Equine on-farm welfare assessment: a review of animal-based indicators

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Abstract

The adaptability of horses and donkeys to different types of activity has seen the European equine industry become an important economic sector, giving rise to increasing concern regarding equine welfare. As part of the AWIN (Animal Welfare Indicators) project, this review focuses on scientific literature to find potential animal-based welfare indicators — the initial step in developing a valid, reliable and feasible on-farm welfare assessment protocol for equines. Forty-nine indicators were considered and classified in accordance with the four Principles and twelve Criteria developed by Welfare Quality®. Only practical indicators specifically for on-farm use were included, those requiring the use of specific instruments or laboratory analysis were excluded. Academic scientists, partners and collaborators of the AWIN project, discussed and agreed on validity, reliability, on-farm feasibility and acceptance by farmers for each indicator. Some aspects of equine welfare have been thoroughly investigated and appear to have indicators ready for on-farm use (eg 'absence of prolonged hunger', 'absence of injuries and diseases'). On the other hand, a lack of animal-based measures were identified for other Criteria such as 'absence of pain' and 'positive emotional state'. Ongoing research within the AWIN project has begun exploring some of the aforementioned Criteria — these preliminary results of promising indicators have been included (eg Horse Grimace Scale and Qualitative Behaviour Assessment). Further research should address the validity and reliability of indicators, such as human-animal relationship tests and signs of cold stress. As well as for working equines, the development and application of a welfare assessment protocol could be the first step for enhancing on-farm equine welfare.

Keywords: animal-based indicator, animal welfare, donkey welfare, equine welfare, horse welfare, on-farm welfare assessment protocol

Introduction

It is estimated that more than six million equines live in Europe, however there are no definitive statistics (European Horse Network 2010; Faostat 2011). The European equine industry is an important economic sector, thanks to the adaptability of horses and donkeys to very different types of activity (eg breeding, leisure and sport, education) and the effect of people’s continued fascination with equids, and their willingness to spend money on them as either a business or hobby. Equine welfare is an increasing cause for concern due to limitations of the present European legislation, which differs between countries and does not encompass all aspects of welfare. There is currently increased public awareness and demand for improved equine welfare (Fraser 2001). The frequent need for rapid responses to address contingent equine welfare issues and to answer public concerns has forced scientists to produce sub-optimal criteria to assess welfare on-farm (Broom 2011). Animal welfare “is a term that describes a potentially measurable quality of a living animal at a particular time and hence is a scientific concept” (Pond et al 2011). The assessment of animal welfare requires a multi-dimensional approach (Mason & Mendl 1993), and should aim to determine the actual welfare of animals, including both physical and mental states (EFSA Panel on Animal Health and Welfare 2012). Funded by the European Commission, in the Seventh Framework Programme, the AWIN (Animal Welfare Indicators) project’s goals include the improvement of animal welfare by developing practical on-farm welfare assessment protocols for several species, including horses and donkeys. This current review of scientific literature is the starting point to identify promising animal-based indicators. Based on the findings in this review, AWIN scientists will develop a research action plan to address the lack of knowledge regarding the validity, repeatability and feasibility of single indicators. The resulting list of indicators will then be tested on-farm by trained assessors. The overall assessment of welfare should be regarded as a multidimensional process that takes into consideration several aspects that are almost independent (eg good human-animal relationship and absence of pain). Due to the differences in equine use, housing and management throughout Europe, it should be clarified that the term ‘on-farm’ refers to any type of facility housing equines where the assessment may take place, where it is performed