

Factors affecting the implementation of advances in the field of cattle welfare and the use of this knowledge to optimise future support for change by producers

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Introduction

Implementation of gains made in understanding cattle welfare has been hampered by cattle producers underestimating the value and practical application of change (Algers *et al.*, 2009). Kauppinen *et al.* (2013) describe welfare as fulfilling physiological, mental and behavioural needs of cattle. This can be complicated by the potential subjectivity of what constitutes adequate health, wellbeing and experience of cattle, so altering accepted norms and practices poses many challenges. Elucidating the connections between producer attitudes, reasoning and intentions and on-farm practices is required to design and implement welfare strategies that embed improved stockmanship and husbandry into everyday management practices (Hemsworth, 2007).

Discussion

A key determinant of cattle welfare is producer perceptions, beliefs and awareness about what factors alter the welfare and productivity of stock. Kauppinen *et al.* (2013) investigated dairy farmers' attitudes and intentions toward improving cattle welfare. In a similar study, Bruijnis *et al.* (2013) examined how dairy producers' views of foot health relate to uptake of improved care strategies. Both studies involved questionnaires formulated using the Theory of Planned Behaviour, aiming to reveal the interactions between multiple complex factors. Producer behaviours and management choices were hypothesised to result from their intentions, which, in turn, were correlated with their attitudes, perception of ability to change and the opinions of significant others (Kauppinen *et al.*, 2013).

In the dairy industry, foot health has been recognised as continuing to compromise cattle welfare, despite development of effective management practices (Bruijnis *et al.*, 2013). Bruijnis *et al.* (2013) found that producers valued good care to ensure cattle functionality and clinical health, but they perceived the financial investment, labour and time input for new measures as too costly, economically unsound and the health of their herd as adequate, despite identification within the industry of foot health as a problem. They reported that clinical foot disorders affected cattle welfare but subclinical conditions did not and 25% of farmers did not believe cows could experience pain. Only observation of dysfunction, such as lameness, merited intervention and many factors affecting cattle welfare were dismissed (Bruijnis *et al.*, 2013). Kauppinen *et al.* (2013) concurred, emphasising that change required producers to recognise the benefits of cattle welfare, for themselves and their cattle. Additionally, they identified producers' views that managing their own wellbeing was the most effective way to improve cattle welfare. It has been shown that stockperson wellbeing is correlated with improved stockmanship and adjustments that achieve this are both inexpensive and increase welfare, productivity, health and longevity of cattle as well as stockperson job satisfaction (Bertenshaw & Rowlinson, 2009).

Dwane *et al.* (2013) investigated participant producer opinions and long-term application of practices from the Irish Government program "Animal Welfare, Recording and Breeding Scheme for Suckler Herds". They held four regional focus groups to discuss farmer views, reasoning and resultant implementation of welfare strategies. Veterinary practitioners recruited focus group members but selected only 32 out of 50,000 scheme participants. It is likely that selection bias and group dynamics impacted discussions.

Dwane *et al.* (2013) reported increased participant awareness of cattle welfare, including recognition of the benefits of minimum calving age, feeding prior to weaning, and gradual weaning separation. They concluded this was due to producers observing healthier, more docile calves, but they emphasised conflict regarding a requirement for pain relief by calves disbudded over 2 weeks old. Many producers avoided local anaesthetic use by disbudding calves younger than 2 weeks, even if no horn bud was visible, meaning that the procedure may be ineffective (Dwane *et al.*, 2013). Farmers' explanation was that the scheme requirement was unfounded and even detrimental to welfare, as they observed that calves younger than 2 weeks experienced greater distress than older calves. The study also identified that inadequate farmer knowledge and skill was a barrier to anaesthetic application.

It is paramount that producers are involved in the design of welfare programs to ensure practicality and relevance, to address perceived conflicts and to identify the training valued by producers. Any mismatch between farmers' beliefs and initiative protocols must be addressed from a clear evidence base as farmers identified this as a primary factor in their implementation of long-term change (Dwane *et al.*, 2013; Kauppinen *et al.*, 2013). Furthermore, Bruijnis *et al.* (2013) concluded that programs must be presented to producers without criticism by professionals with whom they have a good working relationship.

Both no-cost and economical investments in animal welfare have been shown to increase productivity and longevity of cattle and decrease required therapeutic interventions (Kauppinen *et al.*, 2013). To overcome the barrier of financial cost and inefficiency to implementing welfare strategies, from each individual producer's point of view, the negative factors being overcome and the benefits for welfare, productivity and job satisfaction must be clearly demonstrated (Bruijnis *et al.*, 2013; Dwane *et al.*, 2013). Additionally, stockpersons cannot be overlooked, as their wellbeing and job satisfaction determine the quality of human-cattle interactions and their ability to instigate and maintain new practices (Kauppinen *et al.*, 2013).

Dwane *et al.* (2013) recognised the importance of adding value to welfare schemes via a certification system that publicises, at point of sale, the implementation of animal-welfare strategies and so increases the value of stock. This was related to the opening of export markets for scheme participants as a result of reputational enhancement due to uptake of welfare practices (DAFM, 2011). Consumer awareness of animal welfare increases and becomes a key element of choice for the buyer, increasing the competitiveness of those involved in welfare-enhancement programs (Dwane *et al.*, 2013).

Conclusions

The consistency between the findings in these studies illustrates how producer attitudes and intentions impact the quality of human-cattle interactions and long-term implementation of welfare strategies. Success of any welfare program relies on addressing the individual interests of the producer and improving their wellbeing. An evidence-based approach must be taken to show how practicable measures will improve cattle welfare and why this matters for cattle and producers. The protocols and attitudes adopted by stockpeople in their approach to cattle and the choice of management strategies determine cattle welfare.

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