>Failing to alleviate pain &amp; distress</td>
<td></td>
</tr>
<tr>
<td>Killing an animal with unnecessary pain &amp; distress</td>
<td>Individual: $25,000 fine and/or 6 months imprisonment</td>
</tr>
<tr>
<td></td>
<td>Body corporate: $125,000 fine</td>
</tr>
<tr>
<td>Illegal performance of a significant or restricted surgical procedure</td>
<td></td>
</tr>
<tr>
<td>Aiding and abetting the ill-treatment of an animal</td>
<td></td>
</tr>
<tr>
<td>Failure to comply with an authorised person</td>
<td>Individual: $5000 fine</td>
</tr>
<tr>
<td></td>
<td>Body corporate: $25,000 fine</td>
</tr>
</tbody>
</table>

Many of the above offences can be related to a breach of the minimum standards given in Codes of Welfare, which is why failure to comply with a minimum standard may lead to prosecution.

However, compliance with a relevant minimum standard can also be used as a defence against prosecution. In simple terms, this means that a person charged with an animal welfare offence can defend themselves by showing they met the minimum standard(s) in question.

Key Points

Minimum Standards are linked to offences under the Animal Welfare Act.

Offences are treated as criminal acts.

Penalties for offences can be severe.

Both individuals and companies can be targeted.

Minimum Standards can be used in defence.

Aiding and abetting is an offence under the Animal Welfare Act.

Failure to co-operate with an authorised person is also an offence.
Legal Liabilities

The Animal Welfare Act 1999 recognises a number of categories of people with a responsibility towards the care and welfare of animals and who may be liable to face charges in the case of a breach of animal welfare.

The most obvious of these is the category of ‘owner and person(s) in charge’. Note that although the owner and person(s) in charge may be one and the same on smaller properties, this may not be the case in large farming operations with a management and staff structure. Regardless of this distinction, the Animal Welfare Act 1999 deems both parties to have a responsibility towards the care and welfare of animals and both may face the same penalties during a prosecution.

Directors of companies, as well as employers and principals are also deemed to have certain responsibilities towards the care and welfare of animals. With regard to employers and principals, an offence may be deemed to have been committed by the employer as well as the employee, unless it can be shown that the employer could not reasonably know that the offence was to be committed.

With regard to company directors and officers, where a body corporate is convicted of an offence, every director and manager is guilty of the same offence, if it is proven that they knew or should have known that the offence was to be committed and failed to take all reasonable steps to prevent it (see S.164 and S.165 of the Animal Welfare Act 1999 for more detail concerning the liabilities of employers, principals, directors and officers of body corporates).

These provisions effectively prevent those in positions of responsibility from turning a blind eye to actual or potential animal welfare offences and although seldom used, remain a strong incentive to encourage good animal welfare practices within commercial operations.
Inspectors

Investigation and enforcement of the Animal Welfare Act 1999 is undertaken by inspectors from approved organisations. The main approved organisations of interest to the New Zealand dairy industry are:

- **Ministry of Agriculture and Forestry** – Inspectors come from the Animal Welfare Investigation Group (AWI) and are the primary investigators of animal welfare offences in New Zealand.

- **NZFSA Verification Authority (VA) Veterinarians** – VA vets are officially registered inspectors operating primarily at meat processing plants, but are also able to investigate ‘on farm’ if necessary.

- **Society for the Prevention of Cruelty to Animals** – As an approved organisation, the SPCA has a number of its staff who are trained as animal welfare inspectors. Not all SPCA staff members are inspectors.

- **The Police** – Under the Animal Welfare Act 1999, every member of the Police is deemed to be an animal welfare inspector.

Under the Animal Welfare Act 1999, inspectors have the power to enter land, premises and other places, except dwellings or marae, without a search warrant. They can also enter stationary vehicles, ships and aircraft. Once an entry has been made, inspectors can seize any animals if there are grounds to believe that the animal has been ill-treated. With a search warrant, inspectors are empowered to seize evidence relating to an offence, in addition to any animals affected.

Including the police, there are currently over 7,000 animal welfare inspectors operating in New Zealand, covering the entire country and helping to ensure New Zealand’s animal welfare legislation is adopted and appropriately enforced.

It is also worth mentioning that the organisation Federated Farmers of New Zealand (FFNZ) have a Memorandum of Understanding with MAF. This ensures that both parties collaborate on any potential animal welfare issues relating to the agricultural sector and agree on the actions needed to achieve a positive outcome wherever possible. The rationale behind this is that in many cases all that is needed is support, rather than punishment and that this is best given by a peer, rather than by an official. It should be noted however, that MAF inspectors may still intervene and lay charges if necessary. Examples of dairy industry prosecutions are given in the next section.
Case Studies

The following are examples of successful prosecutions taken by MAF’s Animal Welfare Investigation Group (AWI) against dairy farmers in New Zealand for animal welfare offences:

1. In October 2005, a farmer from Southland was charged under section 29 of the Animal Welfare Act 1999 (Ill Treatment of Animals – Further offences) for the ill treatment of a cow (starving the animal). The farmer was subsequently found guilty of the charge and was sentenced to a fine totaling $2380.

2. In March 2005, a farmer from Northland was also charged under section 29 of the Act for the ill treatment of three (skinny) cows. In this case, the farmer pleaded guilty to the charge and upon conviction, was fined $4000 and ordered to undertake 200 hours of community service. In addition, the farmer was also disqualified from keeping cattle for a total of two years.

3. In March 2003, a farmer from the Waikato was charged under several sections of the Act, including section 54 (Failure to comply with an authorised person). The farmer was found guilty on all charges and was fined a total of $7500, given 400 hours of community service and disqualified from keeping any livestock for a total of five years.

4. In 2002, a farmer from the Horowhenua was charged under section 11 of the Act (Obligation to alleviate pain or distress of ill or injured animals) for keeping a bull alive in a condition causing pain and distress. The farmer was subsequently found guilty and upon conviction, was fined $800, ordered to pay veterinary costs and disqualified from keeping cattle for two years.

5. In 2006, a Hawkes Bay farm manager and two company directors were charged under sections 10 and 28 of the Act (Obligation in relation to physical health and behavioural needs of animals, and willful ill-treatment of animals respectively) for 49 charges, including leaving 114 bull calves in a paddock without water for four days. The manager was ordered to pay costs, sentenced to 300 hours community service and disqualified from owning any livestock for five years, while the directors were also ordered to pay costs and fined $10,000.
Assisting with an Investigation

Animal welfare investigations often require assistance from veterinarians and other rural professionals. If you are asked to provide assistance in a professional capacity, there are a number of important things you can do to maximise the value of your contribution to all concerned. These are listed below:

1. Co-operate fully with the inspector’s requests, as each case is unique and they know what information is required.

2. Have the following equipment to hand:
   - Notebook and pen
   - Dictaphone and batteries
   - Digital camera (with time/date stamp facility)
   - Mobile phone
   - Post mortem and sampling kit

3. Know how to:
   - Body condition score
   - Prepare a feed budget
   - Develop a health plan

4. Keep detailed notes:
   - Use simple language
   - Date all records/notes
   - Record what you do as well as what you see
   - Record the reasons why you did things

5. Record details of all samples taken

6. When on-farm, record as a bare minimum:
   - Date of inspection
   - Who is involved (person/s)
   - Where the incident occurred (farm location)
   - What the issue is:
     - Stock (type/number affected)
     - Details of the issue itself e.g. emaciated animals
     - Factors involved (contributing/mitigating)
   - Duration of the issue
   - Samples taken
   - Action taken (previous and subsequent to the inspection)

If you are asked to act as an expert witness, you will need to:

1. Give your evidence in ‘Plain English’
2. Prove the integrity of your actions beyond all reasonable doubt
3. Provide copies of written material you intend to use to the prosecution before using them in court.
4. Prepare to be cross-examined by the defence

For more information, contact the Animal Welfare Investigation Group on 0800 327 027 and see the booklet 'A practical toolkit for farmers helping to resolve animal welfare incidents', also available from the above number.
Veterinary Responsibilities

The role of the modern veterinarian is complex. Public expectations must be met, clients’ needs fulfilled and above all, animal welfare protected.

Traditionally, the role has been one of care and action on a remedial basis i.e. treating sick animals, with the focus on medical/animal health issues. However, veterinarians are increasingly being seen as the ‘guardians’ of animal welfare and professional involvement at all levels, from the international (e.g. the World Organisation for Animal Health - OIE) to the domestic (e.g. New Zealand Veterinary Association special interest branches), is rapidly broadening the scope of veterinary activities.

Although the role of ‘animal welfare guardian’ may occasionally put veterinarians in difficult or challenging situations, e.g. assisting with official investigations, there are also many opportunities for them to act proactively in an educational/consultancy role. These include (Gregory 2006):

- Working with other professionals to ensure consistency of key messages.
- Raising awareness of regulations and requirements.
- ‘Future proofing’ systems and facilities.
- Promoting best practice on-farm.

Incorporating some or all of the above activities, while not absolving veterinarians of their obligation to act where animal welfare is compromised (Anon 2006), offers a greater chance of achieving long term animal welfare gains and win:win outcomes, than becoming involved after an issue has arisen.

As such, it is something to be embraced and it is encouraging to see an increasing number of veterinarians becoming involved with their clients (and industry bodies) in this way.
The Painful Husbandry Procedures Code of Welfare

Introduction

The Painful Husbandry Procedures Code of Welfare was issued by the Minister of Agriculture in late December 2005. It contains a number of provisions which affect the dairy industry to a greater or lesser extent. The code affects anyone performing painful husbandry procedures on animals, including veterinarians, farmers, owners and people in charge of animals. A painful husbandry procedure can be defined as something which involves physical interference with the sensitive soft tissue, or bone, of an animal, which is done for non-medical reasons. A more complete definition can be found in the code itself. Copies of the code are available from: www.biosecurity.govt.nz

The main areas of the Painful Husbandry Procedures Code of Welfare which impact on the dairy industry are:

- Tail shortening
  - Non-veterinarians may now only remove the last 2-3 vertebrae of the tail.
  - Veterinarians may only remove more than the last 2-3 vertebrae of the tail for therapeutic reasons.
- De-horning and disbudding
  - Pain and distress must be minimised.
  - De-horning without pain relief must be done before 9 months of age.

Consideration must also be given to the justification behind painful husbandry procedures, as well as to the age at which a procedure is carried out on a young animal. The relevant minimum standards and recommended best practices are detailed in the code. Rather than reproduce them here, this section will focus instead on the science behind each practice, as well as other areas of importance concerning painful husbandry procedures.
Tail Shortening

Tail shortening refers to the practice of removing the distal 2-3 vertebrae of the tail, which encompass ‘the switch’. It differs from tail docking which involves the removal of significantly more tissue, in some cases up to 90% of the tail.

Originally devised as a means of reducing the risk of disease for milking staff, tail docking has since been implicated in improving milk quality, operator comfort, reduced mastitis and anecdotally, improved teat condition in wet and windy weather (Elliott 1969). However, scientific examination of these claims has revealed conflicting results, a fact which may have influenced NAWAC’s decision to support tail shortening over tail docking.

For example, docking does not appear to influence the exposure of milking staff to leptospirosis (Mackintosh et al. 1982). In addition, while one New Zealand study found that docked cows were cleaner than undocked animals (Wilson 1972); other work has found no differences between docked and intact animals, in terms of cleanliness, milk quality and somatic cell count (Matthews et al. 1995; Tucker et al. 2001; Schreiner & Ruegg 2002).

Docking also has negative impacts on the animal. Although docked cows may be cleaner, studies have shown that they are subject to far greater fly burdens than intact animals, presumably due to the reduced effectiveness of the tail as a deterrent (Eicher et al. 2000, 2001). In addition, there is a degree of discomfort associated with docking, although this is not believed to be as great as with other procedures, such as castration or dehorning (see Ruegg 2004 for review).

In contrast to docking, tail shortening would therefore appear to be a more acceptable intervention. The switch has fewer nerves than the base of the tail, so removal should not cause the same degree of discomfort as docking. The removal of less tissue also means that the animal is left with an almost fully functional tail for fly avoidance. Finally, switch removal disposes of that part of the tail associated with the greatest hygiene/disease risk, which calls into question the need to remove the entire tail, as with docking.

Switch trimming is another alternative to tail docking and is practiced by an increasing number of farmers in New Zealand. Switch trimming refers to the trimming of the hair on the tail switch. Although the switch needs to be trimmed repeatedly throughout the year, it does not involve the removal of any tissue, so leaves an intact tail in place. It is time consuming for staff and is associated with some discomfort, as cows do not enjoy having their tails held in place for any length of time, however, it is arguably the least compromising intervention from a welfare perspective, which is why it is strongly encouraged in the code.
De-horning and disbudding

De-horning and disbudding are performed on dairy cattle primarily for safety reasons. Fully developed horns can increase the risk of injury to humans and other animals. In addition, horn contact between animals can cause bruising and hide damage, which is painful and can contribute to downgraded product. Although removal of the non-sensitive horn tip (tipping) is a viable management option, it only reduces the safety risks, rather than eliminating them.

The code promotes disbudding over de-horning. This is because disbudding is less invasive and less painful than de-horning. In addition, as the frontal sinuses of the skull are not exposed by disbudding, there is less chance of infection or other complications. However, it is acknowledged that disbudding is not always effective and that re-growth may occur if not all of the horn forming tissue is removed during the procedure.

Both de-horning and disbudding do cause pain, as evidenced by marked physiological and behavioural changes following these procedures (Aubry 2005). However, numerous factors interact during horn removal, making effective pain management recommendations difficult. For example, while local anaesthetic effectively blunts the initial response to de-horning, it is unable to control secondary cortisol responses, which are due to inflammation. Ketoprofen, a non-steroidal anti-inflammatory drug (NSAID), has been implicated in reducing this secondary response, however, results are variable (Aubry 2005).

With regard to disbudding, local anaesthetic can also be useful, however, there is debate over the best disbudding method to use on young calves. Chemical disbudding was originally considered more painful than hot iron disbudding (cauterity disbudding), however, recent work has challenged this, suggesting that cautery disbudding is more painful, even when local anaesthetic is used (Vickers et al. 2005). When considering the use of chemical disbudding, it should be noted that the procedure does pose risks, such as caustic paste being transferred between animals during contact, or coming into contact with non-target tissues. Cautery disbudding on the other hand, although more painful, results in no blood loss and minimal chance of infection, which is why it is recommended as the current technique of choice by NAWAC.

Key points

Disbudding is preferred over de-horning.
Consider using local anaesthetic and cauterising the wound when disbudding calves.
Take special care when using chemical disbudding techniques.
Consider using local anaesthetic and an NSAID when de-horning cattle.
Alternatively, consider cauterising the wound, following dehorning with local anaesthetic.

1 Local anaesthetic generally refers to the chemical Lignocaine, which is routinely used for dental anaesthesia in humans.

2 Cortisol – a hormone released by the adrenal glands and used as an indicator of stress.
**Age limits**

The code sets a number of age limits for the performance of various painful husbandry procedures without pain relief. These include castration and de-horning. When considering the question of the optimal age at which to perform a procedure, it is proposed that younger is better, as long as survival is not compromised. This is for a number of reasons, including:

- Younger animals may heal faster than older animals (Anon 2005).
- Younger animals are generally easier to handle than older animals.
- Younger animals have less developed and less specialised anatomical features.

This last reason is especially important in the case of de-horning, where horn-buds are initially free floating and invasion of the blood sinuses into the horn does not occur until about 6 months of age.

There is some scientific support for the suggestion that younger animals experience less pain than older animals. In a recent study using calves, animals castrated at 1.5 months of age had lower cortisol levels and reduced scrotal swelling than animals castrated at 5.5 months (Ting et al. 2005). This finding suggests that the younger animals found the process less stressful and by implication less painful, and suffered less long term discomfort (scrotal swelling) as a result of having the procedure performed at an early age.

In another study, calves castrated at one of three ages, by one of three different methods, showed a generalised effect of age on pain perception, with the greatest cortisol responses being shown by the oldest animals (42 days of age), suggesting that they suffered the greatest from the procedure (Robertson et al. 1994). Note that the cortisol response was not simply linked to animal size/age, as responses by 21 day old animals were lower than both the youngest and oldest animal groups in the study.

However, other work has suggested that there may also be a lower limit to the age at which painful procedures should be performed. Calves disbudded between 4-9 days of age showed significantly greater pain responses than calves disbudded at 10-12 days of age (Singh et al. 2002). In practical terms this finding is likely to have little impact on the New Zealand dairy industry, as calves are usually disbudded around 10-15 days of age.

Compared with other areas of science, relatively little research has been done on the effect of age on pain perception in farm animals. Instead, researchers have accepted that procedures such as de-horning and castration are inherently painful and have focused on ways to minimise it, primarily through provision of analgesics and other methods of pain relief. This is discussed in more detail in the next section.

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1 The presence of significant tissue damage during castration would suggest that the procedure was painful as well as stressful. Note however, that the presence of cortisol alone, whilst indicating stress, does not necessarily also indicate pain.


**Pain Relief**

The Code places considerable emphasis on the use of pain relief to mitigate the negative effects of performing painful husbandry procedures. Minimum standard number two of the Code is accompanied by a specific recommended best practice, stating:

“Use the method which causes the least discomfort, pain or distress and consider using pain relief wherever practical.” (Anon 2005b)

In contrast to the effect of age on pain perception described above, there is a large body of research which suggests that administration of pain relieving drugs, both anaesthetics and analgesics, can have a marked effect on the amount of pain perceived by an animal. However, before discussing examples, it should be noted that the effectiveness of any pain relief can depend on the procedure, the method being used to perform the procedure, the species of animal and even the type of pain relief being used, all of which complicates the making of recommendations.

Work by Sutherland et al. (2002) and Stafford & Mellor (2005a) has convincingly shown local anaesthetic to be effective in blunting pain responses to dehorning in calves. However, the effect is temporary, only lasting for between two to six hours before pain returns. In order to provide longer lasting pain relief, either more local anaesthetic must be administered, or a non-steroidal anti-inflammatory drug (NSAID) used. In both of the above studies, use of an NSAID blocked pain responses well beyond the window provided by local anaesthetic. Alternatively, hot iron cautery of the dehorning wound appears to have a similar effect to NSAID’s, suggesting that local anaesthetic alone may be sufficient if this method of dehorning is used (Petrie et al. 1996; Stafford and Mellor 2005a).

With regard to castration, the situation is more complex. Stafford & Mellor (2005b) found that when calves were castrated with a rubber ring, local anaesthetic provided sufficient pain relief to cover the procedure. However, when calves were subject to Burdizzo or surgical castration, NSAID’s were required in addition to local anaesthetic to blunt the resulting pain response. A similar result was found in lambs subject to Burdizzo castration (Molony et al. 1997). Interestingly, administration of NSAID’s following rubber ring castration and/or tail docking in both calves and lambs did not significantly reduce pain, suggesting that in these instances, it is better to use local anaesthetic (Graham et al. 1997; Price & Nolan 2001; Stafford et al. 2002).

**Key points**

- Pain relief experienced by the animal depends on:
  - The procedure
  - The method used
  - The species of animal
  - The type of pain relief used

- Consider using pain relief wherever practical.

- Lignocaine can provide good short term pain relief for many procedures.

- NSAID’s may provide longer term pain relief in some situations
Pain Relief (continued)

As mentioned above, NAWAC is keen to see the routine use of pain relief become common in New Zealand farming; a fact which is reflected in the Code. To this end, it is encouraging research into the development of simple, cost effective and practical means of administering pain relief, and procedural systems designed to make the process as simple as possible for all involved. The current focus is on the use of veterinary medicines for pain relief, however, there are a number of issues which must be addressed before NAWAC’s objectives can be met. These include:

Availability

Although the range of pain relieving drugs available to veterinarians is relatively large, only a small proportion are registered for use in food producing animals. As the cost of drug registration is high, it is unlikely that the current suite of remedies will change dramatically in the near future.

Efficacy and Safety

Any drug used for routine pain relief must be effective and safe for both the animal and operator. It must produce the desired effects within the specified dose range and have a wide margin of safety to reduce the risks of overdose or accidental self-administration. It must also be non-addictive and have no ‘desirable’ side effects as far as is possible, to reduce the risk of deliberate misuse.

It should also be noted that both efficacy and safety can vary greatly between drug formulations and between animal species, significantly influencing the choice of drug used for a particular procedure. This is in addition to the issues surrounding the efficacy of a drug depending on the method used to undertake a procedure, e.g. cattle de-horning with or without thermal cautery (see above).

Residues

Although a potential risk factor, harmful or significant drug residues in animal tissues following painful husbandry procedures are unlikely to be a problem for consumers. This is because in the vast majority of cases, exposure will be brief; occur only once in the animal’s life; and the drug will be metabolised before any product enters the food chain. In addition, the current drug registration process in New Zealand ensures that the residue risk profile of drugs is established before they are approved for use in food producing animals.

Practicality

It is likely that routine use of pain relief will involve the treatment of large numbers of animals at the same time. Drug administration methods therefore need to be quick, easy, safe and reliable, if they are to be considered practical by operators. In addition, the drugs themselves need to be resilient to ‘on-farm’ conditions if they are to be of any use. For example, drugs which are sensitive to UV light and which must be stored in liquid nitrogen are unlikely to find favour on many New Zealand farms.
Pain Relief (continued)

Cost

Drug cost is seen as a major barrier to the routine use of pain relief ‘on-farm’. This is because, even if the unit cost of a drug is low, the overall cost can become large when multiplied across many animals; even more so when other charges, e.g. veterinary time and cost of consumables are factored in.

Regulatory Issues/Management

Most current pain relieving drugs in New Zealand are classed as Prescription Animal Remedies (PARs) and controlled under the Agricultural Compounds and Veterinary Medicines Act 1997. As such, their use by lay people is generally restricted. Any moves to allow lay people (whether trained or not) access to PARs would require strict controls, not only to ensure animal safety, but also to provide assurance to the marketplace that any resulting animal products were fit for consumption.

In addition to any regulatory or legal hurdles associated with allowing lay people access to PARs, the New Zealand veterinary profession and drug manufacturing industry would also need to support the move. In all likelihood, veterinarians would be heavily involved in the management of any routine pain relief programme for farm animals, either in a training and support role, or by providing general oversight to their clients.

Although the above issues are complex, it is encouraging to know that the first steps have already been taken to address them, in the form of a NAWAC-organised workshop in August 2006. The workshop included representatives from each of New Zealand’s animal production industries, as well as veterinarians, researchers, regulators and special interest groups. The workshop was an opportunity to consider current knowledge about pain management in production animals, and to outline a shared vision for the future. Further details of the workshop can be found in the proceedings, which are available by emailing: animalwelfare@maf.govt.nz.
**Further Information**

**Resources**

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Date</th>
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<th>Web</th>
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<td>ACVM Database of Currently Registered Veterinary Medicines, Plant Compounds and Vertebrate Toxic Agents</td>
<td>Database</td>
<td>2006</td>
<td>NZFSA</td>
<td>Y</td>
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<td>Animal Welfare in New Zealand</td>
<td>Booklet</td>
<td>2005</td>
<td>MAF</td>
<td>Y</td>
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<td>A Practical Toolkit for Farmers Helping to Resolve Animal Welfare Incidents</td>
<td>Booklet</td>
<td>2006</td>
<td>Federated Farmers</td>
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<td>Best Practice Guidelines for the Welfare of Bobby Calves</td>
<td>Information pack</td>
<td>2008</td>
<td>DairyNZ</td>
<td>Y</td>
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<tr>
<td>Code of Professional Conduct for Veterinarians</td>
<td>Booklet</td>
<td>2006</td>
<td>Veterinary Council of NZ</td>
<td>Y</td>
</tr>
<tr>
<td>Dairy Welfare - We Care</td>
<td>Information pack</td>
<td>2006</td>
<td>Dairy Australia¹</td>
<td>Y</td>
</tr>
<tr>
<td>Guidelines for the Recognition and Assessment of Animal Pain</td>
<td>Web/CD resource</td>
<td>2004</td>
<td>University of Edinburgh²</td>
<td>Y</td>
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<td>Fit for Transport</td>
<td>Booklet</td>
<td>2009</td>
<td>DairyNZ</td>
<td>Y</td>
</tr>
<tr>
<td>Information Pack on Animal Welfare for Newly Registered and Overseas Trained Veterinarians</td>
<td>Information pack</td>
<td>2003</td>
<td>NZ Veterinary Association</td>
<td>Y</td>
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<td>Notes for the Practical and Humane Destruction of Cows and Calves On Farm</td>
<td>Information pack</td>
<td>2007</td>
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¹ Website: www.dairyaustralia.com.au
² Website: www.vet.ed.ac.uk/animalpain/
Further Information

Further information on animal welfare can be obtained from:

Biosecurity New Zealand: www.biosecurity.govt.nz/animal-welfare
DairyNZ: www.dairynz.co.nz
Eurogroup for animal welfare: www.eurogroupanimalwelfare.org
Farm Animal Welfare Council: www.fawc.org.uk
Federated Farmers: www.fedfarm.org.nz
Massey university: http://animalwelfare.massey.ac.nz/
New Zealand Legislation: www.legislation.govt.nz
NZVA Dairy Cattle Veterinarians: www.dcv.co.nz

The following sites are intended to illustrate the range of views of different animal rights organisations:

Animal Liberation Front: www.animalliberationfront.com
Animal Rights Legal Advocacy Network: www.arlan.org.nz
Humane society of the United States: www.hsus.org
People for the Ethical Treatment of Animals: www.peta.org
RNZSPCA: www.rspcanz.org.nz
Save Animals From Exploitation: www.safe.org.nz

These websites are intended to illustrate the many different views on milk held across the world:

Harvard School of Public Health: http://www.hsph.harvard.edu/nutritionsource/calculator.html
Healthy eating guidelines: http://www.moh.govt.nz/healthtopics
Milk Myths: www.milkmyths.org.uk
Milk Sucks: www.milksucks.com
Not Milk: www.notmilk.com
References


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Sutherland, M.A., Mellor, D.J., Stafford, K.J., Gregory, N.G., Bruce, R.A., and Ward, R. N., (2002), Modification of cortisol responses to dehorning in calves using a 5-hour local anaesthetic regimen plus phenylbutazone, ketoprofen or adrenocorticotropic hormone injected prior to dehorning, Research in Veterinary Science, 73, 115-123.


