

CATTLE STANDARDS AND GUIDELINES – IDENTIFICATION

DISCUSSION PAPER

Prepared by the Cattle Standards and Guidelines Writing Group, February 2013

ISSUES

The main issues are:

- 1) The pain response to hot iron branding and freeze branding
- 2) The preferred method of identification on a welfare basis
- 3) Ability to perform the required task.

RATIONALE

Cattle identification is essential to enable legal proof of ownership for those responsible for cattle welfare and cattle management.

Branding is a legal requirement in the Northern Territory and some states. There are also legal requirements to identify cattle by an ear mark for spaying and hormone growth promotant (HGP) treatment. The relevant brands legislation controls the proper application of these ear marks, brands and devices.

The year or age brand assists in management of the herd for sales, joining and culling. Hot iron branding is an important practice especially for extensively managed herds, where there is no alternative of simple and permanent visual identification that is 100% reliable.

Alternatives to branding include electronic ear tags and electronic intra-ruminal boluses (radio frequency identification devices) and plastic ear tags, however boluses still require a visual identification for management use and ear tag retention is less than 100% no matter what design of ear tag is used.

RECOMMENDATIONS

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The writing group studied the reasons for cattle identification and the methods used. Hot iron (fire) branding remains as an important method of visual identification for much of the Australian cattle herd. Circumstances will dictate the choice of method, no one method being ideal in all circumstances. The most widely used methods are associated with some degree of pain but the writing group did not consider it necessary to mandate a requirement for pain relief.

The following standards were considered in the framework for assessment below:

- Desirable for cattle welfare –The standards will prevent certain adverse practices from taking place. Industry communications and extension campaigns aim to promote the recommended guidelines.
- Feasible for the majority of industry to implement –The standards will allow the diverse range of production systems and environments (especially in the extensive areas) to perform necessary identification procedures and sends a clear message for cattle welfare. For smaller operations where cattle are easily yarded the use of best practice methods is more easily achieved.
- Feasible for government to implement –The standards are easy to verify. Compliance and enforcement policy will be an important aspect of regulation.
- Important for the cattle welfare regulatory framework. The current MCOP for Cattle recommends against branding on the face and with corrosive chemicals. The writing group believes that this recommendation must be incorporated in a standard.
- The valid outcome sought is that hot iron branding is only done where necessary and in a manner that minimises pain and distress. The standards proposed will not cause an increase in pre-emptive identification procedures being done or a decline in cattle welfare due to identification procedures not being able to be done if required.

The writing group recommends that the following standards be introduced into legislation and the following recommended guidelines be published for industry consideration.

STANDARDS AND GUIDELINES PROPOSAL

OBJECTIVE

Identification practices are appropriate and minimise the risk to the welfare of cattle.

STANDARDS

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- S5.9 A person must use appropriate methods and techniques to identify cattle that are applicable to the production system.
- S5.10 A person must not place a permanent brand on the head of cattle.

GUIDELINES

- G.1 Hot-iron branding of wet cattle should be avoided.
- G.2 The correct time period of application and temperature of the iron should be used when hot-iron branding.
- G.3 Hot-iron branding of weak or extremely thin cattle should be avoided.
- G.4 Care should be taken with the concurrent application of volatile pour-on treatments when hot-iron branding or applying the electric prod.
- G.5 Ear tagging and tattooing should be done in a way that minimises the risk of infection and tearing of the ear.
- G.6 Ear marking and tattooing instruments should be sharp and clean, with relevant hygienic techniques followed.

NB The following material relates to the surgical procedures of cattle and has been written to reflect a single chapter in the draft document.

- G.7 Good hygiene practices should be implemented in relation to facilities, hands, handling and instruments. Disinfectant should be used and changed frequently.
- G.8 Effective but not excessive restraint should be used to minimise movement, and to enable the procedure to be done quickly and efficiently.
- G.9 Calves should be separated from their mothers for the shortest possible time unless they are to be hand-reared or weaned onto a solid diet.
- G.10 Bleeding from surgical wounds should be minimised by selecting an appropriate method, preventing overheating of calves and allowing them to settle after mustering.
- G.11 Infection should be minimised by avoiding muddy or dusty yards, and wet weather.

METHODS

The current methods of identification of cattle are:

- Ear tags including RFID

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- Hot iron branding (fire branding)
- Ear marks
- Freeze branding
- Rumen bolus (Radio frequency identification devices)
- Tail tags
- Ankle straps
- Neck collars
- Tattooing.

Apart from branding all methods are considered to be of low animal welfare impact. The choice of method of identification will be determined by the production and management system.

Branding is an important practice especially for extensively managed herds, where there is no alternative of simple and permanent identification that is 100% reliable.

Branding is the placing of permanent identifying marks on the hide of cattle by destroying hair follicles and altering hair growth using heat or cold. Branding reduces the cash value of the hide.

Freeze branding has limited applications because:

- High level of preparation required including clipping and swabbing
- Requirement for liquid nitrogen, dry ice and alcohol procurement and storage
- Long contact time necessitating longer restraint time
- The brand is not visible on white or grey cattle.

The rumen bolus RFID device is 100% retained if inserted correctly, however it is suited for use only in calves over 3 months of age.

Reading (or scanning) the RFID tag requires the use of an electronic reading device (called the reader), either installed in a race or by a hand held wand.

Since the reader is not effective at more than 60cms from the tag in the ear, in almost all situations the cattle have to be yarded and put through a race.

This is an additional procedure which may not be otherwise required, especially so if specific cattle can be separated from the mob for a particular purpose without the necessity of drafting through a race. In this situation, cattle can be easily and quickly identified by a permanent station brand, year brand and earmark.

Visual reading of NLIS (RFID) tags requires the cattle, at the minimum, to be restrained in a race with its head level with its backline and ears able to be closely inspected and frequently cleaned to remove wax and dirt. If the temperament of the cattle is not cooperative, then it will need to be restrained in a head bail in a crush for accurate identification.

The RFID tags can be removed; however it is an illegal act.

Tail tags are a short term identifying device used in marketing, and do not involve any surgical intervention.

ABILITY TO PERFORM THE REQUIRED TASK

A person must have knowledge, experience and skills to perform a general husbandry task in a satisfactory manner. This matter is regarded as highly important by the cattle industry. A level of assurance is sought commensurate with the degree of immediate welfare risk to the animal. Formal assessment of ability is not required.

Cattle in Australia are managed in environments that vary from extensive rangelands to intensively managed systems. In all cases the persons in charge of cattle are responsible for the welfare of the animals under their control. In achieving improved welfare outcomes envisaged by the standards, it is important that people responsible for animals have the necessary knowledge, experience and skills to undertake the various procedures and meet the requirements of the standards, in a manner that minimises the risk to cattle welfare. The relevant principles are:

- The undertaking of any husbandry procedures required for planned herd management in a manner that reduces the impact of these procedures and minimises risks to cattle welfare.
- Handling facilities, equipment and procedures that minimise stress to the cattle
- minimising the risk of pain, injury or disease
- Assessing the need to undertake any husbandry procedures that may result in significant short-term pain against alternative strategies for the long-term welfare of the cattle

Considerations include:

- Reducing the impact of mustering, handling and restraint
- Carrying out the procedures at the earliest practical age
- Knowledge of the appropriate age/size considerations for selection of method
- Ensuring that facilities and equipment are suitable
- Applying the method skilfully
- Applying other basic principles such as vaccinating cows and calves to protect against tetanus and other clostridial diseases
- Avoiding wet weather
- Maintaining clean hygienic practices
- Allowing the unweaned calves to mother up as soon as possible
- Releasing the cattle from the yards and onto feed and water as soon as possible.

The most important elements to be considered are:

- Knowledge of the appropriate age/size considerations for selection of method
- Demonstrated manual skill

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- Appropriate hygiene
- Appropriate instruments.

CATTLE MANAGEMENT IMPLICATIONS

Benefits

The main benefits to cattle are indirect and relate to improved health and welfare management. There are considerable benefits to biosecurity and food safety programs.

Detriments to welfare

The major welfare detriment is the pain from the procedure. Pain from the procedure varies according to the method used and healing may be compromised where poor technique is used.

Ear marking, ear tagging and ear tattooing are very quick procedures and to date there has been limited research into their welfare aspects. These procedures are thought to be equivalent in terms of pain response.

The immediate pain response using hot iron branding is greater than with freeze branding however the longer term response to the different methods is not conclusive (Lay and colleagues, cited by Hayward 2002)

Other methods are thought to have negligible animal welfare impact.

BRAND POSITIONS

Positions for the brand are stipulated by those states where branding is mandatory or approved, cheek branding is either not on the list of positions and thus excluded from use or is specifically not allowed.

AGE OF BRANDING

Branding a calf less than one month old is difficult because of the size of the branding iron relative to the size of the calf. Calves should be branded between 2-6 months from the point of view of ease of restraint and size of the brand.

PAIN RESPONSE TO FIRE BRANDING, FREEZE BRANDING AND EAR MARKING

In the on-farm situation, where cattle to be branded may include those previously unhandled as well as those accustomed to handling, a hot iron brand is normally applied for 2-3 seconds and a freeze brand for 30-60 seconds.

Lay and colleagues (cited by Hayward 2002) applied the hot iron brand for 5 seconds and a freeze brand for 17 seconds. Breed differences to the pain of hot iron and freeze branding occurred, however the results are equivocal. Using the cortisol values as a guide, hot iron branding in crossbred calves caused higher levels than freeze branding, however the results were not significantly different between the treated and control calves. In Angus calves, freeze branding caused higher cortisol levels than hot iron branding and controls.

Restraint induced a stress response and cortisol levels were correlated with temperament.

Schwarzkopf-Genswein and Kookey 1997, (cited by Hayward 2002), studied behavioural responses to hot iron branding and freeze branding. Whilst these responses were varied, and are not conclusive, hot iron branding appeared to cause more distress than freeze branding.

Since freeze branding requires an area to be clipped and sprayed or swabbed with alcohol, plus another 30-60 seconds with the brand held on the skin, restraint time and consequent restraint stress is very significantly increased (by 20-30 times).

The freeze brand will not be visible on white or grey cattle.

Friend et al (1994) reported a 'mild startle response' and resumption of normal behaviour after placing a V shaped notch 6mm x 14mm in the ears of two- month old calves, In another study involving ear marking, MLA 2009 found no differences in any blood biochemical parameters between ear marked heifers and controls.

RELEVANCE OF PAIN RESEARCH RELEVANT TO AUSTRALIAN CONDITIONS

Critical to a clear understanding of the pain issue surrounding branding is:

- With one exception all the research to date has involved calves in a benign working environment, often hand reared, all previously handled, some trained to be familiar with race and restraint area, and accustomed to humans, noise, and yards.
- Where research has been conducted under Australian conditions that reflect on-property operations, the results might well be quite different. That is where the first experience of humans is at the first yarding, where calves are drafted from their mothers into the calf pen and processed.
- Restraint induces a stress response and cortisol levels have also been correlated to temperament. Lay and colleagues (cited by Hayward 2002) found that whilst branding raised cortisol levels, the differences between treatment and control groups were not significant.
- Research is required to examine the physiological and behavioural aspects under Australian conditions to better understand the short and long term effects of branding.

REVIEW OF NATIONAL POLICIES AND POSITIONS

This section includes discussion of Issue 2 – Preferred methods of identification.

The legal requirements of states and territories for branding and ear marking are contained in Appendix one and two.

The **Cattle MCOP 2nd edition (2004)** says that:

5. 7 Identification

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5.7.1 Ear- tagging, ear- marking, ear-notching, ear-tattooing, udder tattooing, udder implanting, freeze branding, photography and radio frequency devices are the preferred methods of identifying cattle from a welfare view point.

The **Australian Veterinary Association (AVA)** 2003 5.3 Identification of cattle policy states:

“The Australian Veterinary Association (AVA) supports the use of a national system enabling unique identification of cattle throughout Australia. The AVA supports ear tags and rumen implants as the most humane method of accurately identifying cattle. Where branding is necessary, the AVA recommends freeze branding in preference to hot-iron branding for permanent identification.

The AVA also supports the development of new methods for permanent identification of cattle where they are likely to be practical, humane, easy to use and affordable, and enable unique animal identification.”

The **RSPCA Australia Policy (2008)** states

4.5 Identification of farm animals

4.5.1 RSPCA Australia supports the identification of farm animals for on-farm management and to enable tracking from birth to slaughter.

- The preferred method is by eartag, microchip or other electronic methods which cause minimal pain or suffering.
- Tattooing, branding or tagging must be carried out humanely and according to best practice.
- Where branding is mandatory or considered necessary, freeze branding should be used. The branding site must be chosen to avoid sensitive areas such as the cheek.

4.5.2 The RSPCA believes that hot iron (fire) branding and ear mutilation (notching/cutting) are unacceptable means of identification.

The **MLA Guide to Best Practice Husbandry in Beef Cattle (2007)** from a welfare perspective, hot iron (fire) branding is not the preferred method of identification, but it is permanent and may be the only practical system in some circumstances.

REVIEW OF INTERNATIONAL POLICIES AND POSITIONS

These policies and position statements are included to provide a brief international context, while acknowledging that Australia’s cattle production systems may vary significantly from production systems, cattle breeds and climatic conditions in other countries.

The **NZ Animal Welfare (Sheep and Beef Cattle) Code of Welfare 2008** beef cattle are usually identified by ear marking (or notching), by ear tagging or less commonly by freeze or hot iron branding. The Minimum Standard No 12 – Identification (u) states that hot iron branding must not be used without pain relief. The Animal Welfare (Painful Husbandry Procedures) 2005 Code of

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Welfare recommends that if ear marking is to be performed, no more than 10% of the ear tissue should be removed.

The **Canadian Recommended Code of Practice for the Care and Handling of Farm Animals – Beef Cattle (1991)** section 11.1.3 states that under certain circumstances, hot iron or freeze branding is necessary. When branding is required, it should be done quickly, expertly with proper equipment and in accordance with accepted standards.

DEFINITIONS

caustic chemicals	Chemicals that when applied will burn or denature undamaged skin. Does not include veterinary treatments.
earmarking	The removal by cutting of a registered, shaped portion of the ear with earmarking pliers.
pain relief	The administration of drugs that reduce the intensity and duration of a pain response.
yarding	The process of putting cattle into a cattle yard.

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APPENDIX 1 - LEGAL REQUIREMENTS

Australian Capital Territory

Branding is not compulsory.

The brand must be registered if owner wishes to brand.

NSW

Branding is not compulsory.

The brand must be registered with the Livestock Health and Pest Authority. (Previously the Rural Lands Protection Board or RLPB) if owner wishes to use the brand.

Northern Territory

Branding is compulsory if cattle move off the property or are sold.

It is not required for cattle under 8 months of age.

The brand is registered to the owner of the cattle and to his/her nominated property.

Queensland

All cattle 100 kgs live weight and over must be branded before sale.

The brand must be registered.

Victoria

Branding is not encouraged.

There is no official brands register.

Use of a firebrand leaves the owner open to prosecution on the basis that non painful alternative methods are available.

South Australia

Branding is not compulsory but the brand must be registered if used.

Tasmania

Branding is not compulsory but the brand must be registered if used.

Western Australia

All cattle must be branded or earmarked.

All owners must register a brand with specific regional requirements:

- South West Land Division – cattle must be branded or earmarked before 6 months of age or before being moved off the property, whichever is first
- Pastoral Areas - cattle must be branded or earmarked before 18 months of age or before being moved off the property, whichever occurs first.

Exemptions apply to calves less than 2 weeks old or less than 6 months if still with their mothers provided the conditions of the way-bill for movement are met.

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APPENDIX 2 - CATTLE EARMARKS

Queensland

A cattle earmark is an aid to identification, not proof of ownership, and is not compulsory. It may only be used in conjunction with a 3 piece brand with which it is registered. It is illegal to use an earmark without branding.

NSW

An earmark is not compulsory if used it must be registered with the Livestock Health and Pest Authority (previously the RLPB).

Victoria

There is no mention in the Acts or Regulations relating to identification of cattle.

South Australia

There is no mention in the Acts or Regulations relating to earmarks.

Western Australia

An ear mark is registered at the same time as the brand is registered.

Northern Territory

An earmark is registered to the holder and property of the registered brand.

Tasmania

All cattle must be earmarked or ear tattooed with registered earmark or tattoo by the age of 6 months.