

Farm manager involvement in an equine on-farm welfare assessment: opportunities for education and improvement

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Abstract

Previous work surveying equine professionals has suggested ignorance to be a primary cause of poor welfare within the industry, highlighting the importance of improving educational opportunities for industry stakeholders. This may be achieved through on-farm assessments designed to evaluate facilities and share resources with farm owners. While used extensively for evaluating production animal facilities, equine facilities are rarely formally assessed, making it important to determine how well those assessments would be received by equine owners and managers. As part of a larger project, an on-farm equine welfare assessment tool was pilot-tested on a sample of diverse horse farms ($n = 26$). Farm managers completed a self-assessment to determine their perception of their own farms with respect to animal welfare and then participated in the on-farm assessment process. Post-assessment interviews allowed participants to provide feedback regarding their experience. Farm managers most often underestimated the prevalence of structural issues in their facilities but were more discerning in management-related elements (eg stall cleanliness). Descriptive analysis indicated that farm managers felt that the on-farm assessment tool had the potential to be useful to newcomers to the industry and for a certification programme. Participants also highlighted areas that could make enforcing welfare standards an issue, such as horse and farm ownership. Understanding the perception of on-farm assessments is useful to gauge the potential success of animal care assessment programmes. If well-received, an industry-driven, on-farm welfare assessment has the potential to better educate horse farm managers and, by extension, improve the welfare of the animals under their care.

Keywords: animal welfare, assessment, education, equine, on-farm, stable yard

Introduction

The revision of the National Farm Animal Care Council's (NFACC) Code of Practice for the Care and Handling of Equines (NFACC 2013) brought to light the paucity of information regarding the effect of human management on the welfare status of horses in Canada's diverse equine industry. Without these farm-level data, it becomes difficult to determine the prevalence of welfare concerns within the industry and, subsequently, develop strategies to reduce or rectify these concerns. A current examination of the opinions and attitudes of Canadian equine professionals suggested that ignorance and lack of knowledge were the major human contributors to poor horse welfare in the Canadian industry and that education was an important way to combat these issues (DuBois *et al* 2018a). In order to achieve this, educational programmes and opportunities must be accessible for owners and managers and allow for an individualised approach. On-farm welfare assessments may be the solution to this, with the additional benefit of collecting information regarding the welfare status of horses within the Canadian industry.

It is not unusual for on-farm assessments to double as educational opportunities for producers and animal owners (Sørensen & Fraser 2010). Assessors influenced change in management practices in 80% of the farms involved in a research project when feedback was provided with assessments (Sischo *et al* 1997). A decreased prevalence of lameness and hock injuries in dairy cattle was seen after discussion of numeric results with farmers at an initial assessment (Chapinal *et al* 2014). Additionally, discussion with farmers about new avenues for veterinary treatments and outcomes (Yeates & Main 2009) can provide a better understanding of pain and illness as welfare-compromising states (Ventura *et al* 2016).

While this type of information would arguably be very beneficial to horse farm owners and managers, in Canada it is unusual for equine facilities to be formally assessed. Programmes exist in other countries, such as the farm accreditation offered by the British Horse Society (BHS 2018) and the Association of British Riding Schools (ABRS 2018) in the United Kingdom, yet Canadian horse farms are typically naïve to this process. This, in combi-

nation with the lack of a unifying governing body within the industry and limited public pressure for behaviour change, means that future assessment programmes are most likely to be voluntary. Since industry engagement is crucial to the success of any programme seeking to improve animal welfare (Mullan *et al* 2011), it is important to understand how such an assessment process is perceived by horse farm managers. A pilot, on-farm welfare assessment has been used previously to determine producer interest in establishing a quality assurance programme (Payne *et al* 1999). Farm owners given a chance to evaluate an example farm assessment were more positive in their response (Kirchner *et al* 2014) than those who had first-hand experience being assessed (Vaarst 2003). Farmers' perceptions of the effectiveness of a welfare assessment were more positive when changes were visible from year-to-year (Burke & Roderick 2006).

While some concerns expressed by production animal farm owners may overlap with those expressed by horse farm owners, it is very likely that there will also be issues unique to the equine industry due to the diversity of horse use (eg companion, commodity, athlete) and management styles. Recording farm owner and manager perceptions after they have experienced an on-farm assessment is vital to understanding how the diversity of the industry will affect the use of an on-farm welfare assessment. Additionally, farm owners and welfare scientists do not always share the same definitions of animal welfare (Ventura *et al* 2016). Understanding how farm owners and managers view their facilities through the lens of a welfare assessment could also help provide a baseline for owner knowledge and perception of welfare risks.

The objectives of this study were two-fold: i) to compare equine farm manager perception of their own facility to results from an on-farm assessment; and ii) to determine what participating farms took away from the experience of an on-farm assessment, as evaluated through questionnaires and face-to-face interviews.

Materials and methods

The experimental procedures described here were approved by the University of Guelph Research Ethics Board (REB# 16AP015) and Animal Care Committee (AUP# 1793) in accordance with the Canadian Council of Animal Care (CCAC 2009) for the use of animals in teaching and research.

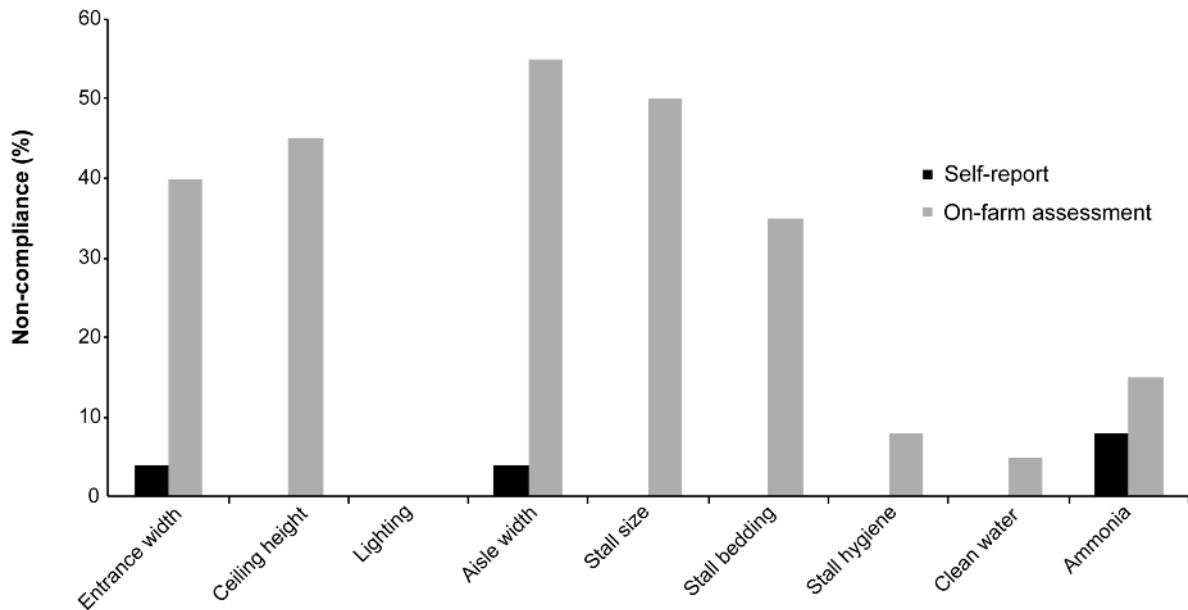
An on-farm equine welfare assessment tool was created based on existing scientific literature and pre-existing welfare assessment tools (eg Assessment Protocol for Horses; Wageningen UR 2011 and the Animal Welfare Indicators [AWIN] approach; Dalla Costa *et al* 2016). The on-farm assessment tool was designed to assess the requirements outlined in NFACC's Code of Practice for the Handling of Equines (NFACC 2013) as these are the national Canadian industry standards. Further details regarding the design and testing of the on-farm assessment can be found in DuBois *et al* (2018b), but in brief the

assessment tool comprised management- (52%), resource- (40%) and animal-based (8%) measures evaluating indoor and outdoor environments (eg water provision), safety (eg emergency planning), husbandry (eg stall cleanliness), and equine health (eg injury scoring).

Farms with electronically and publicly available contact information ($n = 150$) in a 200-km radius from Guelph, Ontario and Newmarket, Ontario were contacted via email or telephone and offered the opportunity to participate in pilot testing this assessment tool. Web searches were performed to target farms that provided services (eg boarding, riding) in the study area. In an effort to recruit more private facilities, information letters were sent out through organisation mailing lists (Equine Guelph and the Ontario Equestrian Federation) and industry contacts, and flyers were posted in local tack stores in the study area. Equine farm owners and managers (henceforth referred to simply as 'farm managers' or 'managers') who participated in the on-farm assessment also contacted and recruited their associates (three farms). A total of 26 farms (15% response rate) participated in this study and represented a wide variety of equine uses including trail riding, therapy, A-circuit showing, private boarding, horse rental, Western pleasure riding, and English pleasure riding. With respect to primary farm use, 38% were boarding facilities, 23% were riding schools, 15% were private or hobby barns, and the remaining 24% was split equally between therapy farms, trail riding or rental facilities, and farms that specialised in raising and starting young horses. Participating farms were awarded an honorarium of C\$100 for completing the project. As part of their consent form, farm managers were informed that all data from the study were confidential and assigned a code number to be utilised on all documents (eg self-assessment, on-farm assessment).

After signing a consent form and prior to the on-farm assessment, participating farm managers were asked to complete a yes/no survey (Appendix A; see supplementary material to papers published in *Animal Welfare* on the UFAW website: <https://www.ufaw.org.uk/the-ufaw-journal/supplementary-material>) about their facility which followed the same sections as the on-farm assessment. In this self-assessment, managers were asked questions such as 'Are stalls cleaned regularly?' and 'Do horses have access to fresh clean water while inside?' to evaluate how they perceived their own property and management. At the end of each section, farm managers were given the opportunity to comment on any areas or management practices they believed may contribute to compromised welfare for the animals in their care. Wording used in the questionnaire was designed to mirror the wording in the NFACC Code requirements and to match with key areas that would be assessed during the on-farm assessment. Once the self-assessment was complete, the on-farm welfare assessment was completed using the designed tool. It took, on average, 144 (± 15) min to complete and was conducted by two trained assessors. Farm managers accompanied the assessors throughout the entire assessment process.

Figure 1



Comparison of percentage of farms (n = 26) that indicated ‘no’ (non-compliant) in the self-assessment versus those scored as non-compliant during the on-farm assessment for indoor environment categories. Compliance on-farm was determined as meeting the National Farm Animal Care Council Code standards for each category. Only 20/26 farms regularly used their barn to stable horses.

Participating farm managers then completed a face-to-face post-assessment interview with one assessor (CD), during which they had the opportunity to review the results of their on-farm assessment and then were asked questions regarding the process and the tool itself, what they felt they gained from the experience, and the potential usefulness of the tool in the equine industry. Results were presented in the form of a paper copy of the on-farm assessment tool with assessor scores and notes.

For each factor evaluated (eg water provision indoors), farm managers indicated if they believed they were in compliance and the independent assessor indicated if they were in compliance following an on-farm assessment. These values were then compared using a Chi-squared test for independence (IBM Corp’s SPSS Statistics for Windows, Version 24.0, Armonk, NY, IBM Corp, 2016). Some questions could not be compared directly to results from the on-farm assessment due to adjustments made to the tool, and were removed from analysis. Post-assessment interviews were transcribed and structurally coded using QSR International’s NVivo 11 qualitative data analysis Software (Version 11.3.1 777, QSR International Pty Ltd, Version 11, 2016). To code answers, single summary words or phrases (eg ‘easy’, ‘doing a good job’) or overarching topics (eg information learned) from the written material were used as sorting categories. From this, the number of coding references was tabulated. Open-ended responses from the self-assessment were also coded in this manner to examine prevalent themes and word choices.

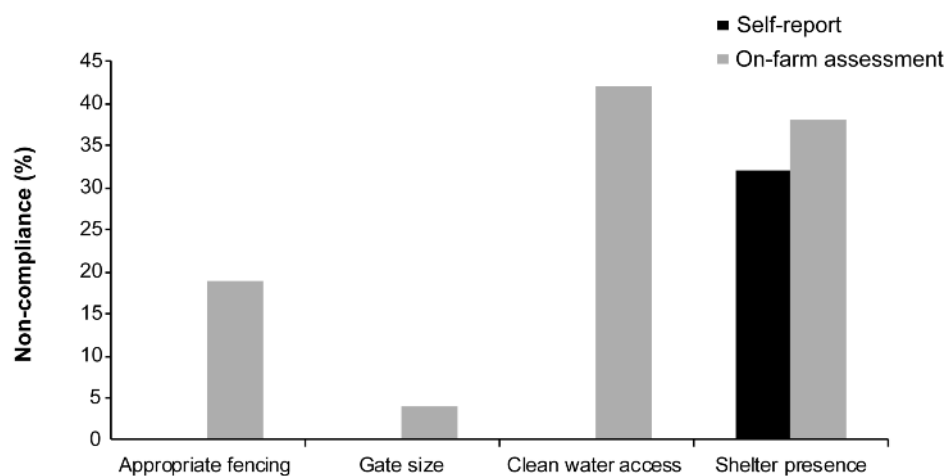
Results

Manager self-assessment versus on-farm assessment result

In the self-assessment, farm managers most frequently answered ‘no’ to questions indicating the presence of a hospital barn or segregation area (7/26 instances; 28%), the segregation of new arrivals (8/26 instances; 32%), presence of shelter in outdoor paddocks (8/26 instances; 32%), and the presence of an emergency plan in the event of a natural disaster (9/26 instances; 36%). Farm managers rarely indicated (two instances or fewer; 8%) any problems with their farm’s indoor and outdoor environments in both the yes/no style questions and the open comments sections. The open comments sections were used primarily by managers to indicate management practices as a possible explanation for a question where they indicated ‘no’ (eg horses with paddocks that contained no shelter were brought into the barn during inclement weather). Some facilities had very specific welfare risks related to their farm’s location or use, such as the presence of cougars (*Puma concolor*) or flooding from beaver dams (*Castor* spp), but these were only single instances. Overall, the open comment section was not widely used (63/104 instances of ‘no comment’ or the section left blank) or managers indicated they had no cause for concern (15 instances).

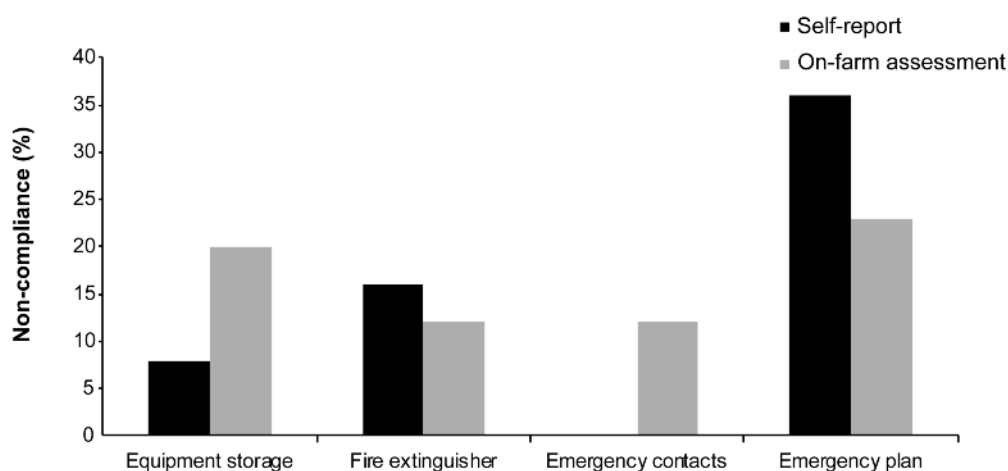
In comparison to the on-farm assessment, managers underestimated (39%), accurately assessed (50%) and over-estimated (11%) potential welfare risks on their own farms. While the majority of managers (88%) indicated that they did not

Figure 2



Comparison of percentage of farms (n = 26) that indicated 'no' (non-compliant) in the self-assessment versus those scored as non-compliant during the on-farm assessment for outdoor environment categories. Compliance on-farm was determined as meeting the National Farm Animal Care Council Code standards for each category.

Figure 3



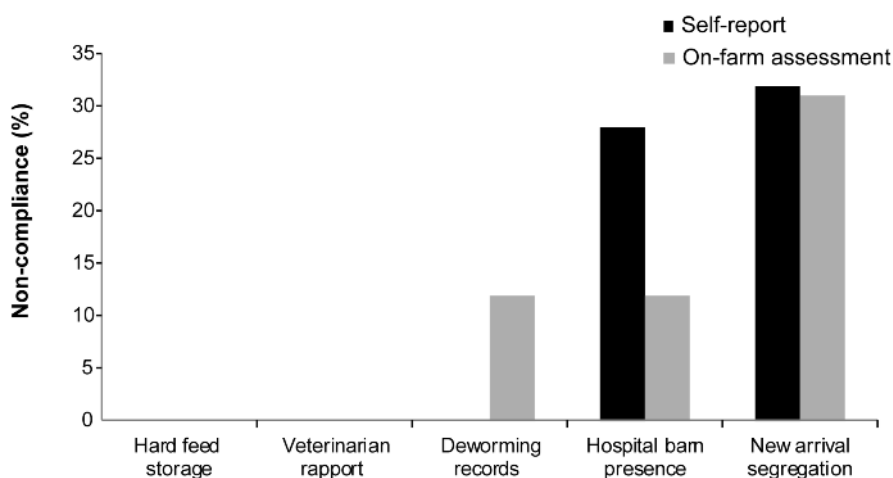
Comparison of percentage of farms (n = 26) that indicated 'no' (non-compliant) in the self-assessment versus those scored as non-compliant during the on-farm assessment for safety categories. Compliance on-farm was determined as meeting the National Farm Animal Care Council Code standards for each category.

believe there were any welfare risks associated with their farm's indoor environment (ie barn), measurements to the NFACC Code of Practice standards indicated that of the 20 farms that regularly used their barns to stable horses, between 40–55% did not meet recommended structural sizes of entrance doors, ceilings, aisles, and stalls (Figure 1). Agreement between the self-assessment and the on-farm assessment was closer for evaluations of the stall environment (cleanliness, dryness, water provision) (Figure 1). With respect to the outdoor environment (Figure 2), 19% of farms did not recognise page wire (rectangular mesh stock fence) as a potential welfare risk ('appropriate fencing'), and while

farm managers provided water, trough cleanliness was noted as a potential issue in 42% of farms.

More farm managers reported the absence of a fire extinguisher and an emergency plan when, in fact, they actually had one (Figure 3), though with respect to the latter, 88% of farms with employed staff had never conducted a drill to ensure the emergency plan could be carried out safely and effectively. Additionally, in the self-assessment, eight farms indicated they did not segregate new arrivals, which they confirmed during the on-farm assessment. While seven farms perceived that they did not have an adequate isolation facility to separate new or sick arrivals (to prevent nose-to-

Figure 4



Comparison of percentage of farms ($n = 26$) that indicated 'no' (non-compliant) in the self-assessment versus those scored as non-compliant during the on-farm assessment for equine health categories. Compliance on-farm was determined as meeting the National Farm Animal Care Council Code standards for each category.

nose contact), only three farms did not meet this criterion when examined (Figure 4).

Due to a low incidence of non-compliance (eg lighting presence) many factors could not be analysed by the Chi-squared model. As a result, only the following variables were able to achieve valid non-significance: outdoor shelter presence ($\chi^2 = 0.233$, $df = 1$; ns) and segregation protocol ($\chi^2 = 0.009$, $df = 1$; ns).

Evaluating farm manager experience

Four of the 26 participating farm managers had experience with on-farm assessments, either through previously existing programmes (eg inspections under the Riding Horse Establishments Act, RSO 1990, c R32) or in the case of two farms, assessment programmes used in other species. One farm manager felt that the allotted time (4 h, average on-farm assessment took 2 h and 24 min [± 5 min]) was too long; all others indicated that the time taken was as described in the information letter, was acceptable, or was necessary to cover all the topics in the assessment. The overall reception to the on-farm assessment was positive, with all farm managers indicating that they felt the project had been explained well to them and they felt well-informed about the process. The process was most often described using words such as 'easy' (eight references), 'professional' (four references), 'quick' (three references), 'methodical' (three references), and 'educational' (three references). Two farm managers indicated they felt the assessment should have been more thorough. An additional twenty-five suggestions were made about elements that managers felt should be included in an on-farm assessment, predominantly focusing on management elements. Of these, the elements with the most references were feed (seven references) and tack (two references).

There were three main areas in which farm managers felt they learned something as a result of the on-farm assess-

ment: (i) information about their farm (13 references); (ii) information about scoring techniques used during the assessment (12 references); and (iii) general information relating to equine welfare (five references). Some managers felt they learned nothing new (four references). Farm managers reported learning most often about structural and safety issues (six and three references, respectively), how Body Condition Scoring was conducted (six references), and the existence of the Code of Practice (two references). When asked if they would utilise a copy of the on-farm assessment to assess their own facility, 76% indicated that they would. Those who indicated they would not implied that they felt they had enough knowledge to maintain their facilities without the use of an on-farm assessment or that they felt the information gained from the on-farm assessment conducted in this project was enough.

Farm managers were most divided on how best to put an on-farm welfare assessment into practice. Six out of 26 individuals felt that an assessment programme should be mandatory, while two indicated they felt it should be completely voluntary. Nine individuals felt it would be best suited as a certification or accreditation programme, of which two individuals noted that a third-party organisation would be necessary in this case. Further comments expressed during the interview process could be broadly divided into three categories: positive feelings (51 references); mixed feelings (28 references); and negative feelings (eight references).

Those who felt positively about the assessment process felt it would help educate managers through correction, feedback, and providing information to new owners (13 references); providing standards for the industry beyond the Code of Practice (eight references); and improving the welfare of horses (three references). Those who had more mixed feelings on the prospect of an industry-wide equine welfare assessment were concerned about judgement of pre-existing conditions either of the animals or the facility itself

(five references), and worried about penalty or judgement if standards were enforced (five references). Individuals who expressed mixed feelings and negative feelings both indicated financial reasons (especially with regards to making structural changes to a facility) as a potential reason for resistance from horse owners. Those who were more pessimistic about the likelihood of an on-farm assessment being successfully implemented expected owner pride (in their own facilities or being against assistance) (two references) to be a source of resistance. Several participants also indicated the necessity of enforcing repercussions if such a tool was to be implemented.

Discussion

Manager self-assessment versus on-farm assessment results

The discrepancy between manager perception and on-farm assessment results, particularly with respect to Code of Practice standards, offers additional information not traditionally captured in on-farm assessments. Though some farm managers noted the barn structural issues in the open comment section of the on-farm assessment, they rarely reported these concerns as being potential risks to the animals housed there. This is of particular interest, as the areas where the greatest difference between on-farm assessment score and owner self-report observed were those questions that examined doorway widths, ceiling heights, aisle widths, and stall sizes, all areas in which problems should be readily visible in the form of injury to the horses. Measurements were typically smaller in those structural areas than values recommended by the NFAACC Code of Practice for the Care and Handling of Equines (NFAACC 2013), particularly in the case of the widths of doorways or aisles meant for horses to move through (recommended to be at least 3 m wide for aisleways and 1.22 m wide for doorways). A similar result was seen when farm managers were asked about the appropriateness of their fencing for horses, where they did not identify the page wire on the property as inappropriate for equine use. 'Structural issues' was also one of the most frequently referenced pieces of information that managers took away from the on-farm welfare assessment.

It is possible that some managers become accustomed to their facilities, and thus under-report issues which they have become 'blind' to. A similar result was seen in a study by Lesimple and Hausberger (2014) where managers statistically under-reported the prevalence of stereotypies in their barn. A similar phenomenon was documented in healthcare providers who are overexposed to patients in pain and demonstrate decreased sensitivity to it (Marquié *et al* 2003; Hirsh *et al* 2011). Given the relative infrequency of injuries found on the animals evaluated during the on-farm assessment (21.8% with at least one injury), it is also possible that horses — with habituation — are capable of navigating environments that are not designed with their size in mind. Though research is lacking with regard to equine spatial awareness (Nicol 2002), horses have demonstrated the

ability to successfully learn to navigate mazes (Kratzer *et al* 1977; McCall *et al* 1981; Marinier & Alexander 1994) as well as remember the correct paths of a maze up to a week after trials (Marinier & Alexander 1994). Additionally, in an experiment conducted by Raabymagle and Ladewig (2006), smaller stall sizes ($[1.5 \times \text{horse height}] \text{ m}^2$ boxes) did not prevent horses from achieving lateral recumbency, and the authors did not report any incidents where horses injured themselves trying to get up in the unfamiliar smaller stalls. Horse handlers may also be compensating for small barn sizes to help avoid injury when moving animals through these environments. When these issues were discussed with farm managers, they did not perceive the structure of their barn to pose a great welfare risk to their animals, which warrants further investigation into how much of an impact these indoor elements have on equine welfare. A larger body of knowledge in this area could help determine what dimensions are necessary for Code requirements and what can remain as recommendations.

In contrast, farm managers were more accurate when reporting management-related elements (eg stall cleanliness, provision of resources) regarding their own farm, with major differences only occurring when water cleanliness was examined on-farm. This high level of self-awareness suggests that those who participated in this study were involved in the day-to-day care of the animals housed at their farm.

Farm managers were the most unsure about questions in the safety section, underestimating the presence of a fire extinguisher in their barn and whether or not they had an emergency plan. In the case of the latter, it is possible that they do not consider knowledge of what they would do in the event of an emergency an official 'plan' even though, when asked directly, only 23% could not indicate any preparedness. In most of these 'unprepared' cases, farm managers indicated that there was no safe way to evacuate horses on their property, particularly in the event of a fire, and that they would not risk the lives of their staff to rescue their animals. They attributed this to the age or design of their barn. Regardless of whether or not a facility had an emergency plan, only 12% of farms had conducted a mock drill with their staff, which may compromise the effectiveness of the plan. Horses pose a difficult problem with respect to emergency planning and evacuation, as they can have both monetary and sentimental value (Linnabary *et al* 1993). It is important not only for horse owners, but also communities with a large equine presence, to be prepared in the event of a natural disaster or other emergency not only for welfare reasons but also for safety and financial reasons (Heath 1995). While this study was not designed to evaluate facility preparedness for disaster, from an educational standpoint this is clearly an area where more information would be valuable to the equine industry.

Discrepancies between self-report and on-farm assessments may have also occurred due to farm managers not wanting to admit that they were not providing their animals with the very best care. Questions were phrased such that, by answering 'no', managers indicated that something about

their animal's care or environment was lacking. While they were informed in the consent letter that all information used in this study would be confidential and used their code number rather than a farm name on all documents, an unconscious bias may have been present. It is unclear how many managers this affected. When examining differences between self-report and on-farm assessments, however, it is clear that managers still reported areas of concern. It is possible that they were more honest when they believed that questions did not imply they were not providing something absolutely necessary for their animals (eg shelter).

Evaluating farm manager experience

The positive response by farm managers to the on-farm assessment was promising, especially since, by the time of their interviews, participants had experienced the assessment first-hand, having accompanied the assessors for the duration of the assessment. Farmers interviewed by Kirchner *et al* (2014) were willing to accept a much longer farm visit (8 h) while farm managers in this study were given a maximum time of 4 h, and felt this length was necessary to evaluate the number of sections in the assessment. Nonetheless, participants had numerous suggestions regarding what to add to the assessment tool despite its already lengthy time allotment.

Variation in what managers learned indicates the potential the assessment tool has for providing a variety of educational opportunities. Firstly, the on-farm assessment provided information about their own farm and how managers can improve it to meet the standards outlined in the Code of Practice. Several managers mentioned the value of feedback, appreciating the opportunity to discuss their assessment after it had been completed and wanting to make sure they were 'doing a good job'. Feedback was also important to the beef farmers surveyed by Kirchner *et al* (2014), particularly as it related to helping improve the welfare on their farm. Secondly, the on-farm assessment introduced farm managers to objective assessments of animals and facilities, exposing them to research in the field of equine welfare. Participants were most interested in learning how to body condition score their animals, a tool which some participants indicated they had heard of before but never used. Knowledge transfer by researchers to the equine community is most beneficial when horse owners see some value in it (Thompson & Clarkson 2016). In the case of scoring systems, such as the body condition score, teaching managers may have the benefit of helping to combat equine obesity or thinness. While studies reporting equine obesity prevalence in North America are scarce, obesity is recognised as a serious health problem for horses, and one that is more prevalent than previously documented (Thatcher *et al* 2008; Giles *et al* 2014). Thirdly, the on-farm assessment introduced many farm managers to the Code of Practice or valuable resources through discussion during and after the assessment. Only 50% of the participants in this study had heard of the Code of Practice, despite these being industry standards, which further demonstrates the need for care- and management-related resources to be

better shared with the equine industry. These three educational opportunities are key in helping to enhance implementation of welfare-friendly practices in the equine industry as well as helping to make the Code of Practice standards more widely known.

Despite being open to the experience of the assessment process (a predicting factor of willingness to volunteer; Dollinger & Leong 1993) managers also appeared to consider themselves knowledgeable about horse care. This would explain why the majority of information that managers indicated they had learned was about their own facility or specific to the tool itself (eg Body Condition Scoring). It would also explain why some participants indicated that they felt they did not learn anything from participating in the on-farm assessment. Additionally, only three participants felt that using an on-farm assessment would improve horse welfare. This, too, can most likely be explained by the voluntary nature of the sample, whereby — in theory — only managers who were confident in the welfare status of their animals would have agreed to participate. As such, the value of the on-farm assessment tool as a method to improve welfare could have been diminished on their property. It is also possible that some farm managers were more focused on the possibility that this system might be used to criticise management rather than its use to improve welfare, as indicated by their answers. Certainly, this warrants further investigation.

Regardless of what was learned, many managers felt that the on-farm assessment was a useful educational opportunity and would be particularly useful for new owners. To owners or managers just starting out, they felt the assessment tool could act as a guide on setting up a facility to address basic horse needs. Participants felt that the assessment tool was less helpful to existing or established farms, as many farm managers could not change the facilities they used, for financial reasons or because they rented the property (information based on comments made; the number of farm renters was not recorded). Even so, there was a noted interest in an accreditation-style programme that would allow farm managers to distinguish themselves from their peers, especially as a way to market themselves to other horse owners looking for a place to board their horse. With that in mind, a certification system similar to the programme outlined by Global Animal Partnership's 5-Step™ rating may be the most beneficial to the equine industry, as the different 'tiers' of standards would allow participants to achieve a score to be improved upon rather than a pass or fail (Duncan *et al* 2012). Using an accreditation programme to help set industry benchmarks (as in von Keyserlingk *et al* 2012 and Chapinal *et al* 2014) may also encourage farm owners/managers to adjust their management practices to more welfare-friendly ones in order to 'keep up' with their business competition. While participants did not expressly indicate that a certification or accreditation programme should provide monetary incentives, many farm managers were concerned about the costs of having to alter their facilities or change their practices in

the event that they wanted to participate in a welfare assessment programme. Burke and Roderick (2006) found that farmers had a similar concern, in particular because structural issues were also one of the major risks found in their study. Financial incentive has been cited as an important motivator to improve animal welfare (Kirchner *et al* 2014; Ventura *et al* 2016) and with the financial concerns that were mentioned multiple times, it may be worth considering if an accreditation programme is implemented.

Interestingly, while 80% (21/26) of all participating farms used their facilities as a business (eg as a boarding stable, riding school), only nine participants indicated they were interested in having an accreditation programme from a marketing standpoint. While no financial data were collected on participating farms, it is possible that the managers felt they would not benefit greatly from the potential for increased advertising that an accreditation programme could provide. It is unclear whether this is due to the fact that time commitment involved in conducting the assessment is not worth the potential financial gain, or perhaps that only four of the farm managers were familiar with welfare assessment processes (and their uses in the food market).

While Kirchner *et al* (2014) suggested that beef farmers were only moderately interested in participating in the welfare assessment programme due to unfamiliarity with it, experience with the equine assessment tool resulted in an overall positive view of how useful such a scheme would be to the industry. As the study was voluntary, we assumed that all participants had a strong interest in equine welfare and that this may have biased answers. Even so, the positive themes of the interview answers suggest that managers perceived the process to be more intimidating prior to completing the self-assessment. There were multiple references to managers worrying about judgement and penalty as a result of assessments like the one they experienced, but also multiple references about 'bad farms' who participants felt needed to have their management practices corrected. Despite an aversion to correction, Sørensen and Fraser (2010) noted that the medical profession had success in maintaining standards of practice because it has a process for those who commit malpractice. Thus, for 'bad farms' to be removed from the equine industry, managers of standard-compliant farms must also be subject to a system that provides sanctions (such as denying attribution of the standard) for those who do not meet basic standards of care (Sørensen & Fraser 2010).

Though more farm managers than not were interested in making an assessment scheme, such as the one used in this study mandatory, the resistance to imposed or mandatory standards is not unique to the equine industry (Fraser 2006). Though a mandatory assessment would provide the enforcement opportunities that many participant farm managers would like to see, the likelihood of it being well-received by the industry is lower than if it were a voluntary assessment (Fraser 2006).

Of note, while participants did receive an honorarium for the completion of all stages of the project, the effect this had on the results appears to be minimal. The low response rate suggests that the size of the honorarium was not enough to greatly improve the sample size.

Animal welfare implications

Understanding the perception of on-farm animal welfare assessments — especially their perceived usefulness to experienced individuals — is of great value in gauging the potential success of assessment programmes. If well-received, an industry-driven, on-farm equine welfare assessment has the potential to better educate farm managers and, by extension, improve the welfare of the animals under their care.

Conclusion

Farm managers showed a strong awareness of the management aspects of their facilities but were less perceptive of the structural risks and safety issues. The results from this project have shown potential for an on-farm assessment tool that evaluates multiple areas to provide different educational opportunities depending on the needs of the farm managers. Overall, the on-farm assessment tool was well-received by participants, who provided many suggestions for future assessments. Participants also showed an interest in an accreditation programme which, if industry-backed, could provide a viable way to enhance welfare in the Canadian equine industry.

Acknowledgements

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