

# Improving beef cattle welfare

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## Abstract

Animal welfare is at the epicenter of values-based and science-based reasoning. A question which must be posed is “Do scientific professionals consider animal welfare an established scientific field?” In many areas of animal production and research, the answer is a resounding yes. However, it must be established in all areas of science involving animals, and it must be maintained as a scientific field. To do so, we must be able to show that animal welfare can be measured and assessed using both subjective and objective measures. Animal welfare can be measured on a day-to-day basis by the producers and veterinarian who work directly with the animals, using outcome-based measures. When outcome-based measures are used, we can assess why certain management practices are put into place, and what impact those practices are making on production and welfare. According to the OIE (2008), the criteria for measurement of animal welfare include cattle behavior, morbidity rates, mortality rates, changes in weight and body condition, reproductive efficiency, physical appearance, handling responses, and complications due to routine procedure management. By using these and other outcome-based measures, animal welfare will become an established scientific field in which observations can be measured and recorded so that management changes and improvements can be implemented to maintain and improve welfare on production units.

**Key words:** cattle, beef, animal welfare

## Résumé

Le bien-être animal est au centre du raisonnement fondé sur les valeurs et sur la science. Une question se doit d’être posée : Est-ce que les scientifiques professionnels considèrent le bien-être animal comme un domaine scientifique bien établi? Dans plusieurs domaines de recherche et de production animale, la réponse est certainement oui. Toutefois, le bien-être animal doit être reconnu dans tous les domaines scientifiques impliquant des animaux et il doit rester établi comme un domaine scientifique. Pour ce faire, nous nous devons de montrer que le bien-être animal peut être mesuré et évalué à l’aide de mesures toutes aussi bien subjectives qu’objectives. Le bien-être animal peut se mesurer au jour le jour par les producteurs et par le vétérinaire qui travaille directement avec les animaux en utilisant des mesures axées sur les résultats. En utilisant de telles mesures, il est possible d’évaluer pourquoi certaines formes de gestion sont mises en place et leur impact sur la production et le bien-être. Selon

l’OMS (2008), les critères suivants sont disponibles pour mesurer le bien-être animal : le comportement du bétail, le taux de morbidité, le taux de mortalité, le changement de poids et de l’indice corporel, le succès de reproduction, l’apparence physique, les réactions à la manipulation et les complications causées par des procédures courantes de gestion. En utilisant ces mesures et d’autres mesures axées sur les résultats, le bien-être animal deviendra un domaine scientifique établi dans lequel les observations sont mesurées et enregistrées permettant ainsi des changements ou une amélioration de la gestion pour le maintien ou l’amélioration du bien-être dans les unités de production.

## Introduction

More and more, scientific fields are becoming more like battlefields. It is a constant fight between science-based thinking and values-based reasoning.<sup>1</sup> And the field of animal welfare is at the epicenter of it all.

The first question we must ask ourselves as veterinarians and scientists is “Do we as professionals consider animal welfare to be an established scientific field?” Reason being that there are a number of people, some likely even in this group, who do not consider the welfare of animals to be a science, but rather a values-based issue. We have animal welfare specialists, and behaviorists, but do people *really* consider animal welfare a *science*? For example, many animal science departments around the country have only 1 or 2 classes which even address the issue of animal welfare, and in such classes, the issue could be lumped with other contemporary issues such as genetically modified organism (GMO) consumption and use of vaccines and antibiotics. And how many veterinary schools offer a course in animal welfare—we’re supposed to be the welfare specialists!

Now, the great thing is that we’re making progress. As veterinarians, we can now become board-certified in animal welfare. In addition, a number of universities are moving toward a more scientific take on animal welfare, and offering classes specific to the topic, and offering graduate programs focused on the subject. The number of meetings and conferences on the topic of animal welfare has skyrocketed in the last 10 to 15 years. Hundreds, possibly thousands, of studies, both observational and experimental, have been performed, and papers published showing ways to measure, assess, and improve animal welfare using management practices and other strategies. At the Beef Cattle Institute, many studies in which the sole objective was to measure or assess animal welfare or to gauge how well certain practices improve welfare have been performed. The topic is definitely being

discussed. However, we may still have a long way to go to get the skeptics of the scientific world to accept animal welfare as an established scientific field. We must keep going.<sup>1</sup> We must show the skeptics that we are able to measure animal welfare in a scientific manner and implement strategies for improvement, thereby making the field a legitimate science in the eyes of *everyone*, including academic professionals, students, and consumers.

The process has already been started for us. First and foremost, we must be able to show that animal welfare can be measured and assessed, using both subjective *and* objective measures. There are a number of assessments and audits currently used to evaluate animal welfare on beef production units, but we propose that animal welfare can also be measured on a day-to-day basis, by the producers and veterinarians who work directly with the animals, using outcome based measures. Outcome-based measures must be measurable and attainable, and are essential in the measurement and management of animal welfare in beef cattle. When we measure animal welfare on an outcome basis, we can assess why certain management practices are put into place, and what kind of impact those practices are having. They show producers and veterinarians the positive changes that occur due to management practices associated with good animal welfare.

According to the World Organization for Animal Health (OIE), the criteria for measurement of animal welfare include cattle behavior, morbidity rates, mortality rates, changes in weight and body condition, reproductive efficiency, physical appearance, handling responses, and complications due to routine procedure management.<sup>2</sup> Measures of these categories are tracked by both producers and veterinarians on a daily basis, as they are typically-measured animal health and production outcomes. By keeping track of specific outcome measures for each of these categories, recommendations can be made and management practices put in place to improve cattle welfare on beef production facilities.

Feeding and social behavior can be observed and recorded to implement management practices to improve animal welfare. Producers and veterinarians have a clear understanding of animals' behavior under various environmental conditions, and are therefore well-equipped to assess behavior with the use of outcome-based measures. In addition, cattle health is an important aspect of animal welfare. Morbidity and mortality rates serve as important direct outcome measures when assessing animal welfare.

Body condition is also a very good indicator of animal welfare in beef cattle. The use of a scoring system, while subjective, is the most practical method of assessing body condition, and can be used by a wide variety of assessors. Body condition has a huge impact on reproductive efficiency, which is also an important area in which to use outcome-based measures to determine animal welfare status. Poor reproductive efficiency, including anestrus or increased time between reproductive cycles, can be an indicator of disease or decreased nutritional status or problems with management programs, which can contribute to poor animal welfare. Body condition is also important when evaluating physical appearance of animals, along with hydration status, coat condition, and the presence of ectoparasites, all of which can be used as outcome-based measures in the assessment of animal welfare in cattle. Handling responses are also fantastic measures of animal welfare. Outcome-based measures that can show the status of animal welfare during handling include use of electric prods, the number of cattle slipping and falling in facilities, and even production-based measures such as feed intake and reproductive responses. Finally, outcome-based measures such as feed intake and pain responses can be used to assess animal welfare in regards to routine procedure management. Animal welfare is of utmost importance when evaluating the effects of painful procedures such as castration and dehorning, and outcome-based measures can provide evidence for the improvement of animal welfare during and after such practices.

By using these and other outcome-based measures discussed here, the concept of animal welfare becomes more than just a concept—it becomes an established scientific field in which observations can be measured and recorded in order to make management changes and improvements to constantly increase animal welfare. By using such measures, we as an industry are able to demonstrate that improvement of animal welfare can be assessed in a scientific manner, while also keeping in mind the values of both producers and consumers.

## References

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