The Life of the Dairy Cow:
A Report on the Australian Dairy Industry

Voiceless, the animal protection institute

Inspired by Deidre Wicks

Updated in 2025 by Sarah Margo, Clive Phillips and Ondine Sherman

Foreword

The Life of the Dairy Cow was originally published by Voiceless in January 2015, eleven years after my father, Brian Sherman AM (1943-2022), and I founded Voiceless.

At the time, we hadn't considered the dairy industry a high priority in our mission to protect animals from legalised institutionalised cruelty and suffering, believing, like most Australians, in the fantasy the industry had created. However, after completing the in-depth report, we came to understand the extent of cow and calf suffering and the shocking level of exploitation. Voiceless became passionate about lifting the veil of secrecy and creating change for dairy cows and calves, which is still the case today.

We conceived of the report together with Dr Deidre Wicks, who, then a Voiceless Council Member, brought her invaluable insights, hard work and dedication to the project. An accomplished academic and author, Deidre was an Honorary Research Associate at Newcastle University, an Honorary Research Fellow at the National University of Ireland, Galway, and had a PhD in Sociology from Macquarie University.

Deidre's compassion and tireless advocacy on behalf of mother cows in the dairy industry were an inspiration, and I believe both Deidre and my father, Brian, would be delighted to see this report having a second life.

Our sincerest appreciation goes to Dr Melissa Boyde, founder and chief editor of the Animal Studies Journal, for publishing this report and honouring Deidre's life's work on dairy cows. Very special thanks to Sarah Margo and Professor Clive Phillips for their generosity of time and work in updating the report.

The report was also made possible, at the time, with the support of Voiceless's international Scientific Expert Advisory Council, including Professor Marc Bekoff, Professor Clive Phillips, Emeritus Professor Lesley Rogers, Professor Bernard E. Rollin (1943-2021) and Emeritus Professor John Webster. The Voiceless Team, which worked on the report in 2015, included Elise Burgess, Emmanuel Giuffre, Elaine Morris (1969-2019), Eleanor Nurse and Clotilde Hery.

By thoroughly analysing the scientific understanding of the health and welfare of cows and calves, along with reviewing key laws and regulations and identifying shortcomings in current Codes of Practice, the report highlights significant concerns related to animal cruelty. However, there have been a few notable changes in the last 10 years. Since 2015, the largely voluntary Model Code of Practice has been replaced by the Australian Animal Welfare Standards & Guidelines for Cattle. These new Standards and Guidelines have more enforceability than the previous Code and have been enacted as mandatory in a greater number of jurisdictions. The prevalence of tail docking, a harmful practice that was previously freely permitted in Australia, has since been significantly reduced. The Standards and Guidelines now only permit tail docking under veterinary advice. The use of the problematic practice of calf induction as a herd management tool has also been significantly reduced, with the dairy industry voluntarily phasing-out routine induction.

Significantly, the reported number of dairy calves killed or sent to slaughter within just a few days of birth has halved since the report's original publication, dropping from the reported 800,000 in 2015 to an estimated 400,000 in 2023. See Chapter 2.2 of this report for detail.

The following pages present an abridged version of this report, which has been updated to reflect these changes. While positive, there is much more work to be done. Unfortunately, the key welfare issues in the report are still relevant.

Today, Voiceless no longer focuses on incremental welfare improvements within animal agriculture. Rather, we believe in addressing the root causes of animal exploitation and working

to shift the anti-animal values, beliefs and assumptions that shape our political, social, legal and economic systems. We support transformative, disruptive stances, visionary projects, partners and ideas, that will challenge the status-quo, ensure animals have fair and effective legal rights and realise our vision for a just and equitable world where animals can flourish.

Dairy cows and calves continue to be trapped in an industry where their suffering is accepted and normalised. Although we imagine Deidre would have been heartened by these small but positive changes, she would have never given up fighting to protect dairy cows.

Together with other compassionate Australians, we will continue to be their voice.

Ondine Sherman
Managing Director and Co-Founder

Summary

In the past four decades, Australian dairy cows have been selectively bred to more than double their lactation from 2,900 litres in 1980 to 6,443 litres in 2024.[1]

Genetically altering an animal to produce this quantity of milk, coupled with continuous cycles of pregnancy and lactation, places enormous pressure on the cow's body and compromises her welfare.[2]

To address the serious welfare concerns within the Australian dairy industry, Voiceless has examined the following key issues for dairy cows and their calves:

- The separation of mother cows from their calves
- Calf slaughter
- Dehorning and disbudding
- Tail docking
- Calving induction
- Lameness
- Mastitis
- Live export of dairy cows

At the time of this report's original publication in 2015, Voiceless recommended several legal reforms to better protect dairy cows and calves within the existing parameters of the dairy industry. Today, Voiceless's values no longer align with reforms that still serve to endorse animal exploitation. Instead, we focus on farm transitions and supporting moves towards non-dairy alternatives and plant-based agriculture and industries. This updated report, therefore, will not suggest welfarist reform, but rather serves to highlight animal suffering within the industry.

[1] Dairy Australia (2024) 'In Focus 2024'.
[2] "It is an undeniable fact that genetic selection of cows for greatly increased milk yield has made it progressively harder for the farmer to meet their needs, whether for optimal productivity, health or welfare." See Webster, Animal Welfare: Limping Towards Eden (Oxford, UK: Blackwell Publishing Ltd, 2005) at 132.

Note: In preparing a newer version of this report, our reviewers have updated key statistics, research and developments where possible, but have otherwise largely relied on the report's original sources from the time of publication in 2015.

Do we ask too much of the modern dairy cow?

The dairy cow is subjected to a continuous cycle of calving, milking and impregnation. This is exhausting work that takes a serious toll on her body. For example, producing the expected yield of 35 litres per day has been compared to a person jogging for six hours, seven days a week.[3]

In a small fraction of their normal lifespan, milking cows become worn out, and when their milk yield falls, or they have repeated bouts of mastitis or lameness, they are slaughtered.[4]

Lameness and mastitis are major economic issues for Australian dairy farmers, which result in pain and discomfort for dairy cows.[5] On-farm mutilation practices such as tail docking, disbudding and dehorning are also a cause of severe pain and distress.[6]

Professor John Webster, Emeritus Professor of Animal Husbandry at the University of Bristol, observes that ***"the dairy cow is exposed to more abnormal physiological demands than any other farm animal."***[7]

Forced pregnancies

Like other mammals, a mother cow must give birth in order to produce milk. As a result, the separation of the mother cow and her calf is an inherent part of dairy production.

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[3] Velten, Cow (London: Reaktion Books Ltd, 2007) at 160.
[4] Advice from Emeritus Professor John Webster PhD.
[5] See Chapter 4.1 Lameness and Chapter 4.2 Mastitis.
[6] See Chapter 3.1 Disbudding and Dehorning and Chapter 3.2 Tail Docking.
[7] Emeritus Professor John Webster PhD quoted in *Masson, The Face on Your Plate: The Truth About Food* (W. W. Norton & Company, 2010) at 84.

It is recommended by Dairy Australia that dairy calves are removed from their mothers within 12 hours of birth, yet cows develop a strong maternal bond with their calf in as little as five minutes after birth, and separation can be stressful for both individuals.[8]

Over the days after their separation, a mother can bellow day and night in search of her calf, often returning to the place where the calf was last seen.[9] Separation before natural weaning also has a negative impact on calf welfare, with initial signs of distress including increased heart rate and vocalisations.[10]

Calves as waste products

Due to the pressure for cows to continue to produce milk, every year, hundreds of thousands of calves are born. The majority of female calves are kept as replacements for the milk-producing herd, while most males (known as bobby calves) are considered wastage or by-products.[11]

Each year, around 400,000 of these bobby calves are born and either killed on-farm or sent for commercial slaughter within just five days of life.[12]

'Non-viable' calves are slaughtered on the day of birth, using chemical euthanasia, a firearm or stunning by use of a captive bolt. Alarmingly, a newborn calf may also be killed by striking their head with a blunt instrument, such as a hammer. If the calf still shows signs of life, farmers are advised to compress the chest wall with a fist, shoot them in the head or take a knife to their neck or chest.[13]

[8] See Chapter 2.1 Mother-Calf Separation.
[9] Joy, Why We Love Dogs, Eat Pigs and Wear Cows. An Introduction to Carnism (San Francisco: Conari Press, 2010) at 61.
[10] Phillips, Cattle Behaviour and Welfare (Second ed.; Malden, USA: Blackwell Science, 2002) at 33.
[11] See Chapter 2.2 Bobby Calves.
[12] RSPCA Australia (2021) 'What happens to bobby calves?'.
[13] Victorian Department of Environment and Primary Industries (2008), 'Humane Destruction of Non-Viable Calves Less Than 24 Hours Old'.

While many bobby calves are killed on-farm within hours of birth, the vast majority are separated from their mothers, given a last feed and loaded onto trucks bound for sale yards and slaughterhouses for use in pet food, leather goods, the pharmaceutical industry, or to be processed into pink veal for human consumption.[14]

Why this Report?

The dairy cow is pushed to her limits.

To compete commercially, dairy farmers are forced to maximise production, both in milk volume output and in the methods of farming. In fact, it is estimated that around 2% of Australian dairies are now 100% total mixed ration (TMR) systems, where cows do not access the outdoors to graze on pasture.[15]

The trend towards higher milk output and indoor systems increases pressure on dairy cows. Yet little of this is visible to consumers, many of whom no doubt continue to hold views of dairy production as it was half a century ago.

There is a very clear need for community education and legal reform. Voiceless notes, however, that many of the welfare issues addressed in this Report – such as lameness and mastitis, mother-calf separation, or the management of unwanted bobby calves – cannot be simply 'regulated away' as they are inherent to the industry.

It is time to break the silence on the treatment of the modern dairy cow and her calf. This report seeks to provide greater insight into their suffering, in order to promote informed public debate and, ultimately, to strive for a just, equitable world where animals can flourish.

[14] Refer to Chapter 2.2 Bobby Calves.
[15] Dairy Australia (2024), 'Are Australian Dairy Cows Completely Grass Fed?'.

1.1 Introduction

The first dairy cows arrived in Australia with the First Fleet in 1788. The seven cows and two bulls, like many of the early convicts, escaped soon after landing. After six years in the wild, the original nine had increased to a herd of 61.[16]

Today, the Australian dairy herd is made up of at least 1.3 million domesticated cows[17] and dairy is viewed as an integral component of Australian agriculture. Ideas about the significance of the dairy farm and the dairy cow have entered our consciousness through literature, art and more recently, marketing.

Marketing of dairy has been phenomenally successful. So much so that it seems to many that:

- Dairy is essential for good health;
- Cows need to be milked for their health and comfort;
- It is essentially a 'non-harm' industry; and
- Dairy farmers struggle for a living and deserve public support.

Certainly, this last point is true, and we at Voiceless do not lightly present a report that may be to the detriment of dairy farmers. In our view, however, the almost universal and unquestioned belief in the first three of the above points has enabled the Australian dairy industry to avoid much of the scrutiny that has been levelled against other animal industries. In short, it's flown under the radar.

The purpose of this Report is to reveal what is happening to dairy cows and calves and to break the silence about certain industry practices, no matter how unpalatable they may be.

In this regard, we have taken the position that all animals have intrinsic worth and that their own interests are legitimate subjects of moral concern.[18] In particular, we are guided by the scientific research on animal sentience.

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[16] Dairy Australia (2014), 'Discover Dairy: Dairy Farming in Australia'.
[17] Dairy Australia (2024) 'In Focus 2024'.
[18] See, for example, Regan, Empty Cages: Facing the Challenge of Animal Rights (Rowman & Littlefield Publishers, 2005).

This position of concern for the welfare of the animal is no longer a fringe issue. A growing number of consumers are asking important questions about how their food is produced, how animals are treated in this process and their quality of life.

This Report provides a platform for consumers to educate themselves about the standard animal husbandry practices used within the Australian dairy industry and to help them make their decisions based on their ethical beliefs. This approach will, in time, create a flow-on effect for industry and government.

Sentience and the dairy cow

Sentience is the ability of a living being to perceive and feel things.[19] Beings are sentient if they are capable of being aware of their surroundings, their relationship with other animals and humans and of sensations in their own bodies, including pain, hunger, heat or cold.[20] A sentient animal is one who has interests, who prefers, desires or wants different things.[21]

While most people now understand that animals feel pain, some find it more difficult to consider that animals are emotional beings who also seek pleasurable experiences. And again, there are people who can envisage these characteristics in their dog or cat, but who struggle to extend their empathy to animals used for farming or food, who are often seen to be less intellectually and emotionally complex.[22]

Evidence shows this is not the case:

[19] Mellor and Diesch (2006) at 48; Webster (2006) at 1-3.
[20] Turner, 'Stop-Look-Listen: Recognising the Sentience of Farm Animals' (Compassion in World Farming Trust, 2006) at 6.
[21] Francione (2012), 'Animal Rights: The Abolitionist Approach'.
[22] For a discussion on human perceptions towards companion and non-companion animals, see: Joy, Why We Love Dogs, Eat Pigs and Wear Cows. An Introduction to Carnism (San Francisco: Conari Press, 2010) at Ch.2.

Excitement at solving a problem

A study by Cambridge University Professor Donald Broom and his team suggested that cows become excited when they solve a problem involving a food reward.[23] Cows who made clear improvements in learning reacted emotionally: their heart rates increased and they were more likely to jump, buck and kick when they moved towards the food.[24]

Cows like to be called by their name

At Newcastle University in the UK, researchers designed a study to see whether differences in the way cows feel around humans have an effect on their welfare, behaviour and milk production. The researchers found there was a statistically significant 3.5% increase, or 258 litres increase, in milk yield where cows were called by their names.[25] The survey also demonstrated that where cows were visited more often during rearing, they too had significantly higher milk yields.[26]

Cows are social animals

Working on her doctoral thesis at The University of Northampton in the UK, Krista McLennan demonstrated that cows form close personal relationships with other cows. McLennan monitored behaviour to determine the impact of short-term isolation. Her research shows that when heifers[27] are with their preferred partner, their heart rate remains lower and they are less agitated compared to times spent with a random individual.[28]

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[23] Hagen and Broom (2004) at 203 - 13.
[24] Ibid, at 211.
[25] Bertenshaw and Rowlinson (2009) at 59-69.
[26] Scientist Live (2014), 'Happy Cows Produce More Milk'.
[27] A heifer is defined as a young female cow over the age of one, who has never calved or has given birth only once.
[28] McLennan, 'Social Bonds in Dairy Cattle: The Effect of Dynamic Group Systems on Welfare and Productivity', Doctoral thesis (The University of Northampton, 2013).

During long term separation (two weeks) from preferred partners, cows showed significant behavioural, physiological and milk production changes. These responses subsided, however, on reunion with their preferred partner.[29]

This is consistent with observations that cows and calves will form close friendships, develop dislikes for certain individual cows, bear grudges, and display inquisitiveness.[30]

These studies and observations demonstrate the complexity and depth of cow sentience. The science tells us that cows seek positive experiences and seek to avoid negative ones, and this should, invariably, be taken into consideration when assessing their welfare.

What is welfare, and how do we judge it?

Typically, animal farmers, vets and those concerned with an animal's productivity tend to favour the animal's performance as an indicator of good health and welfare. While a decline in an animal's ability to function (e.g. to produce milk) can be a result of poor welfare, the healthy functioning of an animal alone does not indicate good welfare.[31]

As such, most animal welfare scientists will employ a variety of measures to assess the welfare of animals. The World Organisation for Animal Health (OIE) defines good welfare if an animal is: *"[H]ealthy, comfortable, well nourished, safe, able to express innate behaviour, and… is not suffering from unpleasant states such as pain, fear, and distress."*[32]

Nearly all discussions on the definition of "animal welfare" will consider the Five Freedoms and Provisions developed by Dr John Webster and subsequently adopted by the UK Farm Animal Welfare Council, Dairy Australia (the industry representative) and many other bodies. These Five Freedoms are:

1. Freedom from hunger and thirst;
2. Freedom from discomfort;
3. Freedom from pain, injury or disease;

[29] Ibid.
[30] Young, The Secret Life of Cows: Animal Sentience at Work (UK: Farming Books and Videos Ltd, 2005).
[31] Fraser et al. (1997) at 191 and 196-199.
[32] World Organization For Animal Health, as quoted in Von Keyserlingk et al, (2009) at 4101.

4. Freedom to express normal[33] behaviour;
5. Freedom from fear and distress.[34]

For this Report, we will seek to highlight some of the key welfare concerns in the dairy industry using the following welfare questions developed by von Keyserlingk et al,[35] which are generally consistent with both the Five Freedoms and the OIE definition of good animal welfare:

1. Is the animal functioning well?
   This addresses issues such as disease, injury, growth rate and reproductive function.
2. Is the animal feeling well?
   This question covers both physical and emotional states, such as the animal's experience of pain, hunger or cold as well as fear, stress and grief. It also includes the experience of positive emotions like pleasure.
3. Is the animal able to live a relatively natural life and express natural behaviour?
   This question deals with whether the animal is able to perform and express natural behaviours throughout their life.

What are the welfare issues for dairy production?

Many of the welfare issues examined in this Report can be attributed to the fact that the dairy cow has been genetically selected to produce such a huge volume of milk that her health and wellbeing are subsequently compromised.[36] Through selective breeding, nutrition and farm management, the modern dairy cow has been bred to maximise udder size and milk production. She now produces more than twice as much milk as a typical dairy cow produced 40 years ago.[37]

The process of lactation is hard work[38] yet dairy cows can be expected to produce milk at a high rate for ten full months of the year.[39] Dr John Webster describes the modern dairy cow as the apotheosis of the overworked mother and pinpoints the single source of her woes:

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[33] We note that the freedom to express "normal" behaviour is distinct from "natural" behaviour, and relates more to the provision of sufficient space, proper facilities and company of the animal's own kind. This is distinct from, but not necessarily inconsistent with, enabling the animal to live out a 'natural' life.
[34] Farm Animal Welfare Council (FAWC) (2014), 'Five Freedoms'.
[35] Von Keyserlingk et al (2009).
[36] Webster, Animal Welfare: Limping Towards Eden (Oxford, UK: Blackwell Publishing Ltd, 2005) at 132.
[37] Dairy Australia (2023) 'In Focus 2023'.
[38] Webster, Animal Welfare: Limping Towards Eden at 132.
[39] See, for example, Victorian Department of Environment and Primary Industries (2014), 'How Long Will Cows Milk?'.

"Most of the welfare problems (the 'production diseases') of the dairy cow arise from the fact she has to work so hard for so long."[40]

These stressors have serious, sometimes disastrous, consequences for the individual cow. High milk production quickly depletes minerals and nutrients, and it is not uncommon for cows to be undernourished and metabolically stressed due to inadequate feed or an inability to digest.[41] This makes the dairy cow more susceptible to both viral and bacterial conditions, such as lameness and mastitis.[42]

It is no wonder that while the average lifespan of a wild bovine is around 20 years, dairy cows are generally sent to slaughter when they are just a few years old, worn out and no longer producing enough milk to be considered 'commercially viable'.[43]

Milk myths

For decades, peak nutrition bodies and government guidelines have endorsed the idea that the consumption of dairy products is essential for good health and that dairy should be the main source of calcium in the diet.[44]

Australians have clearly taken this advice and now consume around 88 litres of milk, 13kg of cheese and 3.4kg of butter per person each year.[45]

Humans are one of the only animals who continue to drink milk into adulthood, so it must be asked: are the huge amounts of dairy we consume necessary for good health and calcium?

For the first time in 2013, the Federal Government's National Health and Medical Research Council (NHMRC) referenced alternatives to dairy, such as soy, almond, rice and oat milk fortified with calcium.[46] Specifically, the Australian Dietary Guidelines, issued by the NHMRC,

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[40] Webster, Animal Welfare: Limping Towards Eden at 134.
[41] Phillips, Cattle Behaviour and Welfare (2nd ed; Malden, USA: Blackwell Science, 2002) at 10.
[42] Webster, Animal Welfare: Limping Towards Eden at 132.
[43] Advice from Emeritus Professor John Webster (PhD).
[44] Nutrition Australia (2014), 'The Healthy Living Pyramid'.
[45] Dairy Australia (2024) 'In Focus 2024'.
[46] National Health and Medical Research Council (NHMRC) (2013), 'Eat for Health: Australian Dietary Guidelines', at 56.

structure the government's recommendations on types and amounts of food Australians should consume. The guidelines recommend we eat a wide variety of nutritious foods from five groups, including 2-4 serves of 'milk, yoghurt, cheese and/or *their alternatives*' (our emphasis).[47]

There is no doubt that calcium is important for human health, but in light of the immense suffering experienced by dairy cows as outlined in this Report, we must consider the potential for other non-dairy sources of calcium to fulfil our dietary needs.

The importance of welfare

At the heart of this Report is the dairy cow and our concern for her and her calf's wellbeing. The welfare questions outlined in this chapter (is she feeling well, behaving naturally and functioning well) are applied throughout this Report, and will go some way in highlighting those key issues that are worthy of our attention and debate.

1.2 Snapshot of the Australian Dairy Industry

The dairy industry is Australia's third largest agricultural industry with farmgate production valued at $6.2 billion in the 2023/24 financial year.[48]

Production is focused within eight main dairy regions, most of which are located in the southeast of Australia with Victoria alone accounting for approximately 65% of Australia's milk production.[49]

The national herd, comprising 1.3 million dairy cows in 2024, produced 8,376 million litres of milk.[50]

[47] NHMRC (2013), 'Australian Dietary Guidelines Summary', at 12.
[48] Dairy Australia (2024) 'In Focus 2024'.
[49] Ibid.
[50] Ibid.

Since the 1980s, milk production has more than doubled, while the number of cows in the industry has declined.[51] At the same time, the number of dairy farms across Australia has decreased, with the average number of cows per herd increasing.[52]

Essentially, Australian dairy farms are producing more milk using fewer cows and less space.

The Australian dairy industry is largely pasture-based, meaning cows are left to graze, however, it is now common for farmers to provide supplementary feeding with grains.[53] As of 2024, it was estimated that around 2% of Australian dairy farms are zero-grazing systems (termed total mixed ration systems by industry), permitting cows to be permanently confined indoors.[54]

FACT BOX: Total mixed ration dairies

Dairy cows are grazing animals who naturally spend their lives on pasture where they can graze, forage and express their natural behaviours. Today, dairy cows who have been bred to produce huge volumes of milk may not be able to meet the extreme nutritional demands required to maximise milk production with pasture alone.[55]

For this reason, some cows are fed 'mixed ration' diets, a high-energy blend of feedstuffs. Mixed ration can be offered as a 'partial' supplement to cows who are kept on pasture or can make up a cow's whole diet, known as a 'total mixed ration' (TMR) system.

TMR dairy farms present a number of welfare issues for dairy cows. It's common for cows who are consuming large amounts of unaccustomed and unsuitable, high-energy feed to develop digestive issues like acidosis, which can cause anorexia and diarrhoea in cows and can lead to death if untreated.[56] TMR systems also make grazing redundant, permitting dairy cows to be

[51] Ibid.
[52] Ibid.
[53] Dairy Australia (2024) 'Are Australian Dairy Cows Completely Grass Fed?'.
[54] Ibid.
[55] Charlton et al (2011) at 3875.
[56] Reference Advisory Group on Fermentative Acidosis of Ruminants (RAGFAR), 'Ruminal Acidosis - Understandings, Prevention and Treatment: A Review for Veterinarians and Nutritional Professionals', (Australian Veterinary Association, 2007) at 4 and 5.

confined indoors for their whole lives. This increases the incidence of health problems, restricts space allowance and can frustrate a cow's natural behaviours.[57]

The Australian animal protection framework does not protect dairy cows or their calves from being permanently confined indoors,[58] and while there are only a handful of TMR dairies in Australia,[59] this type of intensive dairy farming should not be permitted to expand.

Producers supply milk and milk products both nationally and internationally, with Australia's domestic market consuming almost 70% of all milk produced.[60] The remainder is exported to overseas markets, mostly to Asia, which purchases almost 90% of all Australian exported milk products. Australia is the fifth largest exporter of dairy products in the world, behind New Zealand, the European Union, the United Kingdom and the United States.[61]

A short, production-driven life

The average natural lifespan of a cow raised for beef on good pasture, rearing one calf per year, is around 20 years.[62] Most cows used for dairy production, however, will never reach this age. The harsh reality of commercial dairying in Australia is that these cows are generally slaughtered around their fifth year.[63] The main reasons for killing are infertility, lameness and mastitis, diseases that are directly linked to the stresses of high production.[64]

During their short lives, a dairy cow is typically artificially impregnated for the first time between 15 and 18 months old. She will lactate during the pregnancy and will continue to

[57] Charlton et al. (2011) at 3875.
[58] This is not prohibited in neither regulations, codes of practice nor state-based law.
[59] Dairy Australia (2024), 'Are Australian Dairy Cows Completely Grass Fed?'
[60] Dairy Australia (2024) 'In Focus 2024'.
[61] Ibid.
[62] Advice from Emeritus Professor John Webster (PhD); "The average life-span in intensive dairy systems (about five years) is a fraction of the potential of 20 to 25 years, because of the metabolic strain": see Phillips, Cattle Behaviour and Welfare (Second ed; Malden, USA: Blackwell Science, 2002) at 5.
[63] Ibid.
[64] Advice from Emeritus Professor John Webster (PhD).

lactate after the birth of her calf. A cow will generally be reimpregnated within two to three months after her lactation finishes.[65]

Our concern from an animal welfare perspective is clear: repeated pregnancies and increased production dramatically increases the risk of the dairy cow suffering debilitating disease (particularly as most health and welfare problems occur in early lactation),[66] and potentially, early slaughter.[67]

1.3 Regulating the Welfare of Dairy Cows

The welfare of dairy cows is legislated by state and territory governments,[68] with each enacting their own separate animal cruelty legislation[69] and associated regulations.[70] State and territory cruelty laws are generally focused on preventing gross acts of animal cruelty or neglect,[71] while also providing certain minimum safeguards, such as requiring farmers to provide animals with adequate food and water.[72]

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[65] Advice from Professor Clive Phillips BSc, MA, PhD.
[66] Webster, Animal Welfare: Limping Towards Eden (Oxford, UK: Blackwell Publishing Ltd) at 134.
[67] See also Chapter 4.1 Lameness and Chapter 4.2 Mastitis.
[68] The Commonwealth Constitution does not give the Commonwealth Government express powers to legislate for animal welfare. The Constitution does, however, provide the Commonwealth Government with several indirect powers to regulate on animals, including the trade and commerce power in s 51 (i), quarantine power in s 51 (ix), fisheries power in s 51 (x) and external affairs powers in s 51 (xx). As a result, the Commonwealth Government regulates with respect to animals in international trade, treaties that involve animals, the export and import of animals, biosecurity and customs relating to animals, the management of invasive species, and the management of animals for exports.
[69] Animal Welfare Act 1992 (ACT); Prevention of Cruelty to Animals Act 1979 (NSW); Animal Welfare Act 1999 (NT); Animal Care and Protection Act 2001 (QLD); Animal Welfare Act 1985 (SA); Animal Welfare Act 1993 (TAS); Prevention of Cruelty to Animals Act 1986 (VIC); and Animal Welfare Act 2002 (WA).
[70] Animal Welfare Regulation 2001 (ACT); Prevention of Cruelty to Animals Regulation 2012 (NSW); Animal Welfare Regulation 1999 (NT); Animal Care and Protection Regulation 2023 (QLD); Animal Welfare Regulations 2012 (SA); Animal Welfare (Cattle) Regulations 2023 (TAS); Prevention of Cruelty to Animals Regulation 2019 (VIC); and Animal (General) Welfare Regulation 2003 (WA).
[71] For example, s 5 of the Prevention of Cruelty to Animals Act 1979 (NSW) makes it an offence, among other things, if a person commits an act of cruelty upon an animal, or fails to exercise reasonable care to prevent an act of cruelty.
[72] For example, s 8(1) of the Prevention of Cruelty to Animals Act 1979 (NSW) states: "A person in charge of an animal shall not fail to provide the animal with food, drink or shelter, or any of them, which, in each case, is proper and sufficient and which it is reasonably practicable in the circumstances for the person to provide".

Animal cruelty laws must be read alongside the Australian Animal Welfare Standards and Guidelines for Cattle (referred to throughout as the '**Cattle S&G'**), which set minimum welfare standards for the treatment of cattle in Australian agriculture, including dairy cows and their calves.

The Cattle S&G contain mandatory 'Standards', which are intended to be enacted either in Regulations or by adoption under the relevant state and territory animal cruelty laws. They also contain non-mandatory 'Guidelines'.

Critically, the Cattle S&G only have legal force and effect once its provisions are incorporated into relevant state and territory laws. Otherwise, compliance is largely voluntary.

All Australian jurisdictions have adopted the Cattle S&G to some extent, with the exception of Victoria which has its own Code of Accepted Farming Practice for the Welfare of Cattle (Victorian Cattle Code).

State and territory governments have generally incorporated the Cattle S&G into their state and territory laws so that:

- compliance with the Cattle S&G can be relied upon as a defence to a charge of animal cruelty;[73] or
- compliance or non-compliance with the Cattle S&G can be presented as evidence to show that an individual has or has not complied with the animal cruelty legislation.[74]

Queensland, South Australia and Tasmania are the only jurisdictions to have made compliance with the Cattle S&G mandatory. See Appendix 2 of this Report for further details on how the relevant industry codes operate in each jurisdiction.

[73] See, for example, s 40, Animal Care and Protection Act 2001 (QLD) and s 25, Animal Welfare Act 2002 (WA)).
[74] See, for example, s 34A, Prevention of Cruelty to Animals Act 1979 (NSW) and s 16, Animal Care and Protection Act 2001 (QLD).

Voiceless's concerns with the regulatory regime

A complete analysis of the legislative framework is beyond the scope of this Report. A critique of the key welfare issues we outline in this Report are, however, provided in the Chapters that follow and a summary of how each Australian jurisdiction regulates some of these issues is provided in Appendix 3 of this Report.

The below section provides a brief snapshot of some of Voiceless's general concerns with the legal protections provided for dairy cows.

- Welfare words: most jurisdictions prohibit 'unnecessary', 'unjustified' or 'unreasonable' acts of cruelty.[75] The corollary of this is that the law permits cruelty against farmed animals which can be deemed necessary, justified or reasonable.[76] The legislation does not provide any guidance on what these 'welfare words' mean, but in practice, they operate to permit a number of otherwise cruel husbandry practices. For dairy cows, a clear example of this is the premature on-farm slaughter of thousands of bobby calves every year, a practice which would undoubtedly be unacceptable if performed on animals in a non-commercial context, such as domestic companion animals.

- Legalised cruelty: a number of dairy industry practices that Voiceless deems cruel are permitted under the current Cattle S&G, including:

    - dehorning and disbudding of dairy cows under the age of six months old without pain relief;
    - chemical (or caustic) disbudding of calves less than 14 days old;
    - the killing of one-day-old calves with a blow to the head with a blunt instrument; and
    - calving induction on the advice of a veterinarian, with no express prohibition on its use as a herd management tool or for non-therapeutic purposes.[77]

[75] See, for example, s 5(3), Prevention of Cruelty to Animals Act 1979 (NSW); s 3(c) and 18(2), Animal Care and Protection Act 2001 (QLD); s 13(3)(a), Animal Welfare Act 1985 (SA); s 8(1), Animal Welfare Act 1993 (TAS); ss 9(1), Prevention of Cruelty to Animals Act 1986 (VIC); s 19(2)(e), Animal Welfare Act 2002 (WA); s 8(1), Animal Welfare Act 1992 (ACT); s 9(3)(a), Animal Welfare Act 1999 (NT).
[76] See Sharman, 'Farm Animals and Welfare Law: An Unhappy Union', in White and Sankoff (ed.), Animal Law in Australasia (Federation Press, 2009) at 51.
[77] Refer to Appendix 1 of this Report for the relevant provisions of the Cattle S&G.

The Chapters that follow outline the cruelty involved in each of these practices, which continue to be permitted under the animal protection legal framework because they serve a commercial purpose. Refer to Appendix 1 of this Report for how the Cattle S&G deal with some of our key welfare concerns in the dairy industry.

- Overlooked welfare issues: the Cattle S&G either fail to, or inadequately deal with, a number of the key welfare concerns associated with the dairy industry. Dairy cows are not prevented from being permanently housed indoors, despite a small but increasing number of wholly intensive dairy systems existing in Australia.[78] The provisions relating to the management and prevention of lameness[79] and mastitis[80] are not mandatory and, as a result, do not guarantee positive welfare outcomes for dairy cows. Critically, there is no guidance around the separation of mothers from their calves, or the need for farmers to invest in initiatives to reduce the exorbitant number of bobby calves prematurely slaughtered in Australia each year as part of the dairy industry.[81]

- Unenforceability: the Cattle S&G are only mandatory in Queensland, South Australia and Tasmania.[82] Even where the Cattle S&G contain mandatory 'Standards', most of the provisions relevant to dairy cows are expressed as mere 'Guidelines'. These Guidelines are voluntary and therefore largely unenforceable. Further, many of the protections in the Cattle S&G are couched in highly subjective 'welfare words' and discretionary language, effectively rendering them legally unenforceable.[83]

- Monitoring and enforcement: monitoring and enforcement of the regulatory framework is the responsibility of state and territory governments, and in most jurisdictions, the Royal Society for the Prevention of Cruelty to Animals (RSPCA). Enforcement efforts are heavily

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[78] Refer to Appendix 1 of this Report for the relevant provisions in the Cattle S&G. Note that it is estimated around 2% of dairy farms in Australia are total mixed ration (TMR) systems, where cows are given feed mix and do not require outdoor access to feed on pasture.

[79] See, for example, S3.3 of the Cattle S&G, which contains a general requirement that "A person in charge must ensure appropriate treatment for sick, injured or diseased cattle at the first reasonable opportunity". G9.3 states: "A lameness management strategy should be implemented and should include practices for prevention, early detection and effective treatment"; and G9.4 states: "Lameness assessment and/or hoof inspections should be conducted regularly and hoof trimming carried out when necessary"; these provisions are non-mandatory.

[80] See, for example, S3.3 of the Cattle S&G, which contains a general requirement that "A person in charge must ensure appropriate treatment for sick, injured or diseased cattle at the first reasonable opportunity". G9.5 of the Cattle S&G provides a non-mandatory Guideline which states: "A mastitis management strategy should be implemented and should include practices for prevention, early detection and effective treatment".

[81] For further information, see Chapter 2.1 Mother-Calf Separation and Chapter 2.2 Bobby Calves.

[82] See Appendix 3 of this Report.

[83] For example, S1.1 of the Cattle S&G states: "A person must take reasonable actions to ensure the welfare of cattle under their care" (emphasis added).

> dependent on industry self-auditing and reporting to ensure on-farm compliance. Industry auditing focuses principally on food safety and milk quality, as opposed to compliance with animal welfare standards. Voiceless considers the current dependence on industry self-reporting of regulatory compliance to be severely inadequate. A lack of regular, independent monitoring of on-farm practices makes it nearly impossible to ensure that dairy farmers are complying with those minimum standards that do exist.

These factors undermine the ultimate purpose of the regulatory framework – to protect the welfare of dairy cows – and in our view, leaves them to suffer lives of institutionalised and legalised pain and suffering.

There is an important distinction to be made between preventing acts of cruelty towards animals and ensuring their welfare. The animal cruelty legislative framework, in effect, operates to protect farmed animals from gross, intentional acts of cruelty or neglect when they are detected. It is a sad reality that other considerations – such as the ability for animals to function well, to feel well, and to live out a natural life – are mostly unprotected by law and are secondary to maintaining the commercial usefulness of these sentient beings.

2.1 Mother–Calf Separation

Like other mammals, a mother cow must give birth in order to produce milk. As a result, the separation of cow and calf shortly after birth is a distressing part of modern commercial dairying.

Most dairy calves are forcibly removed from their mothers shortly after birth,[84] causing clear distress to both mother and calf. There is an extensive body of research on maternal behaviour in cows that allows us an understanding of the issues surrounding birth and the harmful impact of separating calves before they are naturally weaned.

In our view, mother-calf separation is one of the cruellest, most psychologically damaging aspects of dairy farming, though it remains largely unknown to the public and is notably absent in the 'feel good' marketing of most dairy products.

[84] See Chapter 2.2 Bobby calves.

Calving for milk

In order for a cow to begin producing milk, it is necessary for her to fall pregnant and give birth to a new calf. As milk production begins to fall quite rapidly after nine months, and two-three months is needed to prepare for the next parturition, she will generally be forced to give birth to a calf every 13 months to ensure that she continues producing a high volume of milk into the next year.[85]

There were about 1.3 million dairy cows in the Australian herd in 2024.[86] With cows being continually artificially impregnated every 13 months, it is clear that a huge number of calves are born each year to keep the herd milking at a sufficiently high rate.

From the viewpoint of the farmer, and the industry more broadly, each calf is a necessary by-product of milk production. From the mother cow's point of view, however, the situation is very different.

Why separate?

Under natural conditions, calves will generally remain with their mother until they are gradually weaned at around six to eight months.[87] The routine practice of separating a calf from his or her mother shortly after birth, however, is usually done to ensure the highest yield of milk is available for sale.[88]

There are differences of opinion within the industry as to how soon the separation should be done. In the past, a calf would often be left with their mother for the first 12 to 24 hours in order for them to consume the first milk: the colostrum.[89] Colostrum is essential for the calf's health as it contains the antibodies necessary to give them immediate passive immunity to infection.[90]

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[85] Independent advice from Professor Clive Phillips BSc, MA, PhD.
[86] Dairy Australia (2024) 'In Focus 2024'.
[87] Flower and Weary (2001) at 276.
[88] Webster, Animal Welfare: Limping Towards Eden (Oxford, UK: Blackwell Publishing Ltd, 2005) at 146.
[89] Flower and Weary (2001) at 276.
[90] Compassion in World Farming (CIWF) (2013), 'Information Sheet 6: Dairy Cow-Calf Separation and Natural Weaning' at 2-3.

A 'problem' arises, however, as the longer the cow and calf remain together, the stronger the bond between them.[91] It is now common practice and recommended by the dairy industry to separate the mother from her calf within 12 hours of birth, then feed the mother's extracted colostrum to her calf from a bottle or bucket. The dairy industry presents this as a 'better' method, as it minimises the calf's exposure to possible harmful bacteria and viruses carried by the mother.[92]

Separation also seeks to address an additional problem: the possible inability of the calf to suckle from their mother. As the udder of the modern dairy cow is so pendulous, her teats are no longer positioned where the calf has been genetically programmed to find them.[93] While this issue may only affect a small proportion of calves, the reality is that her udder may now be more suited to a milking machine than a newborn calf.

Denial of maternal instincts

Cows are deeply maternal animals, and a review of the literature shows they will engage in a number of diverse behaviours to ensure the growth and survival of their calves.[94] Separation denies cows the ability to express their natural, maternal behaviours.

The onset of maternal behaviour begins in the hours before birth when cows, if given the opportunity, isolate themselves to choose a nesting site in preparation for calving.[95]

In the first seven minutes after birth, if left alone, mothers lick their calves and then intensely groom them for the next 30-40 minutes.[96] This behaviour is strongly instinctive and satisfying for both mother and calf, and one which is considered essential in establishing their bond.[97] It is

[91] See, for example, Webster, Animal Welfare: Limping Towards Eden at 146; Von Keyserlingk and Weary (2007) at 111.
[92] Dairy Australia (2014) 'Managing Calf Welfare'.
[93] Webster, Animal Welfare: Limping Towards Eden at 146.
[94] Keyserlingk and Weary (2007) at 111.
[95] Ibid, at 106, 107.
[96] Keyserlingk and Weary (2007) at 107.
[97] Ibid, at 106-13; CIWF (2013), 'Information Sheet 6: Dairy Cow-Calf Separation and Natural Weaning' at 2.

also a behaviour that is important in encouraging activity in the calf which is likely to have other positive effects such as stimulating breathing, circulation, urination and defecation.[98]

"As little as five minutes of contact with a calf immediately after birth may be sufficient for the formation of a strong maternal bond."[99]

Cows will vocalise immediately after the birth of their calves, with quiet grunting sounds used in combination with licking. The purpose of these 'contact' calls is not always clear, although it is suggested they may play a role in allowing the calf to recognise his or her mothers' voice.[100]

The early removal of her calf will deny the cow her natural expression of her maternal and nurturing instincts. While the calf must only suffer the stress of separation once, mother cows are forced to endure repeated pregnancies and separations.

Distress in mother cows

Scientific evidence now tells us that dairy cows are affected by the separation process.

Some farmers will argue that immediately after birth certain cows show only a mild response to separation which may include low, soft calls with the mouth closed designed to help the calf locate his or her mother.[101] The cow may then return to feeding, which is taken to mean that separation is not stressful.[102] Research shows, however, that the onset of distress is often delayed and peaks between 12-24 hours after separation.[103]

Behavioural responses indicating stress include restlessness, sniffing, increased vocalisations and activities that would naturally serve to reunite the cow and calf.[104]

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[98] Metz and Metz (1986) at 325-333.
[99] Flower and Weary (2001) at 276.
[100] Keyserlingk and Weary (2007) at 109.
[101] Hopster et al (1995) at 5; CIWF, 'Information Sheet 6: Dairy Cow-Calf Separation and Natural Weaning' at 2; Keyserlingk and Weary (2007) at 109.
[102] Hopster, O'Connell and Blokhuis (1995) at 5-6.
[103] CIWF, 'Information Sheet 6: Dairy Cow-Calf Separation and Natural Weaning' at 2.
[104] Keyserlingk and Weary (2007) at 111; CIWF, 'Information Sheet 6: Dairy Cow-Calf Separation and Natural Weaning' at 2.

For days after their separation, a mother can bellow day and night in search of her calf, often returning to the place where the calf was last seen. There have even been instances of mothers escaping and travelling for miles to find their calves on other farms.[105]

Both behavioural and physiological distress responses become more intense with late separation and when mother cows are able to see and hear their calf. In addition to time spent together, experience also has a role to play, as cows who have given birth more than once will have a stronger response to separation.[106] Further evidence of the distress suffered comes from the mother cow's heart rate, which increases when she hears a recording of a calf's call.[107]

There are many descriptions of this distress in the relevant literature. Jeffrey Masson described the experience of John Avizienius, senior scientific officer with RSPCA Great Britain, who remembers one particular cow who was deeply affected by the separation from her calf:

> *"When the calf was first removed, she was in acute grief; she stood outside the pen where she had last seen her calf and bellowed for her offspring for hours. She would only move when forced to do so. Even after six weeks, the mother would gaze at the pen where she last saw her calf and sometimes wait momentarily outside the pen. It was almost as if her spirit had been broken and all she could do was to make token gestures to see if her calf would still be there."*[108]

Distress in calves

The natural behaviour of calves is to maintain a strong bond with their mothers, which can last well beyond the point of natural weaning.[109] As such, separation before natural weaning can also have a negative impact on calf welfare.

A 2014 study by Weary et al suggests that calves experience distress following maternal separation at approximately 24 hours after birth, showing signs of low mood and negativity

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[105] Joy, Why We Love Dogs, Eat Pigs and Wear Cows. An Introduction to Carnism (San Francisco: Conari Press, 2010) at 61.
[106] CIWF, 'Information Sheet 6: Dairy Cow-Calf Separation and Natural Weaning' at 2.
[107] Marchant-Forde et al (2002) at 24.
[108] Masson, The Pig Who Sang to the Moon. The Emotional World of Farm Animals (New York: Ballantine Books, 2003) at 140.
[109] Ibid.

following separation. The study revealed that calves are emotionally impacted by separation, drawing a link with the anxiety experienced by calves following the pain of hot iron disbudding.[110]

Initial signs of distress following early separation include increased heart rate and vocalisations. Separation at 24 hours of age can also impair their social development and weight gain compared to calves separated later.[111] While this is clearly problematic for calves who will go on to replace the existing milking herd,[112] it is suggestive of the harmful physical effect of separation on calves.

The behavioural responses of calves to separation increase, however, after a stronger maternal bond has formed, with one study showing calves display abnormal behaviours, including signs of movement, butting, urination and vocalisation and reduced grooming, lying and eating when separated at 72 hours.[113]

"When cows and their calves are separated, they spend a long time pacing the field boundaries in an attempt to re-unite, as well as standing and watching each other".[114]

Calves separated from their mothers will often suck each other (cross-sucking) and express other oral 'vices' such as fence sucking and pen licking, especially if they are isolated in individual pens.[115]

We know that many mammals grieve the loss of their babies and dairy cows are no different.[116]

Most Australians do not connect the dots: to provide milk, a dairy cow must give birth to a calf from whom she is then separated. The milk, which should be fed to her newborn, is instead taken away.

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[110] Weary et al (2014) at 1- 4.
[111] Phillips, Cattle Behaviour and Welfare (Second ed; Malden, USA: Blackwell Science, 2002) at 31 and 33.
[112] For more information on replacement and non-replacement (or bobby) calves, see Chapter 2.2 Bobby Calves.
[113] Solano et al (2007) at 13. Note that this experiment looked at the benefit of providing fence-line contact between cow and calf during temporal separation.
[114] Phillips, Cattle Behaviour and Welfare at 33.
[115] Margerison et al (2003) at 278-284.
[116] See, for example, Bekoff (2000) at 865-866.

As discussed in this chapter, there is clear evidence of the maternal nature of cows. Through the routine practice of separation, these maternal instincts are continually frustrated and exploited for the benefit of high milk yield. Separation has also been shown to have adverse physiological and emotional effects on not only the mother cow, but also her calf.

In this way, it is evident that in the separation of the cow from her calf, their ability to function well, feel well and to express their natural behaviours is severely impaired. Put simply, this practice fails the test for good animal welfare.

While the calf is only forced to suffer separation once, the current practices of the dairy industry forces mother cows to repeatedly suffer in this way over the course of their lives.

2.2 Bobby Calves

Every year over 400,000 calves are slaughtered in Australia within the first week of their lives.[117] *Labelled "bobby calves" and treated as wastage by the dairy industry,*[118] *their suffering is a hidden and disturbing truth of modern dairy farming.*

Once they are born, calves are divided into two categories: "replacement" calves who will eventually replace the worn-out older milking cows and "non-replacement" bobby calves who are destined for slaughter.[119]

Bobby calves are typically male (bull) calves, but the term can also include those female calves who are deemed unsuitable for herd replacement or milk production.

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[117] RSPCA Australia (2021) 'What happens to bobby calves?'.
[118] "Bobby calves are a by-product of the dairy industry": see Gregory and Grandin, Animal Welfare and Meat Science (New York CABI Publishing, 1998) at 143.
[119] See the RSPCA definition of bobby calf, which states "A bobby calf is a bovine less than 2 weeks old that is not accompanied by its mother. In the dairy industry, bobby calves are the unwanted offspring of dairy cows and generally destined for slaughter rather than herd replacement or rearing for veal": RSPCA (2008), 'Welfare of Bobby Calves on Farm, Position Paper B2'. The Australian Animal Welfare Standards and Guidelines - Land Transport of Livestock (Version 1.1) 2012 (Transport Standards & Guidelines) defines bobby calves as "A calf not accompanied by its mother, less than 30 days old, weighting less than 80 kg live weight", at 105.

While many bobby calves are killed on-farm within hours of birth, the majority are separated from their mothers before they are one week old, given a last feed and loaded onto trucks for potentially long distances to saleyards and slaughterhouses.[120]

In order to keep milk production high, farmers continually impregnate mother cows, despite knowing they will give birth to calves who are unsuitable for use as milkers and will inevitably be slaughtered soon after birth. These bobby calves are, in a very real sense, the 'waste products' of the dairy industry.

The transport of bobby calves

Due to their low value, bobby calves are often not afforded the same level of housing, cleanliness or care in handling and transport as replacement heifers.[121]

Many calves are transported live for commercial slaughter each year.[122] The remainder will either be slaughtered on-farm at or soon after birth, or sold for use in pet food, leather goods, the pharmaceutical industry or to be processed into pink veal for human consumption.[123]

In Australia, bobby calves can be transported at just five days of age. Australia does not have a well-established industry to process bobby calves, so they are often required to travel long distances to slaughterhouses and saleyards.[124]

Live animal transport can be a severely stressful process for animals.[125] This is particularly the case for young calves who have not yet had the time to develop adequate coping mechanisms to respond to the stresses of travel.[126]

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[120] PIMC (2011), 'Bobby Calves Time Off Feed Standard - Decision Regulation Impact Statement' at 3.
[121] RSPCA Australia (2021), 'What Happens to Bobby Calves?'.
[122] In 2011, it was reported that 35% of these calves are purchased by travelling calf buyers and the remainder are transported to local calf sales, mobile sales or saleyards by small trucks or trailers. See PIMC (2011), 'Bobby Calves Time Off Feed Standard - Decision Regulation Impact Statement' at 4.
[123] RSPCA Australia (2021), 'What Happens to Bobby Calves?'; Humphreys, 'Call for Better Life for Dairy's Rejects'.
[124] Cave et al (2004) at 82.
[125] Trunkfield and Broom (1990) at 135.
[126] RSPCA (2013), 'What Happens to Bobby Calves?'; PIMC, 'Bobby Calves Time Off Feed Standard - Decision Regulation Impact Statement', at 7.

Travel causes a number of welfare problems for bobby calves, preventing them from functioning well, feeling well and exhibiting their natural behaviours:

- Hunger and thirst

  Calves are inevitably hungry and thirsty during transport. The science shows that calves will naturally suckle from their mother around five times a day and will likely experience hunger about nine hours after their last feed.[127] Despite this, the dairy industry has committed to a voluntary standard which allows milk to be withheld from calves for up to 30 hours.[128] Water can also be withheld from five day old calves for up to 18 hours,[129] despite potentially being subjected to high stocking densities and extreme heat en route.

FACT BOX: 30 hours "Time off Feed"

The science used to support the position in the Transport Standard & Guidelines to allow the withholding of food for up to 30 hours was based largely on the Fisher et al study (Fisher Study).[130] It should be noted that the Transport Standards & Guidelines does not expressly specify the time off feed limit, due to a lack of consensus being reached during the consultation process, notably from the Queensland Government.[131]

This Fisher Study was argued to have inappropriate conclusions in an unpublished independent review conducted by Clive Philips and Jim Hogan of the University of Queensland's School of Veterinary Science, Centre for Animal Welfare and Ethics.[132]

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[127] Advice from Professor Clive Phillips BSc, MA, PhD.
[128] "All industries involved in the bobby calf supply chain (that is dairy farmers, livestock agents, calf buyers and transporters and calf processors) have agreed to implement a national industry standard that sets a limit of 30 hours TOF for calves aged 5 to 30 days being transported without mothers." See, Australian Animal Welfare Standards and Guidelines (2014), 'Bobby Calf Time Off Feed Standard'.
[129] SB4.1, Transport Standards & Guidelines.
[130] Originally unpublished as Fisher et al. (2010). Later published as Fisher et al. (2014).
[131] Biosecurity Queensland raised concerns about deficiencies in the behavioural data and aspects of the conclusions in the paper by Fisher et al (unpublished) upon which many of the Decision Regulatory Impact Statement assumptions were based. See, Biosecurity Queensland (2011), 'Bobby Calf Time Off Feed Regulatory Impact Statement Submission'.
[132] Phillips and Hogan, 'Independent Assessment of Dairy Australia Project No. Tig 124 "Determining a Suitable Time Off Feed for Bobby Calf Transport under Australian Conditions" by Andrew Fisher, Peter Mansell, Bronwyn

Phillips and Hogan found, among other things, that the report ignored the calves' experience of hunger and tiredness during the study, undertook no measurements of cortisol or hormones connected with stress and did not use a control group of calves that were fully fed so that the effect of withdrawal from feed could be made. The recommendation that 30 hours off feed is acceptable was challenged by Phillips and Hogan, on the grounds that hunger would have been felt well before this time.

Further, the calves used in the experiment were fed 5 litres of milk prior to transport. This appears to assume that it is possible to 'load up' calves with a large feed of milk and then starve them for up to 30 hours with little or no welfare consequences. This is an unnatural way for calves to feed and has potentially serious adverse physical implications for the calves.

Phillips and Hogan conclude that the calves experienced hunger for the majority of the study and probably tiredness as well. The evidence for these alleged adverse effects on welfare includes reduced blood glucose concentrations (and the associated increase in 3-hydroxy butyrate), increased creatinine kinase concentrations and lying times that were probably reduced.

- Exhaustion

  Cows and calves are unlikely to lie down in the first 15 hours of transport due to stress, which is unnatural for newborns.[133] They are also likely to suffer from sleep deprivation due to the stress of travel and restrictions on movement.[134]

- Injuries and bruising

  Bruising and injuries are frequently observed in animals following transport (particularly those travelling long distance) as a result of rough handling, increased aggression from mixing unfamiliar animals, poor vehicular design and injuries incurred during vehicle

Stevens, Melanie Conley, Ellen Jongman, Mariko Lauber & Sue Hides' (School of Veterinary Science; Centre for Animal Welfare: University of Queensland).

[133] Rumination, for example, is a marker of relaxation and is significantly decreased during transport. See, Trunkfield and Broom (1990) at 140. After a journey, cattle will lie down for longer than normal, suggesting that it is a high priority for them to maintain normal lying time. See, Phillips, Cattle Behaviour and Welfare (Second ed; Malden, USA: Blackwell Science, 2002) at 39-40.

[134] Trunkfield and Broom (1990) at 140-41.

movement.[135] As calves lack any learned herd behaviour, they are also less likely to move willingly in groups, meaning they're more likely to be handled roughly by stockpersons.[136]

- Illness

  Calves often succumb to post-transport respiratory and gastrointestinal infections.[137] Depending on the time of year and location, they may also suffer from either thirst, heat stress or hypothermia.[138]

- Deaths en route

  While dairy cows in general do not suffer high mortality rates associated with transport, studies indicate that transported bobby calves are more likely to die than those who remain on-farm,[139] and that this mortality increases exponentially with the distance travelled.[140]

On-farm slaughter — blunt force trauma

Calves who are not transported to farms, saleyards or slaughterhouses are either sold for dairy or beef rearing or killed on-farm. In 2011, it was estimated that over 34,600 calves are slaughtered on-farm each year, their carcasses either immediately disposed of or processed at local knackeries.[141]

[135] Ibid, at 139-40; De Witte (2009) at 150.
[136] RSPCA (2013), 'What Happens to Bobby Calves?'; Grandin, (2000) at 5.
[137] The extreme stress experienced during transport has the effect of an immunosuppressant. Consequently, there is a higher incidence of disease amongst transported calves. See Trunkfield and Broom (1990) at 139.
[138] Young calves are highly susceptible to hypothermia. See [G4.1], Animal Welfare Guidelines – Trade and Transport of Calves, Including Bobby Calves 2008 (TAS); Phillips, Cattle Behaviour and Welfare, at 41.
[139] Trunkfield and Broom (1990) at 137.
[140] Cave et al (2004) at 83.
[141] PIMC (2011), 'Bobby Calves Time Off Feed Standard - Decision Regulation Impact Statement' at 50-51.

Alarmingly, blunt force trauma is a lawful method of slaughter for those bobby calves who remain on farms.[142] This involves the delivery of a forceful blow to the skull of a newborn calf with a hammer or blunt instrument. Farmers also have the option to shoot calves with a firearm or a captive bolt device,[143] but blunt force trauma is a cheap method of slaughter.[144]

FACT BOX: Blunt force trauma

A Queensland Government website outlines the method of blunt trauma and bleeding out for premature and day-old calves.[145] This includes a single firm blow to the front of the head with a heavy blunt instrument, with the suggestion of using a "short-handled club hammer, approximately 1.2 kg with a striking face of 4 x 4cm".

In 2008, the Victorian Department of Primary Industries stated that, following the use of blunt force trauma if the calf is showing signs of life, a calf resumes breathing or "blinks when a finger is placed on the eye", there is a danger that the calf could regain consciousness.[146]
The VDEPI recommended:

- if the calf is giving occasional gasps but is unconscious, he or she can be killed by compressing the chest wall with a fist while the calf is lying on its side;
- if the calf is unconscious, he or she can be "bled out" using a "neck stick" or "chest stick";
- the calf can be shot with a .22 calibre rifle; or
- the calf can be shot with a captive bolt, followed by bleeding out.

[142] The transport guidelines permit blunt trauma to be used on calves less than 24 hours old, where there is no other recommended option available and is followed by a second procedure to ensure death. See, SA6.5, GB4.17, GB4.19 Transport Standards & Guidelines. The Cattle S&G allow for the use of blunt force trauma for calves less than 24 hours old: S11.5.
[143] A captive bolt pistol is a device used for striking a shallow blow into the forehead of an animal usually for the purpose of stunning prior to slaughter.
[144] Animal Health Australia (2013), 'Proposed Australian Animal Welfare Standards and Guidelines - Cattle: Decision Regulation Impact Statement' (1 ed), at 36.
[145] Queensland Government – Business Queensland (2024) 'Humane Killing of Premature and Day-old Calves'.
[146] Victorian Department of Environment and Primary Industries (2008), 'Humane Destruction of Non Viable Calves Less than 24 Hours Old'.

Manually applied blunt trauma has been found by veterinary experts to be a cruel, imprecise and inhumane method of slaughter that cannot and should not be justified on economic grounds. The American Veterinary Medical Association (AVMA) deems it an unacceptable method of euthanasia for calves because their skulls are too hard to achieve immediate unconsciousness or death. Furthermore, the method requires considerable skill to be successful on the first attempt and the degree of restraint required makes consistency near impossible.[147]

Industry response

In recent years the issue of bobby calf welfare has come under close public scrutiny. In response, Dairy Australia has emphasised that the ethical management, transportation, handling and marketing of bobby calves is a priority for the Australian dairy industry, drawing attention to industry management initiatives.

One approach has been the use of semen sexing, which is the process of selecting semen to produce dairy calves of a preferred sex.[148] From an animal welfare perspective, semen sexing is not a straightforward solution. Use of sexed semen gives a 90% chance of conceiving a heifer, so there is still a 10% chance that sexed semen will produce an unwanted male bobby calf.[149] Further, an oversupply of female calves could potentially create a boom in the live animal export industry and may not actually reduce the level of suffering.

It is important to reiterate that bobby calves as individuals are of low monetary value to the industry, which ultimately affects their treatment.

[147] American Veterinary Medical Association (AVMA) (2013), 'AVMA Guidelines for the Euthanasia of Animals' at 56-57.
[148] This is achieved using semen with up to 90% concentrations of either the X or Y chromosome. See, Western Dairy Incorporated (2014), 'Striving for Genetic Excellence Using Sexed Semen'; Seidel (1999), 'Sexed Semen Applications in Dairy Cattle', at 184.
[149] CSIRO (2012), 'Mating and Calving Management of Dairy Heifers' at 195, 203.

Regulation of bobby calf welfare

Few legal protections exist to protect bobby calves on-farm. The Cattle Standards & Guidelines[150] require that a person in charge must ensure calves housed in pens can turn around, lie down and fully stretch their limbs.[151] They also require that calves not be thrown or dropped while being loaded or unloaded for transportation.[152] The Guidelines recommend that calves "should" receive adequate colostrum within 12 hours of birth;[153] they "should" be supervised until they are successfully trained to self-feed;[154] and, where there are two or more calves on a property, calves housed in single pens "should" be able to see neighbouring calves.[155]

These requirements are largely unenforceable, with compliance left to the discretion of producers. We know, for example, that the bobby calf industry permits calves to go without food for up to 30 hours before slaughter.

Attempts were made to improve welfare outcomes for transported bobby calves with the introduction of the Transport Standards & Guidelines in 2012, which place responsibility for the welfare of bobby calves on all handlers along the supply chain – from farm to slaughterhouse.[156] As outlined above, however, the Transport Standards & Guidelines do little to protect bobby calves from hunger, thirst, exhaustion, injuries, disease and mortality en route.

While stronger legal protections may bring small improvements to the lives of bobby calves, they will do little to address the fundamental problem that these animals are bred only to be killed within days of life.

The separation of the calf from the mother cow, followed by often gruelling transportation and arguably cruel deaths of very large numbers of baby calves, are shocking facts of the modern dairy industry that few consumers know about.

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[150] Note, a distinct code operates in Victoria: Code of Accepted Farming Practice for the Welfare of Cattle.
[151] S8.2, Cattle S&G.
[152] S5.7, Cattle S&G.
[153] G2.17, Cattle S&G.
[154] G8.3, Cattle S&G.
[155] G.8.7, Cattle S&G.
[156] SA1.1, Transport Standards & Guidelines.

Calves are sentient and sensitive creatures, longing for their mother, her milk and physical contact, warmth and safety. As these calves are treated as a by-product of our desire for their mothers' milk, we are complicit in their slaughter.

This is the true cost of cheap milk. Ultimately, well-intentioned consumers will have to decide whether cheap milk is worth this amount of suffering.

3.1 Disbudding and Dehorning

Disbudding and dehorning are standard mutilation practices used to remove or stop the growth of an animal's horns. Despite claims to the contrary, all methods of dehorning and disbudding cause chronic and acute pain to calves and adult cows.[157]

Disbudding is the removal of the horn bud (and horn producing cells) before it attaches to a calf's skull,[158] and is usually performed on calves less than two months of age.[159] Disbudding typically involves the removal of the horn bud with a hot iron scoop or through chemical (caustic) application.[160]

Dehorning is the process of removing the horn and surrounding tissue of older dairy calves and adult cows after the horns have attached to their skull.[161] This is performed using a dehorning knife, hand and electric saws, guillotine shears or scoop dehorners.[162]

While the dairy industry recognises that both procedures can be painful to some degree,[163] both dehorning and disbudding can be routinely performed in all Australian jurisdictions without pain relief.[164]

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[157] Von Keyserlingk et al (2009) at 4105; Anderson (2010), 'Dehorning of Calves'; McMeekan et al (1998) at 281.
[158] RSPCA (2009), 'Why Are Cows/Calves Dehorned/Disbudded?'.
[159] This is because the horn becomes attached to the skull at around 2 months of age. See Anderson (2010), 'Dehorning of Calves'; Espinoza et al (2013) at 2894.
[160] Vickers et al (2005) at 1454.
[161] RSPCA (2009), 'Why Are Cows/Calves Dehorned/Disbudded?'.
[162] Cattle Standards & Guidelines Writing Group (2013) at 7.
[163] Dairy Australia states that disbudding is "the least painful approach when done correctly." See Dairy Australia (2013), 'Disbudding Calves'.
[164] Refer to Appendix 1 of this Report on the way in which the Cattle Standards & Guidelines regulate the use of both chemical and non-chemical dehorning and disbudding. Appendix 2 details the treatment of the Cattle S&G in

Chronic and acute pain

There is a wealth of scientific evidence that shows all methods of disbudding and dehorning cause distress and pain to the calf and adult cow.[165]

In younger calves, the process of cautery disbudding generally results in a significantly smaller cortisol response (indicative of a lower level of pain) than dehorning.[166] Despite this, disbudding still causes pain and there is no evidence that young calves experience less pain than older calves.[167] Vigorous and violent escape behaviours displayed during disbudding further indicate that cows experience pain and distress. Evidence also suggests that pain and discomfort may continue for up to 24 hours after disbudding.[168]

In older calves and adult cows, dehorning elicits a significant increase in cortisol (up to nine hours), a hormone which is a physiological indicator of stress caused by painful or harmful experiences.

"Dehorning, depending on the specific procedure, appears to be one of the most aversive procedures used on cattle."[169]

Behavioural studies have also found that calves who have been dehorned become highly restless (increased head and tail shaking) and stop ruminating in the six hours following the procedure, indicating significant pain.[170]

Beyond the immediate experiences of stress and pain, dehorning often causes trauma to the cow's frontal sinuses posing the risk of infection, excessive bleeding and prolonged wound healing. These complications are in some cases fatal.[171]

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each Australian jurisdiction. Appendix 3 also details how these practices are regulated in each Australian jurisdiction.

[165] See Sylvester et al (2004) at 699; Von Keyserlingk et al (2009) at 4105; Vickers et al (2005) at 1454; Faulkner and Weary (2000) at 2037.

[166] Stafford and Mellor (2005) at 347. A preference for disbudding is outlined in G6.19, Draft Cattle Standards & Guidelines.

[167] Anderson (2010), 'Dehorning of Calves'.

[168] Cattle Standards & Guidelines Writing Group (2013) at 8.

[169] Cattle Standards & Guidelines Writing Group (2013) at 7.

[170] Ibid, at 7 and 9.

[171] Meat & Livestock Australia (2014), 'Patching up dehorned cattle'.

Often the cow is not effectively restrained, making these procedures even more stressful for the animal.[172]

The use of pain relief

Disbudding and dehorning can be routinely performed in Australia without the use of pain relief.[173] The use of pain relief may be prohibitive to some farmers due to its expense and lack of availability in regional areas. The Australian Veterinary Association, however, only supports dehorning where analgesia is used appropriately to minimise pain and stress.[174]

In cases where a local anaesthetic is administered, it may only be effective in reducing cortisol levels for between two and four hours,[175] following which there is a rapid cortisol increase. Studies have indicated that physiological and behavioural signs of distress can persist for 24 to 48 hours after a cow is dehorned or disbudded.[176]

Further, the use of a local anaesthetic alone does not mitigate the pain associated with these procedures or provide adequate post-operative relief.[177] Local anaesthetic does not address all stages of the process from handling, administration and recovery.[178]

A number of sources recommend a three-pronged approach of a non-steroidal anti-inflammatory drug (NSAID), sedation and local anaesthetic should be used when disbudding and dehorning.[179]

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[172] RSPCA (2009), 'Why Are Cows/Calves Dehorned/Disbudded?'.
[173] S6.4, Cattle S&G do not require pain relief for cattle less than 6 months old or less than 12 months old if at their first yarding.
[174] Australian Veterinary Association (AVA) (2004), '8.4 Dehorning of Cattle'.
[175] Phillips, Cattle Behaviour and Welfare (Second ed; Malden, USA: Blackwell Science, 2002) at 35.
[176] World Society for the Protection of Animals (WSPA) (2013), 'WSPA Submission on Cattle Draft Standards and Guidelines' at 9.
[177] Von Keyserlingk et al (2009) at 4105. It appears that local anaesthetics merely postpone the pain response instead of eliminate it: Cattle Standards and Guidelines Writing Group (2013) at 10; Faulkner and Weary (2000) at 2038; McMeekan et al (1998) at 284-85.
[178] Vickers et al (2005) at 1454.
[179] See, for example, American Veterinary Medical Association (AVMA) (2007), 'Welfare Implications of the Dehorning and Disbudding of Cattle' at 5; Von Keyserlingk et al (2009) at 4105; Cattle Standards & Guidelines Writing Group (2013) at 9; Vickers et al (2005) at 1454; Faulkner and Weary (2000) at 2040; Fisher and Webster (2013) at 925; Sylvester et al (2004) at 700.

Caustic disbudding

One method of disbudding is chemical cauterisation, known as 'caustic disbudding'. This involves the application of an acidic paste to the horn buds of calves to destroy horn-producing cells.[180]

Even though it has been argued that the pain may be less severe than hot iron disbudding, chemical cauterisation is known to cause extreme pain, with tissue damage increasing whilst the chemical is active.[181] It's also possible for the corrosive chemicals used in caustic disbudding to spread to other delicate tissues, such as the calf's face or eyes, particularly in rainy conditions[182] or even to other animals who come into contact with the calf.[183]

The Cattle Standards & Guidelines permit the use of caustic chemicals in certain conditions, including when the calf is less than fourteen days old, can be segregated from his or her mother for four hours after treatment, can be kept dry for twelve hours after treatment, and is not wet.[184] It is important to note that caustic dehorning is opposed by the Australian Veterinary Association.[185]

FACT BOX: Critique on the Cattle Standards & Guidelines permitting caustic disbudding

In an unpublished paper, Malcolm Caulfield BSc., PhD and Heather Cambridge BSc., PhD., BVMS critiqued the decision to permit caustic disbudding in the Cattle Standards & Guidelines. The authors note that it appears the reason for this decision is a de-emphasis of the significance of a paper by Morisse et al (1995) and an emphasis on a more recent study by Vickers et al (2005). The Proposed Australian Animal Welfare Standards and Guidelines - Cattle: Decision

[180] Stafford and Mellor (2005) at 345; AVMA (2007), 'Welfare Implications of the Dehorning and Disbudding of Cattle' at 1.
[181] Vickers et al (2005) at 1454.
[182] Stafford and Mellor (2005) at 345; Animal Health Australia (2014), 'Proposed Australian Animal Welfare Standards and Guidelines - Cattle: Decision Regulation Impact Statement' at 29; AVMA (2007), 'Welfare Implications of the Dehorning and Disbudding of Cattle' at 1; Phillips, Cattle Behaviour and Welfare at 35.
[183] Cattle Standards & Guidelines Writing Group (2013) at 9.
[184] S6.5, Cattle Standards & Guidelines.
[185] AVA (2004), '8.4 Dehorning of Cattle'.

Regulation Impact Statement (1st ed) (RIS) says further that "caustic disbudding at a very young age is relatively low impact and any pain may be transient…"[186]

Caulfield and Cambridge note that neither the papers cited in the RIS nor other work or commentary (not cited)[187] on caustic paste disbudding supports the assertion in the RIS that younger animals suffer a "lower impact". Moreover, these papers found that an analgesic pre-treatment was quite ineffective in relieving the pain associated with the procedure, which argues against the description in the RIS of caustic paste pain as "relatively low impact."

The reliance of the RIS on the paper by Vickers et al. (2005) to support the view that caustic paste disbudding causes less pain than hot iron treatment was considered misguided, as those authors pre-treated their experimental animals with the sedative xylazine 20 minutes before treatment with the paste. This compound is not only a sedative, but is also a powerful analgesic.[188] Moreover, Vickers et al. used twice the recommended dose (which is 0.1 mg/kg, intramuscularly, for dehorning).[189]

Caulfield and Cambridge refer to papers published by Stilwell et al. (2008 and 2009), which cite references which describe human pain caused by caustic paste as "chronic". Indeed, the study of Morisse et al. (1995) found that caustic paste was more painful than hot-iron disbudding, a view consistent with the European Food Safety Authority (EFSA) report on the subject.[190] Caulfield and Cambridge conclude that it is reasonable to assume that a calf will experience similar sensations after caustic paste disbudding, and that the pain could last for at least three hours, maybe more.[191]

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[186] Animal Health Australia (2014), 'Proposed Australian Animal Welfare Standards and Guidelines – Cattle: Decision Regulation Impact Statement', at 42.
[187] Stafford and Mellor (2011) at 226-31; Stilwell et al (2008); Stilwell et al (2009) at 35-44.
[188] Bayer Animal Health notes that "[c]attle are the most sensitive of all species to xylazine…" and that the drug produces sedation, muscle relaxation and analgesia. See Bayer Animal Health (2014), 'Rompun: The Triple Action – Sedation, Muscle Relaxation and Analgesia'.
[189] Stafford and Mellor (2011), at 231 note: "the use of xylazine may have influenced the results and further work needs to be carried out to compare these two disbudding techniques."
[190] Animal Health and Animal Welfare Unit - European Food Safety Authority (EFSA) (2009).
[191] In a review of these studies, it was noted "all these results suggest that caustic paste disbudding causes distress in young calves for at least the first 3h." See Stilwell et al (2009); Stafford and Mellor (2011); Morrise et al (1995).

The industry response

The dairy industry encourages farmers to disbud calves at 2-6 weeks of age rather than dehorning older cattle. As such, disbudding is the most common form of horn removal on Australian dairy farms.[192]

A 2012 Dairy Australia survey found that around 87% of all calves were born on farms where horns are removed before six months of age.[193] It is unknown how many of these calves were disbudded within the recommended Dairy Australia timeframe of 2-6 weeks of age.

A 2013 joint submission by Australian Dairy Farmers Limited and Dairy Australia on behalf of the Australian dairy industry advocated against a ban on caustic disbudding on the basis that it requires minimal restraints to be used on calves and no specialised equipment.[194]

Broadly, the dairy industry justifies the use of all these methods for dehorning and disbudding on the grounds that cows with horns are more likely to injure farm handlers and other cows during transport.[195] It is important to balance these justifications with the extreme welfare concerns outlined above.

Dairy Australia also encourages the selection and development of 'polled' breeds who do not naturally have horns.[196] As of 2022, 37% of dairy farms were using polled genetics.[197]

Concluding remarks

Voiceless is opposed to all forms of animal mutilation practices.
It is important to remember a key welfare question: is the animal feeling well? Given the science indicating the pain and distress caused by dehorning and disbudding, it is clear the answer is no.

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[192] Dairy Australia (2024), 'Disbudding'.
[193] Dairy Australia (2012), 'Animal Husbandry Survey 2012' at 2.
[194] Australian Dairy Farmers Limited and Dairy Australia (2013), 'ADF and DA Submission on Draft Australian Animal Welfare Standards and Guidelines for Cattle' at 2.
[195] Phillips, Cattle Behaviour and Welfare at 35.
[196] Dairy Australia (2024), 'Disbudding'. The AVA recommends the breeding of polled cattle and the development of methods for determining the carrier status for horn genes as alternatives to dehorning: see AVA (2004), '8.4 Dehorning of Cattle'; Cattle Standards & Guidelines Writing Group (2013) at 1. This is provided in G6.19, Draft Cattle Standards & Guidelines.
[197] Dairy Australia (2023) 'Animal health and welfare on Australian dairy farms: results of the Dairy Australia Animal Husbandry and Genetics survey 2022'.

3.2 Tail Docking

Tail docking involves the amputation of a cow's tail, often without pain relief. While this painful practice is no longer endorsed by the Australian dairy industry[198] and is only permitted under the Cattle Standards & Guidelines if performed on veterinary advice to treat injury or disease,[199] it is still legal in some Australian jurisdictions and can be performed by a layperson.[200]

Tail docking was originally introduced in New Zealand in the early 1900's to improve workplace health and safety for farm handlers[201] and because of the belief that it improves the cleanliness of the milking shed as well as udder hygiene.[202]

Scientific evidence, however, does not support these claims. What the science does provide is evidence that tail docking can cause acute and chronic pain and the use of a local anaesthetic offers little to no pain relief for cows.[203] Accordingly, veterinary associations and animal protection groups both in Australia and globally call for tail docking to be banned.[204]

The methods of tail docking

Tails are docked using various painful methods, including the application of a rubber ring to a calf's tail, the use of a hot docking iron to sear off the tail or amputation of the tail with a knife.

The application of a rubber ring is the most commonly used method. The rubber ring, which is applied at about 10 days of age, cuts off circulation to the tail until it falls off or is amputated.[205]

The Cattle Standards & Guidelines are silent on the provision of pain relief when docking is performed. Accordingly, the practice can be performed without pain relief.

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[198] Australian Dairy Farmers Limited and Dairy Australia (2013), 'Submission on Draft Australian Animal Welfare Standards and Guidelines for Cattle' at 3; Dairy Australia (2012), 'Animal Husbandry Survey 2012' at 2.
[199] S9.3, Cattle S&G.
[200] See Appendix 3 for how tail docking is currently regulated in each Australian jurisdiction.
[201] Cattle Standards & Guidelines Writing Group (2013) at 1; Tucker and Weary (2001-2002) at 1.
[202] Australian Veterinary Association (AVA) (2013), '8.2 Tail Docking of Cattle'.
[203] Von Keyserlingk et al (2009) at 4106.
[204] See, for example, Cattle Standards & Guidelines Writing Group (2013), 'Cattle Standards and Guidelines - Tail Docking Discussion Paper' at 8-10.
[205] Phillips, Cattle Behaviour and Welfare at 36; Sutherland and Tucker (2011) at 188.

Why dock tails?

Tail docking was originally practiced to avoid leptospirosis in farm handlers, a disease which can infect humans exposed to animal urine.[206] No scientific evidence exists, however, linking tail docking to the disease,[207] with herd vaccination and improved worker hygiene being more effective means of reducing the risk of human infection.[208]

It is also argued that tail docking reduces mastitis and milk contamination, improves cow health and reduces the soiling of teats and udders.[209] According to the Cattle Standards and Guidelines Writing Group, support for these claims is largely anecdotal.[210]

A British Colombian study of 500 milking cows found no difference in terms of cleanliness, udder health or mastitis between docked cows and those with their tails intact,[211] a finding which is consistent with a number of other studies.[212] In addition, researchers acknowledge other factors such as shed design and husbandry practices are more influential on udder and teat cleanliness than the length of the tail.[213]

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[206] Cattle Standards & Guidelines Writing Group (2013) at 1, 4; National Animal Welfare Advisory Committee (NAWAC) (2005), 'Animal Welfare (Painful Husbandry Procedures) Code of Welfare 2005 Report' at 46. In a study of a rotary parlour in New Zealand, milkers' faces only came into contact with cow's tails once every 1,000-1,500 milkings: Stull et al (2002) at 1302.

[207] Cattle Standards & Guidelines Writing Group (2013) at 4. "Tail docking does not appear to be related to signs of exposure to leptospirosis among milkers": NAWAC (2005), 'Animal Welfare (Painful Husbandry Procedures) Code of Welfare 2005 Report' at 46; Tucker et al (2001) at 84.

[208] Dairy Australia (2011), 'Myths about tail docking' at 2; Tucker and Weary (2001-2002).

[209] AVA (2013), '8.2 Tail Docking of Cattle'; Barnett et al (1999); Dairy Australia (2011), 'Myths about tail docking' at 1.

[210] Cattle Standards & Guidelines Writing Group (2013), 'Cattle Standards and Guidelines - Tail Docking Discussion Paper' at 1. Other studies also present evidence against such claims: AVA (2013), '8.2 Tail Docking of Cattle'; Sutherland and Tucker (2011) at 187.

[211] Tucker and Weary (2001-2002) at 1-2.

[212] See, for example, Von Keyserlingk et al (2009) at 4106; Sutherland and Tucker (2011) at 187; NAWAC (2005), 'Animal Welfare (Painful Husbandry Procedures) Code of Welfare 2005 Report' at 47; Schreiner and Ruegg (2002) at 2510; Tucker et al (2001) at 86.

[213] Dairy Australia (2011), 'Myths about tail docking' at 2; Schreiner and Ruegg (2002) at 2510; Stull et al (2002) at 1302.

Unnecessary cruelty

All methods of tail docking have been shown to cause some level of pain, distress and chronic irritation.[214]

Cows docked by hot iron docking (heat cauterisation) can suffer second or third degree burns, resulting in intense pain.[215] The rubber ring method has also been found to cause immediate distress and longer term irritation.[216] A New Zealand study on tail docking using rubber rings on three-to four-month old calves reported that 67% showed an immediate behavioural response following the procedure, including tail shaking, crying and restlessness.[217] This is consistent with a number of other studies which have shown cows display distress immediately after the procedure.[218]

"Tails are richly supplied with nerves and blood vessels so that their removal is significant for the animal."[219]

Critically, docked cows may go on to experience ongoing discomfort and chronic pain due to inflammation and the development of lesions or nerve tumours (neuromas) as a result of the sectioning of tail nerves. This may result in cows experiencing phantom pain, similar to that experienced by human amputees.[220]

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[214] [6], Animal Welfare (Painful Husbandry Procedures) Code of Welfare 2005 (New Zealand); Petrie et al (1996) at 8; Stull et al (2002) at 1300; Halverson (2002); AVA (2013), '8.2 Tail Docking of Cattle'; Von Keyserlingk et al (2009), at 4106.
[215] Cattle Standards & Guidelines Writing Group (2013), 'Cattle Standards and Guidelines - Tail Docking Discussion Paper' at 3.
[216] Ibid; Petrie et al (1995), 58-60.
[217] See, Cattle Standards & Guidelines Writing Group (2013), 'Cattle Standards and Guidelines - Tail Docking Discussion Paper' at 5; Petrie et al (1995) at 58-60; Petrie et al (1996) at 8. Other behavioural responses include kicking, tail grooming and biting, which indicate irritability, discomfort and pain: see, NAWAC (2005), 'Animal Welfare (Painful Husbandry Procedures) Code of Welfare 2005 Report' at 47.
[218] NAWAC (2005), 'Animal Welfare (Painful Husbandry Procedures) Code of Welfare 2005 Report', at 47.
[219] [6], Animal Welfare (Painful Husbandry Procedures) Code of Welfare 2005 (New Zealand).

[220] Eicher et al (2006), at 3047-54; Barnett et al (1999) at 747; Sutherland and Tucker (2011) at 189; Stull et al (2002) at 1300; Halverson (2002); AVA (2013), '8.2 Tail Docking of Cattle'; Von Keyserlingk et al (2009), at 4106.

"[T]here is no benefit to tail docking in dairy cattle. Presently, there are no apparent animal health, welfare, or human health justifications to support this practice."[221]

Cows use their tails as an indicator of their mood and for social signalling with other cows in the herd. The removal of the tail therefore limits their social behaviour and impedes their normal activities.[222] In addition to social communication, the tail may be a tool to dissipate surplus heat and cool down in hot weather.[223] Cows will also use their tail to swat flies so, particularly in the warmer Australian climates, tail docking exacerbates irritation from biting flies[224] and may result in the use of insecticides and other pest control measures by farmers.[225]

All of these welfare concerns have compelled legislators in a number of countries, including the Netherlands, Norway, Germany, Sweden, Switzerland, Scotland, Denmark and the United Kingdom to ban tail docking. These countries prohibited the practice over 40 years ago.[226]

The industry response

The Australian dairy industry no longer supports tail docking and Australian Dairy Farmers and Dairy Australia have both supported a ban.[227] The industry points to alternatives to tail docking, such as switch trimming (cutting the loose hair at the bottom of the tail),[228] shed design and fly control programs.[229]

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[221] Stull et al (2002) at 1302.
[222] Phillips, Cattle Behaviour and Welfare at 36; Halverson (2002); Sutherland and Tucker (2011) at 188; Petrie et al (1996) at 8; Stull et al (2002) at 1299-1300.
[223] Stull et al (2002) at 1299-1300.
[224] Dairy Australia (2011), 'Myths about tail docking' at 1. "[E]ven at high fly densities, the tail is almost completely effective at eliminating fly predation." Further, alternative fly avoidance behaviours are ineffective: Stull et al (2002) at 1299-1301.
[225] AVA (2013), '8.2 Tail Docking of Cattle'.
[226] Cattle Standards & Guidelines Writing Group (2013), 'Cattle Standards and Guidelines - Tail Docking Discussion Paper' at 9.
[227] Australian Dairy Farmers Limited and Dairy Australia (2013), 'Submission on Draft Australian Animal Welfare Standards and Guidelines for Cattle'.
[228] "Trimming the switch is the primary, minimally invasive alternative to tail docking": Sutherland and Tucker (2011) at 189. Switch trimming only has to be conducted about 4-5 times a year: NAWAC (2005), 'Animal Welfare (Painful Husbandry Procedures) Code of Welfare 2005 Report' at 51. Trimming is distinct from switch removal, which constitutes a form of tail docking: Stafford et al (2008). Switch trimming also presents its own welfare issues by interfering with the ability of the cow to swat flies. See, for example, Stafford et al (2008) at 11.
[229] Dairy Australia (2011), 'Myths about tail docking' at 1.

Nonetheless, the practice remains legal and it is evidence that an industry-led, voluntary phase-out is insufficient.

Concluding remarks

Unless performed for therapeutic reasons, tail docking is an unnecessary and unjustified mutilation of a sensitive part of an animal's body.

The pain associated with tail docking can clearly prevent cows from feeling well, but the procedure can also prevent cows from expressing their natural behaviours. Tail docking therefore fails to satisfy two of the key welfare questions raised in this Report.

This mutilation serves only to benefit farm handler comfort at the expense of animal welfare. For this reason, tail docking has been banned for decades in dairy producing countries overseas. Even the Australian dairy industry acknowledges it is lagging behind, with tail docking potentially undermining public confidence in the welfare of Australian dairy cows.[230] An immediate, legally enforceable ban on routine tail docking is necessary.

3.3 Calving Induction

Calving induction is the use of hormone treatment to unnaturally induce labour in pregnant cows. While only a small percentage of dairy cows are subjected to this practice, the welfare implications are significant.

Calving induction is the practice of forcing cows to begin labour prematurely through the injection of hormones which replicate the body's natural signals to prepare for birth.[231]

[230] Dairy Australia (2011), 'Myths about tail docking' at 1. "While the Australian dairy industry has a favourable public image because of the pasture-based production system, docking could detract from this positive image": Barnett et al (1999) at 742.
[231] The types of hormones used may include corticosteroids, estrogens or prostaglandins, which cause the cervix to dilate: see, Lewing et al (1985), at 318; Victorian Department of Environment and Primary Industries (2008), 'Calving Induction in Dairy Cows'.

The procedure can be detrimental to mother and calf alike, increasing the risk of cows suffering infectious disease and death. Induced calves are also at risk of being stillborn or born prematurely and subsequently killed immediately after birth.[232]

Dairy Australia reported in 2023 that 7% of farms routinely used induction.[233] This follows the industry's voluntary phase out of calving induction as a routine herd management tool by January 1, 2022.[234]

Despite the voluntary phase out, calving induction remains legal, even where it is medically unnecessary or could adversely affect cow and calf welfare.[235] Under the Cattle Standards & Guidelines, calving induction is only permitted under veterinary advice.[236] However, the Cattle Standards & Guidelines do not expressly require calving induction to be performed only for therapeutic reasons, meaning that induction could still potentially be used as a herd management tool.

Why do famers use calving induction?

Calving induction can be used by veterinarians to treat overdue cows and hasten calving to address prenatal health concerns.[237] In the dairy industry, however, induction is commonly used as a tool for herd management to force early births.

As most modern dairy farms run on a schedule, if a pregnant cow is due to give birth out of line with the rest of her herd, a dairy producer may choose to induce an early birth of her calf.[238]

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[232] See, for example, Morton and Butler (1995a), at 5-7; Mansell et al (2006), at 312-16; Victorian Department of Environment and Primary Industries (2008), 'Calving Induction in Dairy Cows'; Morton and Butler (1995b), at 1-4.
[233] Dairy Australia (2023), 'Results of the Dairy Australia Animal Husbandry and Genetics Survey 2022'.
[234] Ibid.
[235] See Appendix 3 of this Report on how calving induction is regulated in each jurisdiction.
[236] S7.4, Cattle S&G.
[237] Cattle Standards & Guidelines Writing Group (2013), 'Cattle Standards and Guidelines - Induction of Calving Discussion Paper' at 1.
[238] Dairy Australia (2014), 'Reducing Calving Induction'; Victorian Department of Environment and Primary Industries (2008), 'Calving Induction in Dairy Cows'; Mansell et al (2006) at 312.

As cows are usually 'dried off' at the same time, induction also serves to maximise milk production for the longest possible time.[239]

Welfare concerns

There are clear welfare concerns associated with the use of calf induction.

Many calves are stillborn or die shortly after birth,[240] while mother cows are susceptible to dangerous health complications as a result of induction.[241]

Concerns associated with calf induction include:[242]

- Premature and unnecessary calf death – calves who have been induced are more likely to be stillborn or born prematurely (and then killed immediately), compared with non-induced calves.[243] A large number of these calves will be killed on-farm by having their skulls bludgeoned with a blunt instrument (blunt force trauma).[244]
- Retained foetal membrane – the procedure increases the risk that the foetal membrane (or placenta) is not expelled after birth.[245] Cows suffering from retained foetal membranes are at an increased risk of developing diseases (such as metritis, ketosis and mastitis) and possible abortion in later pregnancies.[246]
- Maternal death – induction weakens a cow's immune system, which means she could die from infection, such as those contracted from a retained foetal membrane.
- Calving difficulty – smaller calves may not be positioned correctly at calving, which can create complications during birth and increase risk of infection. A difficult birth can be longer and more painful than an unassisted, natural birth.[247]

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[239] Victorian Department of Environment and Primary Industries (2008), 'Calving Induction in Dairy Cows'; Cattle Standards & Guidelines Writing Group (2013), 'Cattle Standards and Guidelines - Induction of Calving Discussion Paper' at 1.
[240] Mansell et al (2006), at 315; Morton and Butler (1995a), at 5-7.
[241] RSPCA (2019), 'What Is Calving Induction?'; Morton and Butler (1995b), at 1-4; Victorian Department of Environment and Primary Industries (2008), 'Calving Induction in Dairy Cows'; Mansell et al (2006), at 312-316.
[242] Ibid; RSPCA (2019), 'What Is Calving Induction?'.
[243] See also Morton and Butler (1995b), at 6. In a study of Australian and New Zealand dairy cows, only 64.6% of induced calves were born alive. By way of contrast, 96% of non-induced calves were born alive: Mansell et al (2006), at 312-13.
[244] Refer to Chapter 2.2 Bobby Calves for a discussion on the welfare concerns of the use of blunt force trauma.
[245] See also, Mansell et al (2006), at 314. Further, the risk of retained foetal membranes is likely to be understated, as the condition is not externally visible in 30-50% of affected cows: Morton and Butler (1995b), at 4.
[246] See also, The Cattle Site (2014), 'Retained Placenta'.
[247] See also, Barrier et al (2012), at 209-17.

Animal welfare and veterinary groups in Australia have been critical of the practice.[248] Groups such as the Australian Veterinary Association (AVA)[249] and the RSPCA[250] assert that calving induction must not be relied upon as a standard management tool.

The Australian dairy industry[251] and some state governments[252] have reflected this sentiment with an acknowledgement that calving induction shouldn't be used in place of good pregnancy management which encourages healthy, natural pregnancies without the need for intervention. Despite this, routine calving induction is still used on some farms, as the practice of attempting to induce calves for the sake of timing and milk production remains legal in Australia.

The regulation of calving induction

The Cattle Standards & Guidelines only permit calving induction under veterinary advice.[253] They also contain the following non-mandatory guidelines (emphasis added):

- Herd management strategies should be adopted to minimise or eliminate the need to induce calving.[254]
- Cows subject to an induction program should be inspected twice daily. Any cow requiring calving assistance or treatment should receive this intervention without delay.[255]
- Calving induction should only be done when necessary for the welfare of the individual cow or calf.[256]

[248] Such as Animals Australia, Australian Veterinary Association (AVA), Dairy Australia, RSPCA, and WAP (formerly WSPA). See, Animals Australia (2013), at 19; WSPA (2013), at 12; RSPCA (2019), 'What Is Calving Induction?'; AVA (2002), '8.1 Induction of Parturition'.
[249] AVA (2002), '8.1 Induction of Parturition'.
[250] RSPCA (2019), 'What Is Calving Induction?'.
[251] "The dairy industry policy supports the implementation of agreed management strategies to achieve a reduction in the requirement for calving induction": Australian Dairy Farmers Limited and Dairy Australia (2013), 'Submission on Draft Australian Animal Welfare Standards and Guidelines for Cattle' at 2.
[252] For example, Victorian Department of Environment and Primary Industries.
[253] S7.4, Cattle S&G.
[254] G7.8, Cattle S&G.
[255] G7.9, Cattle S&G.
[256] G7.10, Cattle S&G.

It is not known whether all calving induction is actually performed subject to veterinary oversight. More importantly, the Cattle Standards & Guidelines do not go far enough in expressly prohibiting the routine use of calving induction as a management tool.

Concluding remarks

Illness, serious health complications and both maternal and calf deaths are very real welfare concerns of calving induction. This procedure can result in the premature birth of calves who, if they survive the birth, may be deemed too weak to survive and subsequently killed on farm.

Calving induction is a procedure that should only ever be used in the best interests of a mother cow and calf. When used as a farm management tool to align herd births or increase milk yield, the practice is unjustifiable and unethical.

4.1 Lameness

Lameness is a serious issue within dairy industries worldwide, including Australia.[257] *This serious disorder can result in a cow experiencing significant pain and discomfort, as well as increased risk of early slaughter.*[258]

Lameness is a structural or functional condition which usually affects a cow's limbs inhibiting her ability to walk, stand up, lie down or move around.[259]

Lameness can be a result of either excessive wear, foot lesions, or infectious disease such as foot rot.[260] The condition can be very painful for a cow, and if chronic, can see her sent to an early slaughter.

[257] Cook and Nordlund (2009), at 360.
[258] Farm Animal Welfare Council (FAWC) (2009), 'Opinion on the Welfare of the Dairy Cow' at 5; Compassion in Food Business (2013), 'Welfare of the Dairy Cow: Information Sheet 3' at 6.
[259] European Food Safety Authority (EFSA) (2009), at 137.
[260] Von Keyserlingk et al (2009) at 4103.

Despite the dairy industry seeking to address lameness through R&D initiatives,[261] Australian dairy cows continue to suffer from this condition.

The causes of lameness

In pasture-based systems like Australia, the causes of lameness may include one or more of the following major risk factors:[262]

- Poor maintenance and design of the tracks which cows use to move around the farm;[263]
- Farm handlers moving cows along the track or yard too quickly;[264]
- Cows spending extended periods of time on hard concrete surfaces;[265]
- Exposure to excessive moisture including standing in manure or on wet floors;[266]
- Nutritional effects;[267]
- Stress;
- Presence of and exposure to infectious agents like bacteria and fungus;[268] and
- Genetic factors, such as breeding for milk production capacity rather than disease resistance.

All of these factors will contribute to the incidence and prevalence of lameness in a herd. In Australia's pasture-based system, the most likely on-farm factors are poor track maintenance[269] and the speed of moving cows on the track and in yards.

These factors will typically contribute to foot lesions which are the most common cause of lameness. Knott et al note that a major cause of lameness is the reduction in the supportive

[261] Initiatives include an annual Animal Husbandry Survey, on-farm 'Healthy Hoof Workshops', the 'CowTime' program which outlines design specifications for optimal infrastructure, and an online tool to calculate the costs of lameness.
[262] List of factors derived from Malmo (2014), 'Prevention of Lameness in Dairy Herds'.
[263] See also FAWC (2009), 'Opinion on the Welfare of the Dairy Cow' at 5.
[264] See also Cook and Nordlund (2009), at 366.
[265] See also Webster, Animal Welfare: Limping Towards Eden, (Oxford, UK: Blackwell Publishing Ltd, 2005) at 142.
[266] See also Ward (2009), at 139.
[267] Cook and Nordlund (2009), at 361.
[268] For example, if there is a break in the integrity of the skin, bacteria or a fungus can enter causing a lesion (such as an ulcer or abscess) that can then cause lameness. Further, bacterial infection can be largely prevented by keeping cows' feet clean and dry. See Webster, Animal Welfare: Limping Towards Eden at 141-42.
[269] Laneway maintenance was cited as a priority prevention measure in 2012: Dairy Australia (2012), 'Animal Husbandry Survey 2012', at 3.

capacity of the connective tissue of the hoof wall around the time of calving.[270] This results in the pedal bone sinking or rotating, which places significant stress on the sole of the foot.[271]

It's not surprising then that cows are more susceptible to the conditions that cause lameness in the period of calving when the pressure on their bodies is at its peak.[272] Given that dairy cows are repeatedly impregnated throughout their lives, mother cows are constantly under the types of physical stressors which cause lameness.[273]

Lameness and pain

Lameness can often develop as a response to pain from injury or disease. Foot lesions which are a common factor in many cases of lameness can be extremely sore, with the pain exacerbated each time the cow is forced to bear weight on her affected foot. As a response to pain, cows will lie down as much as possible, may go off their food, lose weight and fertility, stop socialising and lose status in the herd.

Cows who are unable to lie down because of lameness will stand with arched backs and lowered heads in an attempt to take the weight off their hind limbs.[274] Evidence also suggests that chronically lame cows display an increased sensitivity to pain, or hyperalgesia.[275] Like us, they do not adapt to chronic pain, rather it gets worse over time.[276]

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[270] Knott et al (2007), at 278; Phillips, Cattle Behaviour and Welfare (2nd ed; Malden, USA: Blackwell Science, 2002) at 13.
[271] Phillips, Cattle Behaviour and Welfare at 13.
[272] Cook and Nordlund (2009), at 361-362; Knott et al (2007), at 286.
[273] One study found the average time to fully recover from lameness was 27 days under 'ideal' pasture conditions: Cook and Nordlund (2009), at 362. In the instance of severe ulcers, cows ideally require at least six weeks to recover: Webster, Animal Welfare: Limping Towards Eden at 144.
[274] Phillips, Cattle Behaviour and Welfare at 13.
[275] EFSA (2009), at 144-145.
[276] Webster, Animal Welfare: Limping Towards Eden at 143.

"Imagine that you caught all your fingers of both hands in a doorjamb, hard. And then you had to walk on your fingertips… So when you see a cow hesitating to put one foot in front of the other, you can be sure she is feeling excruciating pain."[277]

Critically, herd animals like cows and sheep do not naturally show overt signs of pain because this is an indication of weakness or vulnerability. Farmers will often interpret the lack of observable signs as meaning the animal is not in pain, and will fail to appropriately treat the problem or take preventative steps to manage the causes.[278]

Cows who are found to be chronically lame are often expected to struggle on, in pain, until they are slaughtered if they cannot be nursed back to full recovery.[279]

Lameness in Australia

It is difficult to know how common lameness is among dairy cows in Australia because statistics are not routinely collected by industry or government.

In 2008, lameness was estimated to affect 28% of Australian dairy cows,[280] whilst a survey of Victorian farmers conducted in 2002 suggested the incidence of lameness in a 12-month period was about 7.3%.[281] The disparity may be attributed to differences in defining what constitutes lameness. It is important to note that these figures are highly likely to underestimate the problem because there is presently no mandatory reporting or monitoring requirements for lameness in Australia.

The drawbacks of self-reporting are highlighted by studies overseas, which have found that reports into lameness that rely heavily on farmer self-reporting consistently under estimate the

[277] John Webster as quoted in Masson, The Pig Who Sang to the Moon. The Emotional World of Farm Animals (New York: Ballantine Books, 2003) at 151-152. This quote relates specifically to acute laminitis, which is a severe but relatively uncommon cause of lameness in dairy cows.
[278] Webster, Animal Welfare: Limping Towards Eden at 143.
[279] EFSA (2009), at 146.
[280] Fisher and Webster (2013), at 926.
[281] Watson (2002), 'Evaluation of Lameness Knowledge, Prevention and Control Practices Undertaken in Some Dairy Herds', at 5.

prevalence of lameness.[282] The Report of the European Food Safety Authority on the effects of farming systems on dairy cow welfare and disease also endorsed this idea: "Farmer self-reporting of lameness should probably be considered unreliable for research and benchmarking purposes."[283]

This is not to say that farmers deliberately under-report the condition. A more likely explanation is that they simply do not have the time or resources to implement a lameness monitoring strategy.[284] In addition, lame cows will continue producing an acceptable quantity of milk up until their (often) premature slaughter.[285] If farmers tend to use only functional indicators of welfare such as high milk output, cases of lameness can be missed.

It has also been suggested that part of the difficulty in early lameness detection may come from the fact that herd sizes are increasing, giving farmers less time to appropriately monitor each animal.[286] If this is the case, as the average herd size continues to increase in Australia, so too would the incidence and prevalence of lameness.

The industry response

The Australian dairy industry recognises that lameness is a significant issue, largely because the condition carries a huge economic cost.[287] Taking account of medical treatment, reduced milk production, reduced fertility and increased risk of early slaughter, lameness can cost dairy farmers between $200-$500 per lame cow each year.[288]

Dairy Australia states that it is working with farmers to assist them in establishing on-farm lameness strategies and provide on-farm management tips for reducing lameness.[289] Survey

[282] Research shows that lameness reported by dairy producers was 2.5 times lower than prevalence recorded by independent observers: see Socha et al (2006); Whay et al (2003) at 201.
[283] EFSA (2009), at 146.
[284] Webster, Animal Welfare: Limping Towards Eden at 144.
[285] EFSA (2009), at 136.
[286] Von Keyserlingk et al (2009), at 4103.
[287] Knott et al (2007), at 277; Ward (2009), at 139; Dairy Australia (2014), 'Reducing Lameness'.
[288] Dairy Australia (2020), 'Managing Lameness in Wet Conditions'.
[289] Dairy Australia (2014), 'Reducing Lameness'.

results commissioned by Dairy Australia in 2019 report that almost all dairy farmers have implemented a lameness strategy on farm to prevent, identify and treat cases of lameness.[290]

Here it may be useful to draw from experiences overseas. The Report of the European Food Safety Authority has observed "that despite the considerable investment of time and money in research, technology and information transfer, there has been no significant reduction in the prevalence of lameness in dairy cows in the last 20 years."[291]

The regulation of lameness

It is an offence in most Australian jurisdictions to fail to adequately seek veterinary treatment for sick or injured animals,[292] and the failure to provide medical treatment where it is reasonable or necessary would likely fall under the general cruelty provisions in state and territory-based cruelty legislation.

The Cattle Standards & Guidelines require a person in charge to "ensure appropriate treatment for sick, injured or diseased cattle at the first reasonable opportunity".[293] It also provides the following non-mandatory guidelines for the management of lameness (emphasis added):

- A lameness management strategy *should* be implemented and *should* include practices for the prevention, early detection and effective treatment.[294]
- Lameness assessment and/or hoof inspections *should* be conducted regularly and hoof trimming carried out when necessary.[295]
- The surfaces of yards, pens, tracks and laneways *should* be constructed and maintained to minimise the risk of lameness, slips and falls.[296]
- Cattle *should* be handled quietly and calmly, taking into account their flight zone and natural herding instinct to minimise stress during handling. Allowances *should* be made for cattle with special needs such as young calves, lame cattle and bulls.[297]

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[290] Dairy Australia (2022) 'Results of the Dairy Australia Animal Husbandry and Genetics Survey 2022'.
[291] EFSA (2009), at 150.
[292] See, for example, s 5(3)(c) Prevention of Cruelty to Animals Act 1979 (NSW); s 17(3)(a)(iv) Animal Care and Protection Act 2001 (Qld); s 8(2)(g) Animal Welfare Act 1993 (TAS); s 9(1)(i) Prevention of Cruelty to Animals Act 1986 (Vic).
[293] S3.3, Cattle S&G.
[294] G9.3, Cattle S&G.
[295] G9.4, Cattle S&G.
[296] G4.3, Cattle S&G.
[297] G5.1, Cattle S&G.

As previously noted, these guidelines are unenforceable and couched in subjective language (such as "should") which leaves compliance with their terms at the discretion of farmers.

Concluding remarks

Lameness is an inherent consequence of high-production commercial dairying.

Given that cows are more susceptible to lameness when calving, repeated pregnancies, combined with large udders and poor animal husbandry, make lameness and the consequent pain an inevitable part of the Australian dairy industry.

The trend towards greater milk yield and higher herd sizes could mean this painful condition will remain a major cause of suffering for the dairy cow.

4.2 Mastitis

Mastitis is a disease which affects the udders of dairy cows. The disease is common among commercial dairy cows and research shows that even a mild case can make daily activities painful and distressing.[298]

Mastitis is an inflammation of the mammary gland caused by the invasion of bacteria into the udder via the teat canal.[299] The disease can be transmitted contagiously between cows or caused by environmental factors, such as hygiene, which increases the risk of exposure to the bacteria that causes mastitis.[300] Once they enter the body, these bacteria can multiply, causing an infection which may result in a painful, inflamed udder.[301]

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[298] Medrano-Galarza et al (2012), at 6994, Fitzpatrick et al (1998). at 42.
[299] European Food Safety Authority (EFSA) (2009), at 150; Fitzpatrick et al (1998), at 37.
[300] EFSA (2009), at 150 and 155; Phillips, Cattle Behaviour and Welfare (2nd ed; Malden, USA: Blackwell Science), at 14; Farm Animal Welfare Council (FAWC) (2009), 'Opinion on the Welfare of the Dairy Cow' at 6. An Australian study found that 90-93% of mastitis in intensive farms was caused by environmental pathogens, which suggests that hygiene is of great importance: see, Shum et al (2009), at 473.
[301] Dairy Australia (2014), 'Countdown 2020 - Farm Guidelines for Mastitis Control', at 3; EFSA (2009), at 150.

The RSPCA estimates that around 5-10% of Australian dairy cows are affected by clinical mastitis.[302] Industry efforts to address this problem, although significant, have focused mainly on the economic implications of the disease rather than its effect on cow welfare.[303]

Increasing milk demands, forced repeated pregnancies and genetic selection to favour production traits over welfare (such as oversized, pendulous udders) have resulted in mastitis becoming a widespread problem in the dairy industry.[304]

The causes of mastitis

Contagious mastitis is usually caused by the spread of bacteria between cows. This commonly happens at the time of milking when cows can be exposed to infected milk on milkers' hands, cleaning towels or teat cups.[305]

Environmental mastitis can result from exposure to bacteria in soil and manure (which are the primary exposure sources of dairy cows to environmental pathogens),[306] as well as bacteria in calving pads and bedding materials.[307] Housed cows tend to be more at risk to environmental mastitis than grazing cows.[308]

Cleanliness is a major factor in preventing the spread of contagious and environmental mastitis, requiring thorough inspection and cleaning of the cow's udder, machinery and their environment.[309]

Cows who have just given birth and transition cows (namely, cows between lactations) are at particular risk of developing mastitis.[310] This can be due to the stresses associated with parturition and the onset of lactation, which can significantly reduce their immune response to

[302] RSPCA Australia (2019), 'What Is Mastitis in Dairy Cows?'; EFSA (2009), at 150.
[303] See, for example, Dairy Australia (2024), 'Mastitis'.
[304] Advice from Professor Clive Phillips BSc MA Phd.
[305] Dairy Australia (2013), 'What Is Mastitis'.
[306] De Vries et al (2012), at 5730.
[307] EFSA (2009), at 150; Contreras and Rodriguez (2011), at 343; Shum et al (2009), at 471.
[308] Dairy Australia (2013), 'What Is Mastitis'.
[309] Dairy Australia (2014), 'Countdown 2020 - Farm Guidelines for Mastitis Control'.
[310] See, Contreras and Rodriguez (2011), at 346, 49; Von Keyserlingk et al (2009), at 4103; Dairy Australia (2013), 'Countdown 2020 - Farm Guidelines for Mastitis Control'; De Vries et al (2012) at 5730-39.

infection of the mammary gland. The consequence of the infection can range from localised mastitis to death from septicaemia (blood poisoning).

Infections from environmental mastitis bacteria are also heightened during calving when udders are wet and more exposed to mud and manure.[311] This is exacerbated by the changing physicality of the modern dairy cow. Genetic selection for increased milk production has caused radical changes to the shape and size of cows' udders which are now oversized and pendulous. A pendulous udder is more vulnerable to mastitis, as it is more likely to pick up bacteria from dirt and mud,[312] and the teat cups may not function properly.[313]

Pain and distress during mastitis

Mastitis can vary from severe clinical mastitis where the cow is extremely ill to the point where her udder may become gangrenous, to subclinical mastitis where there are no observable changes in the cow or her udder, though there are changes in milk composition. In some cases, especially if left untreated, severe mastitis may be fatal.[314]

Research conducted by Fitzpatrick et al strongly suggests that cows with mastitis have increased sensitivity to pain, even when the mastitis is mild or moderately severe. Treating cows with mild mastitis using a single intravenous injection of a non-steroidal anti-inflammatory (NSAID) combined with an antibiotic may provide short-term relief, although this was not effective for moderately severe cases.[315]

"Burning, throbbing and the relevant quarter of the udder would be extremely sensitive to touch, causing her much pain if knocked."[316]

Common symptoms of clinical mastitis include abnormalities in the udder (such as swelling, heat, hardness, redness, or pain) and the milk (such as a watery appearance, flakes of blood,

[311] Advice from Professor John Webster PhD.
[312] EFSA (2009), at 150; Sharif and Muhammad (2009), at 145.
[313] Advice from Professor Clive Phillips BSc MA Phd.
[314] Ibid; Dairy Australia (2014), 'Countdown 2020 - Farm Guidelines for Mastitis Control', at 5; RSPCA (2013), 'What Is Mastitis in Dairy Cows?'.
[315] Fitzpatrick et al (1998), at 36-44.
[316] Advice from Professor Clive Phillips, BSc MA Phd.

clots, or pus). Other symptoms may include an increase in body temperature, lack of appetite, sunken eyes, diarrhoea and dehydration.[317]

Cows suffering from mastitis may also display reduced mobility as a result of ill-health or the pain of an infected udder.[318] Some cows suffering from mastitis may also spend less time lying down, lie only on one side and appear restless during milking.[319] Heart rate, temperature and respiratory rates have also been shown to increase with the severity of the disease.[320]

As mastitis infections can be costly to individual farmers, cows who suffer repeat mastitis are more like to be sent for slaughter.

How common is it?

While mastitis control strategies have been implemented by the Australian dairy industry since the 1960s, the disease remains common.[321]

The RSPCA estimates clinical mastitis affects around 5-10% of Australian dairy cows,[322] an increase from a rate of 6% recorded in 2004/5 by the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES).[323] Rates of subclinical mastitis have been reported as sitting as high as 28.9% in New South Wales.[324]

Dairy Australia calculates that each case of clinical mastitis costs $350-400, including the cost of treatment, reduced and discarded milk yield, and increased risks for cow mortality.[325]

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[317] Dairy Co (2014), 'Symptoms of Mastitis'; EFSA (2009), at 150.
[318] See DairyCo (2014), 'Symptoms of Mastitis'.
[319] Medrano-Galarza et al (2012), at 7000-01.
[320] EFSA (2009), at 153.
[321] Charman et al (2012). In Australia, a long history of mastitis initiatives demonstrates the significance of the disease. The Countdown 2020 program was launched in 1998, but was preceded by various attempts to introduce an effective management plan since the 1960s. Mastitis prevention and management research continues today, as the disease is still acknowledged as a major cost to the Australian dairy industry: see Malmo (2012).
[322] RSPCA Australia (2019), 'What Is Mastitis in Dairy Cows?'.
[323] Lubulwa and Shafron (2007), 'Australian Dairy Industry: Technology and Farm Management Practices', at 3.
[324] The average herd prevalence of subclinical mastitis in New South Wales between 2006 and 2009 was 28.9%. However, this average relates to an extensive range between 11% and 43%: see, Plozza et al (2011), at 43-44.
[325] Dairy Australia (2024) 'Mastitis'.

The industry response

Dairy Australia has responded to the problem of mastitis by providing guidelines, education, milk quality awards and funding for research projects seeking to reduce the incidence of mastitis in Australia.

Through its national udder health program, which provides farmers with tools to monitor mastitis, the industry hopes to see a majority of Australian dairy farms supplying milk with an annual average bulk milk cell count of less than 250,000 cells/mL,[326] although this goal is potentially over-ambitious.[327] Cows with an individual somatic cell count of over 250,000 are likely suffering from subclinical mastitis.[328]

The regulation of mastitis

As with lameness, a failure to adequately seek veterinary treatment for sick or injured animals where it is reasonable or necessary to do so would likely fall under the general cruelty provisions in State-based cruelty legislation.[329]

The Cattle Standards & Guidelines require a person in charge to "ensure *appropriate* treatment for sick, injured or diseased cattle at the first *reasonable* opportunity" (emphasis added).[330]
It also provides the following non-mandatory guidelines for the management of mastitis (emphasis added):

- Milking machinery and equipment *should* be regularly tested and maintained.[331]

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[326] Dairy Australia (2014), 'Countdown 2020 - Farm Guidelines for Mastitis Control', at 2.
[327] Advice from Professor Clive Phillips BSc, MA, Phd, who states that the Countdown 2020 objective is extremely unlikely if not impossible, given that in the UK, despite major advances in treatment methods, the rate has not declined even after 50 years of determined research effort.
[328] "The individual cow cell count (ICCC) indicates the likelihood of subclinical mastitis. Uninfected cows generally have ICCC levels of below 150,000 cells/mL. If a cow has had any ICCC above 250,000 during a lactation (a peak of 250,000 or more) she is likely to still be infected at drying-off and require Dry Cow Treatment": see, Dairy Australia (2013), 'What Is Mastitis'.
[329] See, for example, s 5(3)(c) Prevention of Cruelty to Animals Act 1979 (NSW); s 17(3)(a)(iv) Animal Care and Protection Act 2001 (Qld); s 8(2)(g) Animal Welfare Act 1993 (TAS); s 9(1)(i) Prevention of Cruelty to Animals Act 1986 (Vic).
[330] S3.3, Cattle S&G.
[331] G9.1, Cattle S&G.

- The milking technique *should* minimise the risk of discomfort, injury and disease.[332]
- A mastitis management strategy *should* be implemented and *should* include practices for prevention, early detection and effective treatment.[333]

There is no legal limit on the somatic cell count (SCC) for milk available for sale in Australia, but there is reference to a 'general limit' of 400,000 cells per mL.[334] As noted above, the SCC can be used as an indicator of the likelihood of subclinical mastitis in dairy cows. In the European Union, Regulation (EC) No 853/2004 provides that for raw milk to be fit for human consumption, it must have an average SCC of less than 400,000 cells per mL.[335]

Concluding remarks

Mastitis is a problem endemic in the dairy industry,[336] both in Australia and worldwide. A diseased udder is incompatible with the 'feel good' publicity and marketing images of happy cows that are often used by the dairy industry.

Due to the extraordinary burden of milk production which is placed on the modern dairy cow, infections of the mammary gland are common. The frequency should not, however, be used to downplay the pain, impairment and early mortality of the afflicted cow.

High milk yield, oversized udders and repeated pregnancies are all causes of mastitis and of her discomfort and pain. The prevalence of the disease reflects the strenuous demands we place on her body.

[332] G9.2, Cattle S&G.
[333] G9.5, Cattle S&G.
[334] Dairy Australia (2024) 'Is there an official upper limit for somatic cells in cow's milk production in Australia?'
[335] As determined by a rolling geometric average over a period of three months, with at least one sample per month.
[336] EFSA (2009), at 154.

5. Live Exports

Australia is one of the only countries to export live dairy cattle overseas as breeder stock. To feed the world's growing appetite for dairy products,[337] these animals are shipped long distances in distressing conditions to countries with few or no animal welfare protections.

These cows will not be initially slaughtered for their meat but are instead used to grow dairy herds overseas.

Live export poses serious welfare concerns both in regard to the extreme conditions endured during the journey and the welfare standards animals are subjected to at their destination. Despite this, **breeder animals have fewer formal legal protections than animals who are exported live for meat production**. The offspring of Australian dairy cattle exported overseas have even less protection and face an uncertain life.

The Australian live export industry

In 2023, Australia exported 110,407 dairy cows live to foreign markets.[338] The majority of these cows were raised in Victoria and were predominantly exported to China (100,207), Malaysia (3,859), Indonesia (1,590) and Pakistan (1,388).[339]

Australian dairy cows are especially sought after because of their high value for milk production. In response to increasing demand, the local dairy industry in Victoria adjusted their farming operations to produce cows specifically for live export.[340]

[337] Beldman and Daatselaar (2013), 'Global Dairy Outlook 2012', at 4-5.
[338] Dairy Australia (2023) 'In Focus 2023'.
[339] Ibid, at 50.
[340] Martin et al (2007), 'Live Cattle Export Trade: Importance of Northern and Southern Australian Beef Industries', at 2.

Shipping impact

The journey from farm gate to final destination is long and arduous. Dairy cows are typically required to spend time on road and/or rail transport to port, mandatory time waiting before loading onto transport and on the voyage itself – either on a plane or ship.

At sea, cows may be deprived of food and water for long periods and commonly lose weight during the journey. The stress of transportation can suppress a cow's immune system and potentially increase the likelihood of disease.[341] Moreover, heat stroke, trauma and respiratory disease are common causes of mortality for cows throughout the live export journey on long haul voyages.[342]

A 2019 investigation found pregnant Australian dairy cows were starving and dying on board a vessel bound for Sri Lanka, with at least 500 cows confirmed to have died.[343] In 2020, rough conditions at sea caused New Zealand's MV Gulf Livestock 1 live export ship to capsize in the East China Sea, killing 41 crew members and 5,867 dairy cows.[344] New Zealand announced a ban on live export of animals by sea the following year.[345]

FACT BOX 1: Pregnant en route

Shockingly, it is legal for breeder cows to be transported whilst pregnant. Exporting pregnant cows is inherently risky. Firstly, pregnant cows may give birth during the voyage. The *Australian Standards for the Export of Livestock (Version 3.3)* (ASEL) require that cows cannot be more than 190 days pregnant when boarding the ship (the gestation period of a cow is approximately 280 days).[346] The actuality, as evidenced from many reports on live export voyages published by the Department of Agriculture, is that cows in late stages of pregnancy are regularly loaded onto

[341] Moran (2012a), at 17.
[342] Caulfield (2008), 'Live Export of Animals', in White and Sankoff (ed), Animal Law in Australasia: A New Dialogue (Sydney, Australia: The Federation Press, 2009) at 156.
[343] See Animals Australia (2025) '10 live export disasters that could happen again – unless the industry is finally stopped'.
[344] Ibid.
[345] Ibid.
[346] S1.46, ASEL.

live export ships and have given birth on live export ships.[347]

These cows are at risk of abortions, dystocia (difficulty giving birth) and becoming moribund due to metabolic problems associated with pregnancy. There is also the physical risk that a pregnant animal has a greater likelihood of falling and being unable to get back up, giving rise to a risk of trauma from the fall or from being trampled by other animals.[348]

In the case that a calf is born during transport, they will in all likelihood be housed in a tightly-packed, dirty pen with other cows, with a real risk of being trampled and/or becoming diseased. Moreover, it is unlikely that live export ships will have the capability to provide proper support and management of newborn calves.[349]

Alarmingly, both state veterinary authorities and the Australian Veterinary Association reported concerns about the inadequacy of exporters' efforts to identify pregnancy in these animals and, consequently, that many have their pregnancy status incorrectly recorded.[350]

Overseas farming conditions

The suffering of breeder animals continues once they reach their destination.

Cows can be exported pregnant, or as heifers to be impregnated with their first calf upon arrival in the importing country.

The survival rates of the calves who are born overseas is one of the only useful measures available to gauge the welfare standards of calf rearing systems in importing countries. Surveys in Southeast Asia reveal that pre-weaning calf mortality rates of 15-25% are reported as "typical"

[347] Advice from Dr Heather Cambridge and Malcolm Caulfield, PhD.
[348] Ibid.
[349] Ibid.
[350] Ibid.

on many tropical dairy farms, with reports of calf deaths as high as 50%. These figures are a strong indicator of very poor calf management.[351]

These high mortality rates, particularly on small holder calf-rearing systems, are attributed to a variety of factors including humidity and temperature, poor housing and hygiene, poorly balanced and insufficient diet due to quality of available feed, insufficient rumen (cud chewing), poor access to veterinary support and a lack of farm handler skill and knowledge.[352] Once dairy cows are 'spent' in destination countries, there are also serious welfare concerns around the way in which they are slaughtered. Many importing countries disclose very little information about slaughter methods or guidelines used. This lack of information is highly concerning.

Those international welfare standards that do exist are generally lower than those that apply to animals in Australia. For instance, the pre-slaughter stunning of cows is not a requirement under the World Organisation for Animal Health (OIE) standards.[353]

Investigations have exposed cruelty to Australian cows exported overseas. These investigations have routinely shown cruel methods of slaughter, including the use of roping techniques, full inversion boxes and makeshift abattoirs. There are numerous allegations of cruelty towards Australian animals in overseas abattoirs where dairy cows are currently exported, such as the use of restraint devices and methods of slaughter that contravene OIE standards; animals being tortured before being killed; fully conscious cattle being slaughtered by repeat cuts to the throat; cows being physically and intentionally injured, including being blinded; and cows having their leg tendons slashed.[354]

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[351] Moran (2012b), at 57. Note that Australia exports dairy cattle to several Southeast Asian countries, including Indonesia, Malaysia, Thailand and the Philippines.
[352] Ibid, at 58.
[353] World Organisation for Animal Health (OIE), Terrestrial Animal Health Code (2014) (Volume 1), Article 7.5.7 and 7.5.8.
[354] See the investigation reports from the Department of Agriculture (2012), 'Investigation into a Complaint from Animals Australia Alleging Non-Compliance in January 2012'; (2013), 'Allegations of Breach of Exporter Supply Chain Assurance System, Indonesia - October 2012'; (2014), 'Compliance Investigation Report 11(a): Cattle Exported to Malaysia in May 2013'; (2014), 'Compliance Investigation Report 19 - Cattle Exported to Malaysia'; (2014), 'Compliance Investigation Report 10: Performance of the Closed Loop System for Cattle Exports to Egypt'.

CASE STUDY 1: The China Story

The demand for Australian breeder dairy cattle is on the rise, particularly in Asia where dairy farming is a growing industry.[355]

China is by far the biggest importer of Australian dairy cows as the nation moves to create its own independent and profitable dairy industry. In 2023, China imported 99% of the dairy cows Australia sent overseas.[356] While the cows exported from Australia to China are raised on pasture-based farming systems, Chinese milk producers are beginning to adopt the US-style of intensive farming systems.[357] Intensive dairy farms present a range of serious welfare concerns.

According to a Wall Street Journal report on intensive dairying, "cows live in football-field-size covered sheds, rarely venture outdoors and are milked three times a day on German-made, bovine merry-go-rounds, with automated pumps that measure each cow's milk flow by the second and send that data to central computers."[358]

Modern Farming, the country's largest milk producer, reportedly had 233,000 animals in 2019, and was planning to double the number of animals and milk production by 2025.[359] In 2022, it was reported that the largest dairy farm in China had eight rotary milking systems with space for 20,000 adult cows, and that a larger facility was under construction to house 45,000 dairy cows.[360]

The enormous pressure placed on cows who are kept in intensive systems like this affects their immune systems, which limits their resistance to mastitis, and often results in their becoming 'spent' – or economically unviable – at a very early age. Due to the stress of high production and environmental conditions, they are also at a greater risk of lameness, disease, overcrowding and social aggression.[361]

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[355] Frangos (2013), 'China Grows Its Dairy Farms with a Global Cattle Drive', The Wall Street Journal, 2013.
[356] Dairy Australia (2023) 'In Focus 2023'.
[357] Frangos (2013), 'China Grows Its Dairy Farms with a Global Cattle Drive'.
[358] Ibid.
[359] Edairynews (20 October 2022) 'China: Farming on a Colossal Scale'.
[360] Ibid; advice from Professor Clive Phillips BSc, MA, PhD, reported a facility in 2019 in Northern China with 300,000 cows.
[361] World Society for the Protection of Animals (WSPA) (2010), 'Not on Our Cornflakes', at 6-7.

The failure of regulation

The suffering of animals involved in the live export trade is immense. The Australian Government has introduced legislation that has sought to prevent or, perhaps more accurately, reduce suffering of animals exported live for slaughter.

Despite this intention, however, animal suffering is and will continue to be an inevitable part of any trade that forces animals to endure lengthy journeys in emotionally and physically distressing conditions, only to be worked and slaughtered abroad in countries with poor or no animal welfare protections.

A complex legislative framework governs the trade, made up of Commonwealth Acts, codes, memoranda of understanding, orders and private industry codes of conduct of uncertain legal status. The framework is inconsistent and has been described by Malcolm Caulfield, lawyer and expert in live animal export, as:

"… a muddled mess of second-rate law, poor and amateurish enforcement and a cynical failure of governments and public servants to grasp the nettle of large-scale animal cruelty in agri-business".[362]

Unprotected during transport

Much of the cruelty and welfare concerns inherent in the live animal export trade cannot be legislated away, such as the forced change in diet and environment, heat stress, lengthy loading times and travel times, and the inability of our government to protect animals beyond Australia's coastline.

The Australian Standards for the Export of Livestock (ASEL) specify a number of requirements relating to animal welfare both before and during transport. While ASEL offers some limited protection and is more detailed than the Cattle Standards & Guidelines, it is still ineffective in protecting dairy cows during live export.

Shortcomings of the ASEL include:

[362] Caulfield (2008), Handbook of Australian Animal Cruelty Law (Australia: Animals Australia), at iii.

- The focus of the obligations is on the exporter even though they are not in direct control of the animals until they reach their final destination. While in transit, animals are in the direct control of the ship's captain or airline.[363]

- While the requirements of ASEL are incorporated into the exporter's licence, the standards are not 'legally secure', as they are orders, not legislation. These can be made or repealed at the discretion of the Secretary of the Department of Agriculture.[364] Penalising exporters for breaching these license conditions are also left to the discretion of the Department of Agriculture, which is arguably operating in a position of conflict, given its interest in promoting live animal exports.

- There is no requirement for a veterinarian to be on-board an export vessel or aircraft for journeys less than 10 days.[365]

- There is a lack of independent third-party veterinarians overseeing the live export trade.

- Despite the level of animal suffering associated with live exports, one of the very few reportable measures of animal welfare under ASEL is based on animal mortality rates during transport – with an "acceptable rate" of *daily* cattle mortality being anything less than 0.5%.[366] This mortality rate is very high. There is simply no justification for using a fixed mortality rate as a measure of acceptable welfare. Indeed, this is inconsistent with state-based laws, which aim to protect animals on an individual basis, not as a percentage.

Unprotected abroad

Breeder animals such as dairy heifers and cows are protected under the *ASEL* while on board, however, there are no protections once they disembark in the importing country.

"[I]t is morally inconsistent to seek to regulate the treatment of animals within Australia, such as transport and slaughter, but then ignore the treatment meted out to Australian animals on arrival in an importing country".[367]

[363] Caulfield (2009), 'Live Export of Animals', at 160.
[364] Bruce (2012), Animal Law in Australia: An Integrated Approach (LexisNexis) at 299.
[365] S4.1.9, ASEL.
[366] S5.6.5, ASEL.
[367] Caulfield (2008), Handbook of Australian Animal Cruelty Law, at 75.

Most Australian animals who are exported live are covered by the Exporter Supply Chain Assurance System (ESCAS), a series of regulations introduced in the wake of the 2011 Indonesia live export cruelty exposé.

In theory, ESCAS requires an exporter to declare to the Australian Government that their exported animals will be traceable throughout the export process and slaughtered under OIE recommendations.

As breeder animals are exempt from ESCAS, exported dairy cows are not afforded even the most basic protections once they have disembarked in destination countries.

There is **no** obligation on exporters to ensure that:

- Breeder animals are handled and treated humanely, in accordance with internationally approved OIE standards;
- Appropriate animal husbandry systems are in place to ensure the welfare of breeder animals is maintained throughout their lives; and,
- Breeder animals are not subjected to cruel and barbaric means of slaughter in unapproved foreign slaughterhouses.

In April 2013, the Industry Government Implementation Group (IGIG) commissioned a report on whether additional protections were needed for breeder animals exported live.[368]

The IGIG review identified a number of potential animal welfare risks for breeder livestock, including slaughter through non ESCAS pathways soon after arrival in the importing country or at the end of productive life and poor animal husbandry practices during productive life. This included exporters deliberately seeking to circumvent the ESCAS requirements for feeder/slaughter livestock exports by labelling them breeder livestock.[369]

The review concluded these risks were "relatively low" in large livestock establishments, but noted the risks were potentially higher in smaller establishments.[370]

[368] Industry Government Implementation Group (IGIG) (2013), 'Report to Australian Government Minister for Agriculture, Fisheries and Forestry: Breeder Livestock Exports', (2013) at 3-5.
[369] Ibid, at 3-5.
[370] Ibid, at 4.

Despite this, the IGIG did not consider that these risks warranted measures to overcome the practical difficulties of maintaining a 'line of sight' for an animal who could change hands multiple times and have a productive life of 10 years or more. The review considered the administrative burden would likely outweigh the value of the trade and considered it "unreasonable for exporters to be generally responsible for breeder livestock through to the point of death or to be responsible for the offspring of livestock exported from Australia".[371]

CASE STUDY 2: Qatar

In 2012, ABC's 7.30 detailed the export of a herd of dairy cattle from South Gippsland in Victoria to Qatar. Despite being assured of the high-quality conditions at the destination, when vet technician Deb Clarke visited the Qatar property from Australia, she found it to be lacking necessary infrastructure to house the animals who did not have sufficient access to water.

After a 10-day break from the Qatar farm, on Clarke's return she found the animals had not been fed since her departure and it was over 50°C in the calf unit with the animals dying or already dead.

"They were frying, literally cooking, and those kind of temperatures of 50 plus degrees they were frying from the inside out. It was absolutely shocking," said Clarke.

After Clarke recommended one cow who was suffering from extreme heat exhaustion and malnutrition be euthanised, a worker at the farm sawed the cow's throat open with a pocketknife. In total, Clarke witnessed 64 cows die in one week.[372]

Following the 7.30 report, the RSPCA, the Australian dairy farmer and the vet involved filed complaints to the Department of Agriculture.[373]

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[371] Ibid, at 4.
[372] Australian Broadcasting Corporation (ABC) (2012), 'Cruelty Accusations Focus Attention on Breeding Exports,' ABC, 18 September 2012.
[373] Department of Agriculture (2013), 'Allegations of Breaches of Australian Standards for the Export of Livestock Involving Breeding Animals Exported to a Farm in Qatar - 7 March 2013'.

The investigation only addressed the condition of the animals before their export, rather than their treatment once they arrived at their destination because, as breeder stock, they were not covered by ESCAS. The investigation found that no regulatory action could be taken against the Australian livestock exporters because, under the Australian regulations, they had done nothing wrong.[374]

Concluding remarks

It has been shown that Australian breeder cattle have been subjected to abuse and mistreatment overseas and it is morally reprehensible that these acts remain legal under Australian law.

Any protections afforded to animals exported live should not be determined by their intended use or by the ease with which regulations can be adhered to or enforced. They should be determined by the animal's ability to suffer.

In 2023, the Commonwealth Government passed legislation to ban the live export of sheep from Australia for slaughter overseas.[375] This ban is intended to come into effect from 2028. The ban does not apply to the live export of cows, either for slaughter or breeding.

The Commonwealth's attempts to regulate the live export of cows and other animals serves only to legalise and legitimise systemic animal cruelty. A majority of the Australian public[376] supports the call for a complete ban on live animal exports.

[374] Ibid.

[375] *Export Control Amendment (Ending Live Sheep Exports by Sea) Act 2024*.

[376] A survey conducted by the World Animal Protection (WAP) showed that 67% of Australians would vote for a politician who promised to end the live export trade, see, WAP (2013), 'Research Shows Voters Overwhelmingly in Favour of Live Export Phase Out'. These statistics are affirmed in more recent polling from 2023 regarding support for a ban on sheep live export.

6. Conclusion

Thank you for reading Voiceless's updated comprehensive overview of the Australian dairy industry. We have aimed for accuracy and truthfulness, not seeking to exaggerate the issues nor denying the harsh realities for the dairy cow and her calf, neither of whom can speak for themselves.

Our Report has shown that for most of these sentient animals, life is hard and painful, and despite some incremental improvements in welfare standards since this Report was first published in 2015, Australian dairy cows continue to experience significant suffering. This includes repetitive, distressing separation from their calves, painful mutilation procedures, and physical demands that often result in mastitis, lameness, metabolic disorders, and early slaughter. Many of these welfare issues are exacerbated by regulatory shortcomings, industry practices that prioritise commercial interests over the well-being of sentient animals, and the demands placed by a growing consumer expectation for cheap milk.

The daily suffering experienced by dairy cows and calves is avoidable. Addressing these issues requires not only greater transparency and legal reform but also a fundamental rethinking of our relationship with animals. Please join us at Voiceless to support transitions to non-dairy alternatives and create a better future for cows and calves.

Kindest,
Ondine Sherman – Managing Director and Co-Founder.

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Appendix 1: Key welfare concerns in the Cattle Standards & Guidelines

Welfare concern	Position under the Cattle Standards & Guidelines
Permits non-chemical dehorning / disbudding of cows?	Yes – Permits dehorning / disbudding without pain relief if the cattle are less than 6 months old; or less than 12 months old if the cattle are at their first yarding and where the later age is approved in the relevant jurisdiction.[377]
Permits the caustic disbudding of cows?	Yes – Permits caustic disbudding if the calf is less than 14 days old, can be segregated from his or her mother for 4 hours after treatment, can be kept dry for 12 hours after treatment, and is not wet.[378]
Permits a layperson to dock the tails of calves?	Yes – Laypersons are able to tail dock cattle, but only on veterinary advice and only to treat injury or disease.[379]
Permits calving induction as a herd management tool?	Yes – Calving induction is only permitted under veterinary advice.[380] Inducing calving as a herd management tool is not expressly prohibited.[381]
Permits calves to be slaughtered by use of blunt force trauma?	Yes – Permits a person to kill a calf by a blow to the forehead if the calf is less than 24 hours old and only where no other humane killing methods are reasonably available.[382]
Permits cows to be permanently confined?	Yes – States that cattle *should* have the opportunity for appropriate exercise each day (emphasis added), however, this is a non-mandatory Guideline.[383]

[377] S6.4, Draft Cattle Standards & Guidelines.
[378] S6.5, Draft Cattle Standards & Guidelines.
[379] S9.3, Draft Cattle Standards & Guidelines.
[380] S7.4, Draft Cattle Standards & Guidelines.
[381] G7.8 of the Draft Cattle Standards & Guidelines states: "Herd management strategies should be adopted to minimise or eliminate the need to induce calving". Further, G7.10 states: "Calving induction should only be done when necessary for the welfare of the individual cow or calf". These Guidelines are merely "recommendations", and are not legally enforceable.
[382] S11.5, Draft Cattle Standards & Guidelines.
[383] G4.9 of the Draft Cattle Standards & Guidelines states: "Cattle *should* have the opportunity for appropriate exercise each day" (emphasis added), however, this is a non-mandatory Guideline.

Appendix 2: How Australian jurisdictions have adopted the Cattle Standards & Guidelines

Jurisdiction[384]	Relevant Legislation	Relevant Regulations	Does the jurisdiction adopt the Cattle S&G?	What is the legal status of the Cattle S&G?
New South Wales	*Prevention of Cruelty to Animals Act 1979*	*Prevention of Cruelty to Animals Regulation 2012*	Yes[385]	Compliance is not mandatory; the Cattle S&G are advisory in nature. Compliance or non-compliance can be adduced as evidence in relation to an offence under the Act.[386]
Queensland	*Animal Care and Protection Act 2001*	*Animal Care and Protection Regulation 2023*	Yes[387]	Compliance is mandatory.[388] Compliance with the Cattle S&G is an exemption to an offence under the Act.[389] Compliance or non-compliance can be adduced as evidence in relation to an offence under the Act.[390]
South Australia	*Animal Welfare Act 1985*	*Animal Welfare Regulation 2012*	Yes[391]	Compliance with the Cattle S&G is mandatory.[392] The Standards from the Cattle S&G are incorporated into the Regulations.[393]
Tasmania	*Animal Welfare Act 1993*	*Animal Welfare (Cattle) Regulations 2023*	Yes[394]	Compliance is mandatory.[395]
Victoria	*Prevention of Cruelty to Animals Act 1986*	*Prevention of Cruelty to Animals Regulation 2019*	No – the Code of Accepted Farming Practice for the Welfare of Cattle applies.[396]	Compliance is not mandatory; the Code is advisory in nature.[397] Compliance with the Code is an exemption to an offence under the Act.[398]
Western Australia	*Animal Welfare Act 2002*	*Animal (General) Welfare Regulation 2003*	Yes[399]	Compliance is not mandatory; the Cattle S&G are advisory in nature. Compliance with the Cattle S&G can be used as a defence to a charge of cruelty.[400]

[384] Note – There are no commercial dairy cattle in the ACT or the Northern Territory.

[385] S 34A, Prevention of Cruelty to Animals Act 1979 (NSW); Reg 33, Prevention of Cruelty to Animals Regulation 2012 (NSW).

[386] S 34A(3), Prevention of Cruelty to Animals Act 1979 (NSW).

[387] S 13, Animal Care and Protection Act 2001 (QLD); Reg 3, Animal Care and Protection Regulation 2023 (QLD); Schedule 4, Part 2, Animal Care and Protection Regulation 2023 (QLD).

[388] Reg 3, Animal Care and Protection Regulation 2023 (QLD); Schedule 4, Part 2, Animal Care and Protection Regulation 2023 (QLD).

[389] S 40, Animal Care and Protection Act 2001 (QLD).

[390] S 16, Animal Care and Protection Act 2001 (QLD).

[391] Ss 43 and 44(3), Animal Welfare Act 1985 (SA); Reg 5, Animal Welfare Regulation 2012 (SA); Schedule 2, Animal Welfare Regulation 2012 (SA).

[392] Reg 5(1), Animal Welfare Regulation 2012 (SA); Schedule 2, Animal Welfare Regulation 2012 (SA).

[393] Part 8, Animal Welfare Regulation 2012 (SA).

[394] The Animal Welfare (Cattle) Regulations 2023 are based on the standards in the *Cattle S&G,* with two differences relating to the handling and spaying of cattle.

[395] Ibid.

[396] Victorian Code of Accepted Farming Practice for the Welfare of Cattle <https://agriculture.vic.gov.au/livestock-and-animals/animal-welfare-victoria/pocta-act-1986/victorian-codes-of-practice-for-animal-welfare/code-of-accepted-farming-practice-for-the-welfare-of-cattle>.

[397] Ibid.

[398] S 6(1)(b), Prevention of Cruelty to Animals Act 1986 (VIC).

[399] S 94(2)(d), Animal Welfare Act 2002 (WA); Reg 6, Animal (General) Welfare Regulation 2003 (WA).

[400] S 25 of the Animal Welfare Act 2002 (WA); However, the fact that a person has not complied with a Code must be taken into account by a court, but is not sufficient, on its own, to prove that the person committed an offence under the Act (s 84 of the Animal Welfare Act 2003 (WA)).

Appendix 3 — Regulation of key welfare concerns in dairy producing Australian jurisdictions

Jurisdiction[401]	Permits non-chemical dehorning / disbudding of cows?	Permits the caustic disbudding of cows?	Permits a layperson to tail dock cows?	Permits calving induction as a herd management tool?	Permits calves to be slaughtered by use of blunt force trauma?	Permits cows to be permanently confined?
New South Wales	Yes – Dehorning / disbudding is permitted; it is illegal to dehorn cattle over the age of 12 months in a manner that inflicts unnecessary pain upon the animal.[402]	Yes – Caustic dehorning / disbudding is permitted; it is illegal to dehorn cattle over the age of 12 months in a manner that inflicts unnecessary pain upon the animal.[403] The Cattle S&G are not mandatory in NSW.	Yes – Legal for a layperson to tail dock, provided that the calf is less than 6 months of age and, on the advice of a veterinarian, it is necessary to treat an injury or disease.[404]	Yes – Not expressly prohibited under NSW law or under the Cattle S&G.	Yes – Not expressly prohibited under NSW law or under the Cattle S&G.	Yes – Not expressly prohibited under NSW law or under the Cattle S&G. Cows are exempt from the requirement to provide animals with adequate exercise[405] and from the prohibition against insufficiently sized confinements.[406]
Queensland	Yes – Dehorning / disbudding is permitted, provided it is done in a way to avoid unnecessary pain, using appropriate tools and methods and, if cattle are older than 6 months, suitable pain relief is administered.[407]	Yes – Caustic dehorning / disbudding is permitted, provided a calf is less than 14 days of age; is not wet; is segregated from his or her mother for 4 hours after the treatment; and, can be kept dry for 12 hours after the treatment.[408]	No – It is unlawful for a layperson to dock the tail of cattle.[409]	Yes – Calving induction is permitted under veterinary advice.[410]	Yes – Not expressly prohibited under QLD law or under the Cattle S&G.	Yes – Not expressly prohibited under QLD law or under the Cattle S&G. Confinement is only considered an act of cruelty if the confinement is not appropriately prepared for (food, water, shelter, etc), it is detrimental to the animal's welfare or the animal is unfit for confinement.[411]

[401] Note – There are no dairy cattle in the ACT or the Northern Territory.

[402] S 24(1)(a)(iii), Prevention of Cruelty to Animals Act 1979 (NSW).

[403] S 24(1)(a)(iii) Prevention of Cruelty to Animals Act 1979 (NSW).

[404] S 12(2)(a), Prevention of Cruelty to Animals Act 1979 (NSW); s20(1), Prevention of Cruelty to Animals Regulation 2012 (NSW).

[405] S 9(1A), Prevention of Cruelty to Animals Act 1979 (NSW).

[406] S 9(3), Prevention of Cruelty to Animals Act 1979 (NSW).

[407] Schedule 4, ss 4-5, Animal Care and Protection Regulation 2023 (QLD).

[408] Schedule 4, s5, Animal Care and Protection Regulation 2023 (QLD).

[409] S 27(2), Animal Care and Protection Act 2001 (QLD).

[410] Schedule 4, s 7, Animal Care and Protection Regulation 2023 (QLD).

[411] S 18(2)(f), Animal Care and Protection Act 2001 (QLD).

South Australia	Yes – Dehorning / disbudding is permitted, provided suitable pain relief is given to cattle older than 6 months, or older than 12 months if at their first yarding.[412].	Yes – Caustic disbudding is permitted, provided a calf is less than 14 days of age; the skin on the head of the calf is dry immediately before the procedure and for 12 hours after the procedure; and, the calf is segregated from his or her mother for at least 4 hours after the procedure.[413]	Yes – Legal for layperson to tail dock, provided that a veterinarian has certified it is necessary for the control of disease.[414]	Yes – Calving induction must be carried out under the direction of a veterinary surgeon.[415]	Yes – Not expressly prohibited under SA law or under the Cattle S&G. It is only considered an act of cruelty if an animal is conscious and not killed by a method that causes death to occur as rapidly as possible.[416]	Yes – Not expressly prohibited under SA law or under the Cattle S&G. It is an act of cruelty if an animal is not provided with appropriate and adequate exercises.[417]
Tasmania	Yes – Dehorning / disbudding is permitted, provided suitable pain relief is given to cattle older than 6 months, or older than 12 months if at their first yarding.[418]	Yes – Caustic disbudding is permitted, provided a calf is less than 14 days of age; the skin on the head of the calf is dry immediately before the procedure and for 12 hours after the procedure; and, the calf is segregated from his or her mother for at least 4 hours after the procedure.[419]	Yes – Legal for layperson to tail dock, provided that a veterinarian has advised it is necessary to treat injury or disease.[420]	Yes – Calving induction must be carried out under the direction of a veterinary surgeon.[421]	Yes – Legal to kill a calf who is less than 24 hours old by blunt force trauma, provided no other suitable humane killing method is available.[422]	Yes – Not expressly prohibited under Tasmanian law or under the Cattle S&G. Confinement is only considered an act of cruelty where likely to result in unreasonable or unjustifiable suffering, the animal is unable to provide for itself and he or she is not provided with appropriate food, shelter, drink or exercise.[423]

[412] Part 8, s 68, Animal Welfare Regulations 2012 (SA).
[413] Part 8, s 68(3), Animal Welfare Regulations 2012 (SA).
[414] Reg 6(1), Animal Welfare Regulation 2012 (SA).
[415] Part 8, s 69, Animal Welfare Regulations 2012 (SA).
[416] S 13(3)(h), Animal Welfare Act 1985 (SA).
[417] S 13(3)(b)(i), Animal Welfare Act 1985 (SA).
[418] S 20, Animal Welfare (Cattle) Regulations 2023 (TAS).
[419] S 20(5), Animal Welfare (Cattle) Regulations 2023 (TAS).
[420] S 22, Animal Welfare (Cattle) Regulations 2023 (TAS).
[421] S23(4), Animal Welfare (Cattle) Regulations 2023 (TAS).
[422] S24(3), Animal Welfare (Cattle) Regulations 2023 (TAS).
[423] S 8(2)(e), Animal Welfare Act 1993 (TAS).

Victoria	Yes – Dehorning / disbudding is permitted under the Code of Accepted Farming Practice for the Welfare of Cattle. It is recommended that dehorning / disbudding without local anaesthetic should be limited to cows under 6 months, although compliance is not mandatory.[424]	Yes – The Code of Accepted Farming Practice for the Welfare of Cattle states that chemical disbudding "is not acceptable", although compliance is not mandatory.[425]	Yes – The Code of Accepted Farming Practice for the Welfare of Cattle states that tail docking may only be performed where necessary for udder or herd health. It also states it should only be performed on young female calves under 6 months of age, and with anaesthesia.[426] Compliance is not mandatory.	Yes – Permitted under the Code of Accepted Farming Practice for Welfare of Cattle if performed under veterinary supervision, although compliance is not mandatory.[427]	Yes – Described as 'unacceptable' under the Code of Accepted Farming Practice for Welfare of Cattle, except in "extreme conditions in which common sense and genuine concern for animal and human welfare should prevail."[428] Compliance is not mandatory.	Yes - Not expressly prohibited under Victorian law. Confinement is only considered an act of cruelty where likely to result in unreasonable or unjustifiable suffering or fails to provide proper food, drink or shelter.[429] The practice of confining cattle, however, is referred to throughout the Code of Accepted Farming Practice for Welfare of Cattle.
Western Australia	Yes – Not expressly prohibited under WA law or under the Cattle S&G.	Yes – Not expressly prohibited under WA law. The Cattle S&G are not mandatory.	Yes – Not expressly prohibited under WA law or under the Cattle S&G.	Yes – Not expressly prohibited under WA law or under the Cattle S&G.	Yes – Not expressly prohibited under WA law or under the Cattle S&G.	Yes – Not expressly prohibited under WA law or under the Cattle S&G. Confinement is only an act of cruelty if the manner that causes, or is likely to cause, unnecessary harm.[430]

[424] S 10.6, Victorian Code of Accepted Farming Practice for the Welfare of Cattle (2001).

[425] S 10.6, Victorian Code of Accepted Farming Practice for the Welfare of Cattle (2001).

[426] S 10.5, Victorian Code of Accepted Farming Practice for the Welfare of Cattle (2001).

[427] S 10.8, Victorian Code of Accepted Farming Practice for the Welfare of Cattle (2001).

[428] S 12.3, Victorian Code of Accepted Farming Practice for the Welfare of Cattle (2001).

[429] Ss 9(1)(b) and 9(1)(f), Prevention of Cruelty to Animals Act 1986 (VIC).

[430] S 19(3)(b), Animal Welfare Act 2002 (WA).