

Stakeholder views, including the public, on expectations for dairy cattle welfare

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Abstract

Animal welfare is emerging as one of the key social concerns regarding animal agriculture. Concern for the welfare of farm animals is not new, but the last few years have seen increased interest in farm practices. One of the dairy industry's core strengths is the very positive view that many people have about dairy farming. Many consumers believe that cows spend their days grazing green pastures. This strength can also be regarded as a threat if some industry practices no longer match evolving public expectations. Every year there are fewer farms, and the ever decreasing proportion of society that works within this industry will never be able to 'educate' the large majority, at least not on all issues, all of the time. Moreover, the farmers themselves are part of this rapidly evolving society, and practices that were accepted by past generations as necessary may not seem so to the next generation of producers. Change will happen. During my presentation I will highlight some of our most recent work on engaging dairy farmers and the public as a means to help identify practices that do and do not come into harmony with public expectations.

Key words: dairy, animal welfare, tail docking, disbudding

Résumé

Le bien-être animal est en train de devenir l'une des principales préoccupations sociales concernant l'agriculture animale. Préoccupation pour le bien-être des animaux des fermes n'est pas nouveau, mais les dernières années ont vu un intérêt accru dans les pratiques agricoles. L'un des principaux points forts de l'industrie laitière est le point de vue très positif que beaucoup de gens ont à propos de l'élevage laitier. De nombreux consommateurs croient que les vaches passent leurs journées à brouter les pâturages verts. Cette force peut aussi être considéré comme une menace si certaines pratiques de l'industrie ne correspondent plus à l'évolution des attentes du public. Chaque année, il y a moins de fermes, et de moins en moins la proportion de la société qui travaille au sein de cette industrie ne pourra jamais en mesure d' 'éduquer' la grande majorité, du moins pas sur tout, tout le temps. En outre, les agriculteurs eux-mêmes font partie de ce monde qui évolue rapidement, et les pratiques qui ont été acceptés par les générations passées que nécessaire peut ne pas sembler si à la prochaine génération de producteurs. Des changements se produiront. Au cours de mon exposé, je vais présenter certains de nos travaux les plus récents sur

l'engagement des producteurs laitiers et le public comme un moyen d'aider à déterminer les pratiques qui font et n'entrent pas en harmonie avec les attentes du public.

Introduction

Questions concerning the sustainability of food-animal producing industries have become the focus of intense public debate by social critics, animal advocates, and scientists. Specific concerns about the welfare of dairy cattle is nothing new; producers and veterinarians have always been concerned about the condition of animals in their care and have tried to ensure that they are healthy and well nourished.²⁷ In the tradition of good animal husbandry, good welfare can be seen largely as maintaining high levels of production and the absence illness or injury. However, recent interest in farm animal welfare stems more from concerns about pain or distress that the animals might experience, and concerns that animals are kept under "unnatural" conditions, with limited space and often a limited ability to engage in social interactions and other natural behaviors.

In addition to the tremendous increase in scientific research on the welfare of cattle, some new work has begun to investigate stakeholder views on dairy farming and practices common in the dairy industry.³¹ An objective of the current paper is to summarize some of our recent work on stakeholder views. We focus on four common management practices (tail docking, pain mitigation for disbudding/dehorning, access to pasture and cow calf separation) and describe how research in the natural sciences and social sciences can be integrated to identify more sustainable practices.

Farm Animal Welfare

For the purposes of this paper we have adopted the three part definition of animal welfare proposed by Fraser et al⁷ and adapted for dairy cattle by von Keyserlingk et al²⁷: 1) animals should exhibit good physical health and biological functioning; 2) animals should have the ability to live reasonably natural lives including the ability to perform natural behaviours that are important to them; and 3) animals should experience minimal negative psychological states and the presence of at least some positive psychological states. These different types of concerns can and do overlap. For instance, a lactating dairy cow unable to seek shade on a hot day (natural living) will likely feel uncomfortably hot (affective state) and may show signs of hyperthermia, and ultimately reduced milk production (poor biological functioning).²⁷

These three key concepts of animal welfare have been included in official definitions such as the World Organization for Animal Health which defines an animal as being in good welfare if it is “*healthy, comfortable, well nourished, safe, able to express innate behavior, and it is not suffering from unpleasant states such as pain, fear, and distress*”.¹⁴

Agriculture Sustainability

Definitions of sustainability frequently include three pillars, economic, environment and social, which should be weighted equally.²⁸ Traditionally academics working in agriculture, and farmers and others working in food animal production systems, have placed greater emphasis the economic pillar.^{6,20} More recently sustainability discussions on animal agriculture have focused on the environmental concerns resulting in this aspect receiving much attention. For example, debates frequently discuss the role that food-animal production plays in competition for natural resources (i.e., water, land, and energy) and how to mitigate any negative effects of food animal agriculture on the environment.²² The fact that the social pillar has received the least amount of attention may be a consequence of it having an aspect of human values,²¹ and because it is difficult to quantify using traditional natural science based metrics. Furthermore, values are influenced by cultural norms within societies.² Despite these difficulties there is a growing recognition that the social pillar is an important component of sustainability.²⁸ This may be particularly true for production that takes place in intensive housing systems that are the subject of increased societal criticism.²²

Animal welfare is an important social concern and, as such, needs to be integrated into the concept of sustainable agriculture, rather than made to ‘compete’ with environmental goals⁸ and economic goals.²⁹ To achieve this we argue that those not directly involved in farming must be accepted as credible stakeholders in the discussions on the way farm animals are cared for.

Stakeholder engagement on contentious practices in dairy industry

Our perspective is that rather than focusing efforts on one-way efforts to ‘educate’ the public, we should instead develop methods of facilitating constructive, informed engagement among the stakeholders. We suggest that this approach will likely to be more effective in identifying shared concerns and potential solutions likely to find general appeal.

At The University of British Columbia (UBC) we have been using web-based platforms to provide opportunities for people within the dairy industry to discuss dairy management practices with each other and with members of the public interested in these issues. For example, UBC’s Cow Views site provided the opportunity for people to state their views, and also vote on the views of others. The idea was to get people discussing uncomfortable issues in dairy farming. Our aim was to use these discussions to provide farmers and

the industry a better basis for making informed decisions about management on farms and policy for the industry.

For each issue, participants were given a brief background of the perceived advantages and disadvantages associated with each practice (see tail docking for example). They were then asked to vote on whether or not the practice should continue or not. We recruited participants into multiple virtual ‘town hall’ meetings, such that participants could see each other’s responses, but participants in one meeting could not see the reasons discussed in other meetings. In this way each meeting provides an independent test of how this type of discussion unfolds. Also, an especially persuasive reason can only influence the votes within a single town hall meeting.

Our intention was not to collect a random or representative sample of any specific population, but rather to include a diverse range of participants to increase our chances of achieving saturation in views. The forum was made available on the Internet so anyone with Internet access could participate. To encourage participation of people in the North American dairy industry, we published brief articles in producer magazines (*Progressive Dairyman* and *Ontario Farmer*) that invited readers to participate. For the broader public samples we recruited online via Mechanical Turk.³ Several studies have assessed this tool and concluded that this approach results in high-quality and reliable data^{3,17,18} that is more representative than many other samples.^{9,18}

To provide context, for each of the specific issues we have summarized below we also state the current position in Canada’s Code of Practice and the United States National Federation of Milk Producers based Farmers for the Assurance of Responsible Practice, and where relevant have described policy in other parts of the world.

Should we continue docking the tails of dairy cattle?

The responses to this question are fully described in Weary et al.³⁰

Briefly, 178 participants were provided the following context:

“Tail docking dairy cattle first became common in New Zealand where workers thought this could reduce their risk of diseases like leptospirosis that can be carried by cows. Some milkers also preferred working with docked cows because the shortened tail was less likely to hit them in the parlor. Some people also felt that docking improved cow cleanliness, and cleaner cows should be exposed to fewer pathogens and have improved udder health.

There may also be disadvantages associated with docking. For some, at least, there is a ‘yuk’ factor of seeing cows without their tails. Docking might also cause pain, and prevents cows from using their natural fly-swatter. For these reasons several European countries including Norway, Sweden, the Netherlands, the United Kingdom,

and Switzerland have prohibited tail docking of dairy cattle.

More recently, Canada's new Code of Practice for the Care and Handling of Dairy Cattle states that dairy cattle "must not be tail docked".

In the United States, about 40% of dairy cows have docked tails."

Participants were then asked, "Should we continue docking the tails of dairy cattle?"

Approximately 79% of participants were opposed to docking (i.e., responded "No" to the question). Responses varied with participant demographics (e.g. females were more likely than males to oppose docking), but in every demographic sub-group (e.g., by gender, age, country of origin and dairy production experience) the majority of respondents were opposed to tail docking. Common reasons for opposition to docking included the lack of scientific evidence that docking improves cleanliness or udder health, that docking is painful for cows, that docking is unnatural and that tails are important for controlling flies. Some respondents in favour of docking cited cow cleanliness as an issue, despite the scientific evidence showing no positive effect of docking on cow cleanliness or udder health. Additional reasons included protecting producer safety.

These results illustrate the range of reasons that are cited for supporting and opposing tail docking. This approach can be used to better target outreach efforts (e.g. improving farmer education on the lack of positive effects of docking on cleanliness and udder health while addressing concerns about producer safety).

Given the extent of public opposition to this practice it is not surprising that in some countries tail docking has been banned, including Norway, Sweden, the Netherlands, the United Kingdom and Switzerland. This has also likely motivated corporations to take a stand on this issue as part of their corporate social responsibility practices. For example, Nestlé, the world's largest food company, has announced their objection to tail docking.

In Canada, dairy producers have taken a clear position on this issue. Our Code of Practice for the Care and Handling of Dairy Cattle has a *requirement* that cows "must not be tail docked unless medically necessary." This is also the position of the Canadian Veterinarian Association and the American Association of Bovine Practitioners. Most recently the National Federation of Milk Producers in the US announced that members of their assurance program will be prohibited from tail docking their cows effective January 1, 2017.

Should we provide pain relief for disbudding and dehorning dairy calves?

The responses to this question are fully described in Robbins et al.¹⁶

For this issue participants were provided the following context:

"The developing horns of dairy calves are typically removed to reduce the risk of injuries to farm workers or other cattle that can be caused by horned cattle. Horns of calves three months of age or older are normally removed surgically ("dehorning") by scooping, shearing or sawing. Horn buds of younger calves are typically removed ("disbudding") using a caustic paste or a hot iron.

There is considerable scientific evidence that all of these procedures cause pain. The immediate pain can be reduced using a local anesthetic to provide a nerve block – this procedure has been used safely for decades and costs just pennies a shot. Pain can persist 24 hours or more; this longer lasting pain can be reduced using non-steroidal anti-inflammatory drugs (like the ibuprofen you take for a headache). Providing calves a sedative before the procedure can reduce handling stress and make the procedure easier to carry out.

In many countries some pain relief is required. For example, Canada's new Code of Practice for the Care and Handling of Dairy Cattle requires that pain control be used. Approximately 18% of dairy farms in the United States report using pain relieving drugs for disbudding or dehorning dairy calves."

Participants then answered the question "Should we provide pain relief for disbudding and dehorning dairy calves?"

Participant composition was as follows: dairy producer or other farm worker (10%); veterinarian or other professional working with the dairy industry (7%); student, teacher or researcher (16%); animal advocate (9%) and no involvement with the dairy industry (57%).

Of 354 participants, 90% thought pain relief should be provided when disbudding and dehorning. This support was consistent across all demographic categories suggesting the industry practice of disbudding and dehorning without pain control is not consistent with normative beliefs. The most common themes in participants' comments were: pain intensity and duration, concerns about drug use, cost, ease and practicality and availability of alternatives.

These results show a clear disconnect between current practice (with many farmers failing to provide pain control) and the attitudes of participants (including dairy producers) in these virtual town hall meetings. Causing pain to animals under our care, especially when this pain can easily be prevented, no longer seems acceptable. Our challenge is to find ways of getting pain control techniques applied widely on dairy farms.

In Canada, dairy producers have also taken a clear position on this issue. The Code of Practice for the Care and Handling of Dairy Cattle requires that "Pain control must be used when dehorning or disbudding." In many countries (i.e., Sweden, Denmark, Netherlands, New Zealand, and Australia) pain control for disbudding and dehorning is a

legal requirement.^{1,11,15} The US based FARM program states the following: “Pain mitigation is provided for disbudding or dehorning in accordance with the recommendations of your herd veterinarian.” Initially concerns were raised whether these industry led initiatives would be sufficient to maintain consensus amongst all stakeholders in the long run, given that they would require voluntary compliance by all farmers.²⁹ However, recent developments such as the Saputo Inc. (milk processing company) policy on Animal Welfare (June 2015) that states (among other things) that “The use of pain control when dehorning or disbudding cattle must become a minimum industry standard” suggests that compliance on certain animal welfare standards will be mandatory.

Should dairy cows be provided access to pasture?

The responses to this question are fully described in Schuppli et al.¹⁹

For this issue participants were provided the following context:

“On many dairy farms cows are always kept indoors. Some dairy farmers believe that well-designed indoor housing provides a more comfortable and more suitable environment for the cows. In addition, some farmers keep cows indoors to more easily provide and control diets formulated to sustain high milk production.

Others consider pasture access to be important. For example, some believe that grazing is more environmentally sustainable, that pasture provides a healthier and more comfortable environment for cows, and that grazing is a natural behaviour important for cows.”

Participants then answered the question “Should dairy cows be provided access to pasture?”

A total of 414 people participated. Providing access to more natural living conditions, including pasture, was viewed as important for the large majority of participants, including those affiliated with the dairy industry. This finding is at odds with current practice on the majority of farms in the United States where less than 5% of lactating dairy cows have routine access to pasture.²³ To our knowledge there is no research indicating about how many lactating cows in Canada have routine access to pasture.

Participant comments showed that the perceived value of pasture access for dairy cattle went beyond the benefits of eating grass; participants cited as benefits exposure to fresh air, ability to move freely, ability to live in social groups, improved health, and healthier milk products. To accommodate the challenges of allowing pasture access on farms, some participants argued in favor of hybrid systems that provide a mixture of indoor confinement housing and grazing.

Despite the public indicating that access to pasture is important,⁴ the Canadian Code of Practice and the US based FARM program are largely silent on this issue. For instance

the Canadian Code of Practice recommending only “for bedded-pack or composted-pack barns, provide access to pasture or an exercise.” In contrast, Sweden requires that cows be given pasture access during summer months.¹⁰

The National Federation of Milk Producers FARM program essentially stays silent on this issue of pasture access for dairy cattle. The fact that the majority of cows in Canada and the United States are not routinely provided pasture access²³ is an issue that is receiving increased public attention.⁴ We speculate that external stakeholders, and in particular the public, will become increasingly unwilling to accept this practice.

Should dairy calves be separated from the cow within the first few hours after birth?

The responses to this question are fully described in Ventura et al.²⁶

For this issue 195 participants were provided the following context:

“Dairy farmers often remove the calf from within the first few hours of birth. This is done in response to several concerns including the following: the calf may become infected from pathogens carried by the cow or her environment; the calf may become injured by the cow or the barn equipment; the calf will not be able to nurse from the cow and receive adequate colostrum (first milk produced by the cow after birth) and milk; the calf will drink too much milk which increases the farmer’s cost of feeding and increases the risk of diarrhea; allowing the cow and calf to bond will result in greater separation distress when separation does occur; farms are often not well designed for cow-calf pairs, so keeping cows and calves together can be considered an extra chore. Others consider that some form of cow-calf contact is an important element of natural behavior, and believe that this contact is beneficial to the cow and calf. On these farms the cow and calf are kept together for days or even weeks after birth.”

Participants then answered the question “Should dairy calves be separated from the cow within the first few hours after birth?”

Opponents of early separation contended that it is emotionally stressful for the calf and cow, it compromises calf and cow health, it is unnatural, and the industry can and should accommodate cow-calf pairs. In contrast, supporters of early separation reasoned that emotional distress is minimized by separating before bonds develop, that it promotes calf and cow health, and that the industry is limited in its ability to accommodate cow-calf pairs. Opponents of separating calves from their cows in the first few hours after birth often based their views on the emotional experiences of cows and calves. They compared the bond of a cow and her calf to the bond between mother and offspring in other species.

A major theme raised by proponents was that separation was inevitable, and that early separation was easier on the cow and calf than separation at a later age. There is considerable scientific evidence in support of this claim. Separating calves at an older age results in a much stronger response (high rates of vocalization and other activities) in comparison with calves separated soon after birth.⁵ Some respondents also believed that early separation minimized disease transmission from the cow. We are aware of little evidence to support this link.

The Canadian Dairy Code of Practice¹² states the following:

“Generally, dairy calves are separated from their mothers shortly after birth. There are benefits to both calf and dam by allowing the pair to bond. Allowing the calf to spend a longer period of time with the dam may result in lowered morbidity and mortality in the calf; however, separation stress to both the cow and calf will be higher the longer they are together. Cow health is generally improved by allowing the calf to suckle (related to oxytocin effects on the post partum uterus).”

Based on this summary of information the Code provides the following recommended best practice – “*reduce separation distress by either removing the calf shortly after birth or by using a two-step weaning process.*”

The National Federation of Milk Producers FARM program¹³ has elected to remain silent on the issue of cow calf separation.

The fact that cows and calves are routinely separated at birth is an issue that the public is largely unaware of,²⁴ perhaps explaining why this issue has received little attention within non-dairy audiences. However, we speculate that external stakeholders will become increasingly unwilling to accept this practice.

Conclusions

The examples illustrated in this paper show how social science methodologies can document the shared and divergent values of different stakeholders, the associated beliefs regarding the available evidence, and the barriers in implementing changes. In some cases we documented shared values amongst the majority of stakeholders (e.g. that dehorning causes pain), but we also found important disconnects between current dairy production methods and widely held public values. Understanding the attitudes of people affiliated and unaffiliated with the dairy industry allows for the identification of contentious topics as well as areas of agreement; this is important in efforts to better harmonize industry practices with societal expectations.

We have also identified where the Code of Practice on the Care and Handling of Dairy Cattle and the National Federation of Milk Producers FARM program align with stakeholder expectations and where gaps exist. We encourage the dairy industry to work to overcome these gaps.

Endnotes

^aMechanical Turk, MTurk, www.mturk.com

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ADVERSE REACTIONS: No adverse reactions were observed during clinical trials.

ANIMAL SAFETY:

In cattle safety studies, clinical signs of depression, incoordination and muscle fasciculation were observed in calves when doses of 15 or 25 mg/kg were administered for 10 to 15 days. Clinical signs of depression, inappetence and incoordination were observed when a dose of 50 mg/kg was administered for 3 days. An injection site study conducted in feeder calves demonstrated that the formulation may induce a transient reaction in the subcutaneous tissue and underlying muscle. In swine safety studies, incidental lameness of short duration was observed in all groups, including the saline-treated controls.

Musculoskeletal stiffness was observed following the 15 and 25 mg/kg treatments with clinical signs appearing during the second week of treatment. Clinical signs of lameness improved after treatment ceased and most animals were clinically normal at necropsy. An injection site study conducted in pigs demonstrated that the formulation may induce a transient reaction in the subcutaneous tissue.

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