

Breakfast on the farm: farm tour impacts on public perceptions of dairy cow welfare and sustainability

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Abstract

The need to better understand societal expectations for sustainable dairy farming is critical if the sector is to fulfil and maintain its social licence to produce. Concurrently, as the livestock sectors seek to engage with the public about practices, it is important to clarify the impact of different communication approaches. We used mixed-method surveys to document how farmer-guided farm tours impacted visitors' perceptions of the Canadian dairy industry, with a secondary aim to assess whether outcomes are affected by tour delivery style (one-way education vs. a more open approach focused on inviting questions and discussion). Farmers trained in one of two styles ($n=30$, half in each) gave farm tours on 3 commercial dairy farms (Alberta, Canada) during 'Breakfast on the Farm' events in June 2022, with visitors ($n=301$) completing pre- and post-tour surveys about their perceptions of cow welfare and environmental stewardship. Of these, 138 also returned a two-week follow-up survey. Preliminary analysis has focused on descriptive summaries, with qualitative data processed via thematic analysis. Directly after the farm tours, almost half of participants reported more positive perceptions of cow welfare, whereas under 10% reported downward shifts in welfare perceptions. However, two weeks later nearly one third had reverted to more negative welfare perceptions, with concerns focused on cow-calf separation and lack of outdoor access. Similar trends were observed with environment perceptions, with concerns focused on emissions. Tour style did not have a clear impact on perception outcomes, which may be due to the challenges imposed by attempting dialogues during a walking farm tour. This study highlights the need to understand how, why, and what influences perceptions beyond the farm tour, as well as best practice for facilitating lasting engagement.

Study context

As most Canadians are at least 2 generations removed from farming (Rotz, 2018), it is not surprising that a disconnect exists between societal values and practices commonly employed in the Canadian dairy industry. One example is the relatively low use of pasture access for lactating cows on Canadian dairy farms (i.e., approx. 29% of Canadian dairy farms; Smid *et al.*, 2023), a situation which conflicts with public preferences for more naturalistic housing of dairy cows in Canada (Schuppli *et al.*, 2014; Ventura *et al.*, 2016) and throughout much of the world (e.g., The Netherlands: Boogaard *et al.*, 2008; United States: Cardoso *et al.*, 2016; Brazil: Cardoso *et al.*, 2019; Hötzel *et al.*, 2017; United Kingdom: Jackson, 2020). Conflicting views between society and industry on what constitutes a good dairy farm present challenges for the future resilience of the dairy industry (Jackson, 2020).

Amongst a segment of those working within the livestock sectors is the assumption that the public is uneducated, unaware and/or misinformed on modern farming practices (reviewed by Clark *et al.*, 2016). These assumptions often lead those in the dairy industry to adopt a 'deficit model' approach: an assumption that public concerns about certain topics are due to deficits in public understanding (Hansen *et al.*, 2003). Therefore, a common response of the dairy industry in attempting to improve public perception of dairy farming is through educational efforts designed to increase public exposure

to and acceptance of why dairying is done the way it is (Ventura *et al.*, 2016), for example during open farm days with farmer-guided farm tours.

However, such efforts are challenged by the reality that increasing knowledge about a particular issue does not consistently lead to linear improvements in perception (Hansen *et al.*, 2003), as people's attitudes are shaped by factors beyond information. For example, education may fail to satisfy public concerns as the information shared may conflict with deeply held values (Hansen *et al.*, 2003), and may even result in increased polarization of views (Hart and Nisbet, 2012). For example, an earlier study by our group on this topic (Ventura *et al.*, 2016) demonstrated that amongst the studied population (largely suburban/urban residents who were attending a Slow Food sponsored event), perceptions of dairy farming became more negative for one third of the participants, despite most also coming away with improved knowledge. Segmentation of public perceptions (i.e., divergence in responses upon exposure to the same set of information) toward animal farming after virtual and in-person farm visits has been reported elsewhere (Hötzel *et al.*, 2017; Schütz *et al.*, 2022), although others have reported that educational efforts may indeed meaningfully alleviate public concerns about the topic in question (e.g., exposure to educational brochures and videos reducing concerns about antibiotic residues in milk; Redding *et al.*, 2021).

As such, the influence of educational efforts and other communication strategies on public perceptions toward contentious topics for the dairy sector (e.g. animal welfare, environment) needs to be better understood. An alternative approach to public engagement is one that rests on a genuine attempt by farmers to listen to public concerns, seek to understand the root of those concerns, and identify shared values (Buddle *et al.*, 2021; Ventura and Fjæran, 2021). Such practices may help create non-judgmental spaces for open dialogue, allowing people to interact in ways that establish trust through establishment of a shared sense of purpose (Falk and Kilpatrick, 2000). Construction of such spaces may help build better relationships between dairy farmers and the public, in turn improving the dairy sector's ability to anticipate and respond to societal concerns and maintain its social license to produce (see Bolton and von Keyserlingk, 2021). However, to our knowledge the effect of differing communication approaches during farm tours has not yet been evaluated, nor are we aware of studies evaluating whether perceptions captured immediately after a farm tour remain stable over time.

Objectives and methods

Our primary objective was to understand the effects of farmer-guided farm tours on public knowledge and perception of the Canadian dairy industry. Our secondary aim was to assess whether these outcomes might be modulated by training farmer tour guides to deliver tours using either a more traditional tour approach (where farmers deliver information to visitors via 'one-way education') or with a more open approach focused on inviting questions, identifying shared values, and exploring opportunities for conversation and discussion ('dialogue').

Farm tours and training

The "Breakfast on the Dairy Farm" events, organized annually by Canadian dairy farmers, provided the platform for this study. In brief, public visitors to the farms were treated to a complimentary breakfast before joining farmer-led tours of the farm facilities, which aimed to showcase various stages of dairy production and farm management practices. These tours, lasting between 30 minutes to an hour, were followed by leisure activities such as children's games and ice cream or cheese samplings. This study focused on three events held at different farms located in Alberta, Canada over a week in June 2022.

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In preparation for the farm events, 30 Canadian dairy farmers were recruited and trained by the research team to conduct farm tours using either a one-way educational (“A”) ($n=15$) or dialogue (“B”) ($n=15$) approach. In brief, “A” farmers were instructed to take a traditional approach wherein they followed a list of talking points and answered visitor questions as they arose, whereas “B” farmers were instructed to build rapport with visitors, asking questions and eliciting feedback with a goal to establish and identify commonalities between themselves and the public throughout the tour. Training sessions covered study objectives, tour expectations, and communication styles. “A” farmers received approximately 40 minutes of training, while “B” farmers underwent an additional hour of training involving self-reflection exercises to identify their values around several farming practices and role-playing scenarios.

Surveys

We used a pre- and post-tour mixed-method survey to document how farmer-guided farm tours impacted visitors’ knowledge and perceptions of the Canadian dairy industry. Specifically, a 7-question ‘knowledge quiz’ assessed visitors’ knowledge on basic dairy husbandry practices; perception questions aimed to assess visitors’ perceived quality of life of dairy cows and the environmental responsibility of dairy farmers. In addition, two weeks after the farm visits, links to a third and final follow-up survey were emailed to participants who provided their email addresses in the post-tour survey. Questions in this survey aimed to understand the longer-term effects of the farm tour on perceptions on dairy farming. Here, quantitative survey responses are presented descriptively; qualitative responses were processed using thematic analysis and preliminary themes are described below.

The University of Calgary Conjoint Faculties Research Ethics Board approved this study (REB22-0444). Participant quotations are shared below with anonymous identifiers in parentheses to designate different individuals.

Preliminary results

A total 301 visitors filled out both the pre- and post-tour survey; 138 of these also filled out the 2-week post-tour survey.

Knowledge

Overall, visitors’ performance scores on a knowledge ‘quiz’ about dairy farming increased by 30% immediately after the farm tour, regardless of communication approach.

Perceptions toward animal welfare

A total of 41% of participants became more positive in their perceptions toward dairy cow welfare immediately after the tour, whereas 8% became more negative, with no differences between communication methods. However, 2 weeks after the event, 27% had become more negative in their perceptions about dairy cow welfare. The most frequent post-tour concerns focused on early cow-calf separation and the lack of outdoor access. For example, one respondent shared “The cows do not have an option of grazing freely on green pastures and the calves do not get to stay with moms in the first few days/months of their lives, that’s why their quality of life is not very good but moderately good.” (P1209). Another mentioned: “The mother cows do not seem to form relationships with their babies as right after birth they are removed from one another to reduce the spread of disease. Are the mothers okay with this? Is there an alternative to this?” (P1247).

Perceptions toward environmental responsibility

Immediately after the farm tour, a total 44% of respondents became more positive and 5% more negative in their perceptions towards environmental responsibility of dairy farmers. However, two weeks later, 35% became more negative in their perceptions on dairy farmer environmental responsibility. The most frequent post-tour concerns focused on the environmental impacts of dairy farming through greenhouse gas production, although these concerns were less frequently mentioned than animal welfare related concerns. One of the participants shared: “My concerns are about whether it can be done without releasing significant greenhouse gases and still be profitable and competitive with other countries.” (P1390).

Implications

Although farm tours increased public knowledge about dairy farming, several concerns about dairy farming remained in a selection of the participants, a result in line with Ventura *et al.* (2016). Participants’ concerns mainly encompassed concerns about dairy cattle welfare and focused on early cow-calf separation and the lack of outdoor access, practices that can be seen as ‘unnatural’. Public concerns about animal welfare often focus on the ability of animals to engage in natural behaviours and live under natural conditions (e.g., Cardoso *et al.*, 2019), whereas farmers often emphasise the importance of the animals’ biological functioning (e.g., Balzani and Hanlon 2020; Fraser *et al.*, 1997; Smid *et al.* 2021). Environmental concerns mainly involved the contribution of dairy farming in the production of greenhouse gases. However, environment-related concerns were shared less often than animal welfare-related concerns, a similar observation was made by Jackson *et al.* (2020).

Interestingly, 2 weeks after the farm tour, 27% of participants had become more negative in their perceptions about dairy cow welfare, and 35% had become more negative in their perceptions on dairy farmer environmental responsibility. It is possible that the ‘reciprocity’ phenomenon may help explain the comparatively positive public response immediately after the farm tours: uninvited favours often elicit a feeling of ‘indebtedness’ in the recipient, resulting in people wanting to repay a psychological debt (Fehr and Gächter, 2011). In other words, the free event may have made participants feel obligated to provide more positive feedback than they felt. It is also a possibility that in the weeks after the tour, participants may have had more time to reflect, possibly with others who may have offered more critical perspectives, which may have contributed to this effect.

Tour guide communication treatment did not have a clear impact on perception outcomes, which may be due to the challenges imposed by attempting dialogues during a walking farm tour, in combination with limited training of farmers. Farmers were trained in an approx. 2-h Zoom workshop; a new communication style likely takes longer to successfully adopt.

As public education does not necessarily lead to improved public perception of dairy farming, it may be important for the dairy industry to continue exploring alternative approaches to build better relationships between dairy farmers and the public. As the perception of what constitutes good animal welfare inherently involves one’s values (Fraser *et al.*, 1997), it may be important that conversations between farmers and the public focus more directly on exploring these values, enabling better communication and through that, understanding of the potential discrepancies between each other’s views. Our results also highlight the challenge of a one-point-in-time engagement. More work is needed to better understand the effects of public engagement on longer-lasting perceptions of dairy farming. It also highlights the need for longer term and deeper connections with the views and expectations of either side. Overall, alternative approaches (other than one-way education) to public engagement may help the dairy industry

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build and maintain public trust and determine what factors are important for a socially sustainable future.

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