Attitudes to Contentious Practices in Dairy Farming

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Take Home Messages

- Public interest in the welfare of farm animals is on the rise, but the dairy industry possesses few mechanisms to discuss contentious issues.
- UBC's *Cow Views* web site has created virtual town hall meetings that allow producers, industry experts and the public to discuss controversial issues pertaining to dairy production.
- Cow Views was not designed to provide representative estimates, so these results should not be used to make population-wide inferences about support or opposition to the various practices. Rather, our approach provides a mechanism that enables different perspectives to surface regarding contentious practices in dairy farming.
- The majority of participants on *Cow Views* (including producers, veterinarians and people outside the industry) argued that tail docking should not continue and that pain mitigation should be required for dehorning calves. Most participants were also in favor of providing cows access to pasture, although others identified challenges associated with providing pasture access on some dairy farms. There was less evidence of consensus on the issue of early separation of the cow from her calf.
- Open discussion of contentious issues among farmers, industry professionals and the general public is an important step in the development of practices that better meet public expectations.

Introduction

Animal welfare is emerging as one of the key social concerns regarding animal agriculture. Animal welfare focuses on three main concepts: how the animal's body is functioning, how the animal feels (the animal's affective

state), and if the animal lives a natural life (von Keyserlingk et al., 2009). Concerns about animal welfare, as translated through political action and commercial pressure, are rapidly changing the way in which animal agriculture works. For example, the European Union is phasing out standard battery cages for laying hens in 2012. In 2001, McDonald's, Wendy's and Burger King developed animal welfare standards that their suppliers would be required to meet. By the end of the same year the United States National Council of Chain Restaurants and the Food Marketing Institute (representing about 80% of all chain restaurants and food retail companies in the United States) agreed to co-develop voluntary animal welfare standards that have now become part of a third-party auditing program. The World Organization for Animal Health passed a resolution in 2002 that would see the organization develop international animal welfare standards. Such standards could be the basis of future trade restrictions affecting the dairy industry.

One of the dairy industry's core strengths is the very positive view that many people have about dairy farming including the 'wholesomeness' of milk and the way it is produced. However, the good relationship between the dairy industry and consumers can erode if industry practices do not keep in step with evolving public expectations. One approach to maintaining public trust has been to 'educate the public' through efforts by the industry to let the public know about on-farm practices and why these are performed. Although this approach may seem attractive ("as long as we tell consumers what we do and why we do it, then consumers will support us"), we suggest that this way of thinking is naïve and unlikely to resolve recent growing concerns about food animal welfare. Various factors may strain this approach. Views of consumers and society are changing and a larger number of urban consumers no longer have contact with agriculture. Consumers may no longer be willing to allow the industry to set its own standards with regards to how they raise their animals. Every year there are fewer dairy farms, and the ever decreasing proportion of society that works within this industry will never be able to able to 'educate' the large majority, at least not on all issues, all of the time. Moreover, famers themselves are part of our evolving society; practices that were accepted as necessary for grandpa may not seem so acceptable to the next generation of producers.

The dairy industry is often shielded from direct contact with the public, likely preventing constructive dialogue. Milk is rarely sold directly by dairy farmers to consumers -- for most producers the milk processor is seen as the 'client'. In addition, dairy scientists, veterinarians and other dairy professionals may sometimes feel that their job is to insulate the industry from public criticism, and in doing so further eroding open discussion with the broader society that we serve.

We have reasons to be proud of our industry, but this pride can translate into complacency. If we do nothing, it is unlikely that public interest in dairy welfare

will go away. Rather, this public interest will turn to other avenues for expression and sources of information. Public concern can find expression in the political arena or consumer choice. For example, many years of relative neglect by industry of animal welfare issues was likely one of the reasons why California's Proposition 2 became law; voters demanded changes when they became aware of farm practices they considered unreasonable. This 2008 ballot initiative, passed with 63.4% of the vote and enacted as California's Prevention of Farm Animal Cruelty Act, prohibits the confinement of veal calves, laying hens and swine for the majority of every day in a manner that does not allow them to turn around freely, lie down, stand up, and fully extend their limbs.

Imposed regulatory and commercial initiatives can cause considerable upheaval for farmers; for example, new legal and corporate guidelines require that farmers abandon existing infrastructure such as stalls for gestating sows, forcing some producers out of business. Political and commercial initiatives can also push 'solutions' in absence of firm scientific evidence or the development of feasible practices. For example, the move from gestation stalls to loose housing for sows provides welfare benefits (more freedom of movement), but without the right management can also result in high rates of aggression and competition for feed.

Change will happen. We may avoid some controversy in the short term by keeping the public unaware of common practice, but without engaging the public we provide no path for industry practices to harmonize with public expectations. The choice is to act proactively, engaging with the public and together developing reasonable solutions to legitimate concerns, or to have others impose their 'solutions' and accept the disruption that this causes. We suggest that by acting proactively, the industry may maintain societal support and thus more control over changes that occur.

Our dairy industry needs to build mechanisms for sustained engagement between and among producers, consumers and the general public. Engagement means more than advertisement of an entrenched position – it will involve conversations in which the dairy industry listens carefully to the views of citizens in the broader society, and is prepared to make changes to accommodate public expectations. This approach will benefit the longer-term sustainability of the industry, by helping to ensure that consumers have confidence in dairy production methods, and that the practices of dairy farmers fit well with the values of our broader society.

Researchers at The University of British Columbia (UBC) have been using web-based virtual "town hall" meetings to provide opportunities for people in the dairy industry to discuss hot topics with each other and with members of the public interested in these issues. UBC's Cow Views site provides the opportunity for people to state their views, and also vote on the views of

others. The idea is to provide a forum for people to discuss contentious and sometimes uncomfortable issues in dairy farming. Our aim is to use these discussions to provide farmers and the industry a basis for making more informed decisions about management on farms and policy for the industry.

Cow Views

UBC's "Your Views" web site (www.yourviews.ubc.ca) was created to engage people on ethical issues regarding science and technology (Ahmad et al., 2006). The "Cow Views" section focuses on animal welfare topics related to dairy production. We used the N-Reasons platform (Danielson, 2009), designed to improve public participation in ethically significant social decisions. This allows collection of responses to close-ended questions (Yes, No and Neutral) and open-ended comments (the participant's reasons for their choice). This approach allows participants to see reasons put forward by other participants, creating a type of virtual town-hall meeting. Overall the approach allows inclusive and reason-based participation.

As people joined the discussion they were assigned into groups (virtual town hall meetings) of a maximum of 50 participants. Each participant was presented some background information and then asked a question. They were given the option of choosing a response in the form of "Yes because…", "No because…" or "Neutral because…". They could explain their choice by providing a reason or they could select one or more of the responses left by previous participants. Participants were allowed to select more than one reason to allow a more complete understanding of their views.

Within each group participants could see each other's responses, but participants in one group could not see the reasons discussed in other groups; in this way each group provided an independent test of how this type of discussion unfolds. Also, an especially persuasive reason could only influence the votes within a single group.

To help characterize participants, they were asked to provide basic demographic information including gender, age and country of origin. Participants were also asked: "What best describes your involvement with dairy production?" Choices included: "No involvement", "Dairy Farm Owner, Operator or Worker", "Student/Teacher", "Veterinarian", "Dairy Industry Professional (e.g. nutritionist), or Animal Advocate".

Cow Views is an ongoing initiative, and we continue to add new topics for discussion. Below we describe responses to 4 questions we have recently addressed: 1) Should we continue docking the tails of dairy cattle; 2) Should we provide pain relief for disbudding and dehorning dairy calves; 3) Should dairy calves be separated from the cow within the first few hours after birth;

and 4) Should dairy cows be provided access to pasture? We focus especially on the first question as our analysis of this data is most complete. In addition we summarize preliminary results for questions 2, 3 and 4.

Tail Docking

The responses to this question are fully described in Weary et al. (2011).

Briefly, participants were given the following background:

"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?"*

A total of 178 people responded in four separate discussion groups; 30% were producers, 23% were veterinarians, 25% had no experience with the dairy industry and 22% included a mixture of teachers, students and industry professionals.

Approximately 79% of participants were opposed to docking (i.e. responded "No" to the question); the majority responded "No" in each of the 4 discussion groups. 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 (Table 1).

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.

Table 1. Responses to the question "Should we continue docking the tails of dairy cattle?" We show the top 3 "No" reasons (ranked 1, 2 and 3 in popularity of the 55 reasons provided) and top 3 "Yes" reasons (ranked 7, 10 and 15 of the 55) provided by participants (n = 178). Respondents could select more than one reason; these votes were weighted such that each individual contributed a total of only 1 vote. (*Adapted from Weary et al., 2011).*

Rank	Votes	Reason
		No because ..
1	20.2	"the best data we have indicate that it is of no benefit to the cow or milk quality, may be detrimental to the cow due to inability to swish flies away or engage in visual communication with another cow, and is at least moderately painful under the best of conditions"
2	16	"by trimming the tails it keeps things clean - so you don't need to cut off the whole tail! We trim the tail in the parlour"
3	14	"it is not necessary, cows can't swat away flies, and the cows are no cleaner than those with tails. It is a horrible practice"
		Yes because..
7	8.1	"on some farms it is an effective way to keep cows clean and prevent them from splashing manure everywhere. There are ways to properly dock tails to minimize pain and discomfort. It should not be legislated.....it is up to the owner of the animal"
10	5.7	"cattle in tie stall and free stalls tend to have their tail lying in urine and manure, thus swishing urine and manure all over themselves and their stable mates. Now picture this, you have to go wash udders and attach milkers all while tails are swishing back and forth"
15	10	"it keeps the cows clean and makes milking more pleasant"

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).

Pain Relief for Dehorning and Disbudding

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 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?*"

More than 200 people participated in 5 different groups on this topic. The majority (86%) responded "Yes"; 7% "Neutral" and 7% "No". Within each group the majority of participants (from 82% to 90%) indicated that pain control should be required (i.e. chose "Yes"). Responses did vary with participant demographics, for example, 64% of producers chose "Yes" versus 90% of veterinarians. However, across all demographic categories the majority argued that pain control should be required. These results show a clear disconnect between current practice (with many famers failing to provide pain control; e.g. NAHMS, 2007; pg. 79) 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 now is to find ways of getting pain control techniques applied widely on dairy farms.

Cow Calf Separation

For this issue participants were provided the following context:

"Dairy farmers often remove the calf from the cow 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 diarrhoea; 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 were then asked "*Should dairy calves be separated from the cow within the first few hours after birth?*"

One-hundred sixty people participated in four separate groups. Approximately 44% of these participants favored early separation (i.e. chose "Yes") and 48% were opposed; 9% chose "neutral". Responses varied with participant demographics. For example, participants with no involvement with dairy showed less support (14%) for early separation than did veterinarians (100%), students and teachers (63%) and farmers (61%).

Opponents of separating cows from their calves in the first few hours after birth often based their opposition on concern for the emotional experiences of cow and calf. They compared the bond of a cow and her calf to the bond between mother and offspring in other species. Concerns were also raised about a reduction in health of the calf and cow. There is evidence for a link between extended suckling and improved cow health; for example, suckling can reduce the amount of residual milk left in the udder and thus reduce the incidence and duration of mastitis in dairy cows (Krohn et al., 1999).

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. For example, separating calves at an older age results in a much stronger stress response (high rates of vocalization and other activities) in comparison with calves separated soon after birth (Flower et al., 2003). Some respondents also believed that early separation minimized disease transmission from the cow, and there is scientific evidence to support this link (Marcé et al., 2011).

Access to Pasture

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 behavior important for cows.

Participants then answered the question "*Should dairy cows be provided access to pasture?*"

A total of 178 people participated in 5 different groups. Across all groups the majority of participants (73%) chose "Yes", 24% chose "Neutral" and 3% chose "No". The number of "Neutral" responses (groups ranged from 6% to 36%) was much higher than that for responses to the other questions. Responses varied with participant demographics. For example, 89% of producers voted "Yes" in comparison with 23% of veterinarians. This difference was largely the result of many veterinarians choosing "Neutral". Many respondents who chose "Neutral" commented that they considered pasture access desirable from the cow's perspective but increasingly difficult to achieve on some farms. Concerns included the potential environmental impact of pasture access, lack of available land and reduced milk production.

Only a small percentage of respondents (3%) felt that cows should not be provided access to pasture. These results highlight another disconnect between the attitudes of these respondents and practice on many dairy farms that use zero grazing.

■ Conclusion

One advantage of our approach is that we were able to create separate discussion groups (mini town hall meetings – each with about 50 participants) and in this way we were able to assess the among-group consistency in responses. Groups did differ in the overall support or opposition to the practices, perhaps reflecting differences in participant demographics, but groups were remarkably consistent in their overall responses. For example, all groups within the tail-docking survey were opposed to tail docking. One reason why different groups may have come to similar conclusions is that they were all provided the same background statement. However, many

participants (including dairy farmers, veterinarians, etc.) had expert knowledge and may have been less swayed by any background we provided. One reason we doubt that the background was highly influential is that many of the reasons that participants put forward were not mentioned in the background statement.

The various reasons that participants expressed show why individuals support or oppose specific practices. For example, one commonly cited reason for opposing docking was that scientific evidence does not show a link to cow cleanliness or udder health. This reasoning is in line with current research; there is a body of scientific evidence showing no positive effect of docking on cow cleanliness and udder health (for review see Sutherland and Tucker, 2011). Docked cows show no improvement in udder cleanliness or udder health relative to docked cows (Tucker et al., 2001; Eicher et al., 2001, Schreiner and Ruegg, 2002; Fulwider et al., 2008). Results from the National Animal Health Monitoring Survey (NAHMS) survey indicate that farms that dock tails actually have dirtier cows than do farms that keep tails intact (Lombard et al., 2010). It is unlikely that the docking is contributing to poorer cow hygiene, but farms with poor cow cleanliness may be using docking as an ineffective way to improve cleanliness.

Given the evidence cited above, it is surprising that proponents of docking continue to cite improved cow cleanliness and udder health as reasons for docking. This misconception is likely due to the misguided outreach efforts of some dairy professionals (e.g. Johnson, 1992) who believed docking would improve cleanliness and udder health. This example illustrates the importance of using science to properly evaluate procedures used on farms; our assumptions about the efficacy of common procedures may be wrong, and promoting practices that are not evidence-based can cause much harm.

More generally, these results illustrate the value of creating opportunities for open discussion of contentious issues among farmers, industry professionals and the general public. We suggest that that this type of reasoned discussion will allow the dairy industry to better identify key threats and opportunities, and allow for the development of practices that better meet the expectations of producers and the general public.

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References

Ahmad, R., J. Bailey, G. Bornik, P. Danielson, H. Dowlatabadi, E. Levy, and H. Longstaff. 2006. A web-based instrument to model social norms: NERD design and results. Integr. Assess. Bridg. Sci. Policy 6:9–36.

Danielson, P. A. 2010. Designing a machine to learn about the ethics of robotics: the N-Reasons platform. Ethics Info. Tech. 12:251-261.

Eicher, S. D., J. L. Morrow-Tesch, J. L. Albright, and R. E. Williams. 2001. Tail-docking alters fly numbers, fly-avoidance behaviors, and cleanliness, but not physiological measures. J. Dairy Sci. 84:1822-1828.

Flower, F., and D. M. Weary. 2003. The effects of early separation of the dairy cow and calf. Anim. Welfare 12: 339-348.

Fulwider, W. K., T. Grandin, B. E. Rollin, T. E. Engle, N. L. Dalsted, and W. D. Lamm. 2008. Survey of dairy management practices on one hundred thirteen North Central and Northeastern United States dairies. J. Dairy Sci. 91: 1686-1692.

Johnson, A. P. 1992. Mastitis control without a slap in the face. Page 146 in Proc. 24th Annu. Conv. Am. Assoc. Bov. Pract. 1991, Orlando, FL.

Krohn, C., J. Foldager, and L. Mogensen. 1999. Long-term effect of colostrum feeding methods on behavior in female dairy calves. Acta Agriculturae Scandinavica (Section A — Animal Science) 49: 57-64.

Lombard, J. E., C. B. Tucker, M. A. G. von Keyserlingk, C. A. Kopral, and D. M. Weary. 2010. Associations between cow hygiene, hock injuries, and free stall usage on US dairy farms. J. Dairy Sci. 93: 4668–4676.

Marcé, C., P. Ezannoa**,** H. Seegersa, D. U. Pfeiffer, and C. Fourichona. 2011. Within-herd contact structure and transmission of *Mycobacterium avium* subspecies *paratuberculosis* in a persistently infected dairy cattle herd. Preventative Vet. Med. 100: 116-125.

National Animal Health Monitoring System (NAHMS). 2007. Dairy 2007 Part IV: Reference of dairy cattle health and management practices in the United States, 2007. USDA: Animal and Plant Health Inspection Service (APHIS), Fort Collins, CO

Schreiner, D. A., and P. L. Ruegg. 2002. Effects of tail docking on milk quality and cow cleanliness. J. Dairy Sci. 85: 2503-251.

Sutherland, M. A., and C. B. Tucker. 2011. The long and short of it: a review of tail docking in farm animals. Appl. Anim. Behav. Sci. 135:179–191.

Tucker, C. B., D. Fraser, and D. M. Weary. 2001. Tail docking dairy cattle: Effects on cow cleanliness and udder health. J. Dairy Sci. 84: 84-87.

von Keyserlingk, M. A. G., J. Rushen, A. M. de Passillé, and D. M. Weary. 2009. Invited Review: The welfare of dairy cattle – key concepts and the role of science. J. Dairy Sci. 92: 4101-4112.

Weary, D. M. C. Schuppli, and M. A. G. von Keyserlingk. 2011. Tail docking: Reponses from an on-line engagement. J. Anim. Sci. 89:3831–3837.