

Working equids: linking human and animal welfare

Tamara A Tadich

WORKING equids continue to be an essential component of the livelihoods of millions of families worldwide, particularly in low- and middle-income countries.¹ These animals provide a critical support system to the households that rely on them, with a central pillar of this support system being the money they generate – both directly and indirectly – and the savings their owners make by using them.² Working equids can therefore be considered as part of the financial, physical and social capital of their owners,³ as well as a central axis for building resilience capacity.⁴

Working equids perform a variety of roles, including transporting people and their products to local markets, transporting water, participating in religious ceremonies, the mining industry, construction, tourism, equid-assisted therapies, forestry, agriculture and disaster relief as well as acting as companion animals.

However, the specific activities in which horses, donkeys and mules are involved differ according to the local climate, geography and culture. In the same way, the welfare problems they encounter vary across countries and activities, as the risks to which they are exposed are different.

Assessing working equid welfare

Animal welfare is a multidimensional concept,⁵ and this multidimensionality explains the many challenges encountered when trying to assess welfare and implement welfare improvement strategies. To be effective, welfare assessment tools need to be validated, reliable and repeatable.⁶ They also need to provide evidence about the general welfare status of individuals and the prevalence and severity of each welfare indicator used.⁷

Studies evaluating the welfare of working equids generally include two types of indicators: inputs and outputs. The inputs consider how adequate the resources that the animal has available are, indicating the risk of a welfare problem.⁸⁻⁹ Outputs, or animal-based indicators,

WHAT YOU NEED TO KNOW

- Working equids can experience a wide range of welfare issues, with the most commonly reported being poor body condition, musculoskeletal pathologies, lesions, dental disorders and behavioural issues, such as apathy and aggression.
- The majority of working equids are found in low- and middle-income countries, where resources are limited and literacy levels in some communities are low.
- As such, welfare assessment instruments need to incorporate practical indicators that can be measured with minimal resources. These instruments also need to be respectful of cultural, religious and idiomatic differences and local customs.
- The welfare of working equids and their owners is inextricably linked. Developing welfare assessment tools alongside an enhanced understanding of human-animal interactions and human behaviour change could, therefore, prove pivotal in achieving long-term improvements in animal welfare standards.

reflect the response of the animal to the resources available in their environment.⁸⁻¹⁰

When applying welfare assessment tools to working equids, some potential difficulties need to be considered before the selection of the indicators. For example, we need to take into consideration that most working equids are in low-income countries where resources (eg, internet and electricity) are limited and access to some communities can be difficult due to the lack of roads in more isolated areas or social/political instability in the region.⁷ Language, cultural and religious differences, as well as high levels of illiteracy, can also pose difficulties.⁴

Welfare assessment instruments therefore need to incorporate practical indicators that can be measured with limited resources. A summary of the key considerations that must be addressed when selecting indicators for welfare assessment instruments is given in Box 1.

In a study summarised on p 445 of this issue of *Vet Record*,¹¹ Rodrigues and colleagues used the

BOX 1: KEY CONSIDERATIONS WHEN SELECTING INDICATORS FOR WELFARE ASSESSMENT INSTRUMENTS

Indicators included in working equid welfare assessment tools need to be:

- valid, reliable and repeatable
- practical and consider the possible difficulties of data collection in the field
- specific according to the species being assessed
- selected according to the type of work being performed
- selected according to regional climate and geography
- approved by an appropriate animal care and use committee
- respectful of cultural, religious and idiomatic differences and local customs

equid assessment, research and scoping (EARS) tool – developed by The Donkey Sanctuary – to assess the welfare of equids working in the brick kilns of Nepal. The EARS tool consists of a bank of 300 questions that consider a wide range of behavioural, health, human-animal interaction and environmental indicators. This makes EARS a flexible tool that can be adapted to the many different contexts under which equids work.

Welfare problems affecting working equids

Most research on working equids tends to identify several welfare problems that are similar across countries and types of work, as well as other issues that are more country, activity, species and culture specific. However, even within a single country, one can find differences in the prevalence of some welfare issues.

Poor body condition score is a recurrent problem in working equids.¹²⁻¹⁵ Pathologies associated with the musculoskeletal system are also frequent, with some studies reporting that up to 90 per cent of animals have some kind of limb pathology, independent of the species studied.^{13,16}

Lesions associated with harnessing systems are commonly observed, with the anatomical area and severity usually determined by the type of work being performed and the number of hours the animal works each day.^{9,12-18} Overgrown or worn teeth are also frequently reported.^{19,20} As such, the detection of dental disorders should be considered in welfare assessment tools when possible.

Parasites can also become a significant health issue, although the prevalence of parasites appears to be highly variable between countries.



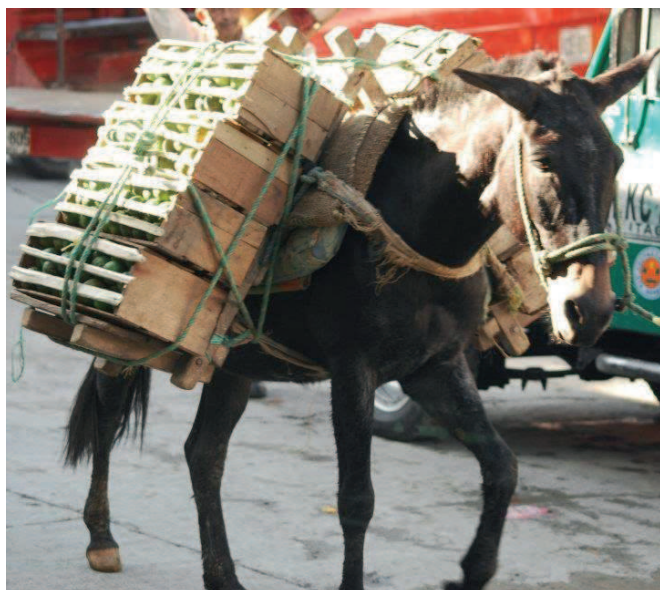
Horse transporting wood in Guatemala

For example, low burdens of parasites have been reported in Chile,⁹ but it is estimated that over 90 per cent of the working equids in Guatemala are affected by parasites.¹⁷ The type and abundance of parasites will depend on the climate conditions present in each region and, in some cases, the presence of vectors.

Behavioural disorders have also been studied in working equids, with a recent study¹⁴ indicating a higher prevalence of depression-like behaviours in equids doing traction work compared with those doing pack work. A high percentage of working equids have also been described as exhibiting apathetic behaviour.¹⁷ In addition, some behavioural differences between species have been reported, with mules being described as more aggressive than horses and donkeys,¹⁴ although these differences vary depending on the context.

Behavioural assessments provide important information about the nature of the human-animal relationship and how the animal is responding to their environment. They can also help to highlight problems in the communication between the animal and its owner that could be overcome through owner education strategies.

The study by Rodrigues and colleagues¹¹ again points out the presence of these welfare issues,



Mule transporting food to a market in Colombia



Donkeys pulling a cart in Mexico

but a key difference between this and previous studies is that the authors evaluated equids before the start of the working season. The study reports that 80 per cent of the equids examined were underweight, 40 per cent had open wounds, 47 per cent were lame, 70.6 per cent had pain in the vertebral column, 42 per cent had a negative reaction when people approached them and 38.2 per cent exhibited signs of fear and distress.¹¹

The findings of the study have important welfare implications, as they indicate that the welfare status of these equids is poor before they even begin working. This suggests that these equids do not have sufficient opportunity to recover between working seasons, so their welfare status is likely to decline year-on-year.

Many of the welfare problems identified in working equids are connected to human welfare problems and misconceptions about equids. As Rodrigues and colleagues point out, improving human welfare is essential if improvements to animal welfare are to be achieved.¹¹ Therefore, the development of animal welfare strategies that include a One Welfare approach is vital to ensure long-term improvement.

Tamara A Tadich

Departamento de Fomento de la Producción Animal, Facultad de Ciencias Veterinarias y Pecuarias, Universidad de Chile, Santiago, Chile

email: tamaratadich@u.uchile.cl

doi: 10.1136/vr.m4572

References

1 The Food and Agriculture Organization. Animal Production. www.fao.org/animal-production/en/ (accessed 23 November 2020)

- 2 Chambers R, Conway GR. Sustainable rural livelihoods: practical concepts for the 21st century. www.ids.ac.uk/publication/sustainable-rural-livelihoods-practical-concepts-for-the-21st-century. (accessed 23/11/2020)
- 3 Pritchard J. What role do working equids play in human livelihoods, and how well is this currently recognised? Proceedings of the Seventh International Colloquium on Working Equids; 1–3 July 2014, London, 2014:2
- 4 Lanas R, Luna D, Tadich T. The relationship between working horse welfare and their owners' socio-economic status. *Anim Welf* 2018;27:47–54
- 5 Duncan IJH, Fraser AF. Understanding animal welfare. In: Appleby MC, Hughes BO, eds. *Animal Welfare*. Wallingford: CABI Publishing, 1997:19–31
- 6 Hockenhuil J, Whay HR. A review of approaches to assessing equine welfare. *Equine Vet Educ* 2014;26:159–66
- 7 Sommerville R, Broen AF, Upjohn M. A standardized equine-based welfare assessment tool used for six years in low and middle income countries. *PLoS One* 2018; doi: 10.1371/journal.pone.0192354
- 8 Wood JD, Holder JS, Main DCJ. Quality assurance schemes. *Meat Sci* 1998;49:191–203
- 9 Tadich T, Pearson RA, Escobar A. Husbandry and welfare aspects of urban draught horses in the south of Chile. *Arch Med Vet* 2008;40:267–73
- 10 Bötner A, Broom D, Doherr MG, et al. Scientific opinion on the use of animal-based measures to assess welfare of dairy cows. *EFSA J* 2012; doi: 10.2903/j.efsa.2012.2554
- 11 Rodrigues J, Sullivan R, Judge A, et al. Quantifying poor working equid welfare in Nepalese brick kilns using a welfare assessment tool. *Vet Rec* 2020; doi: 10.1136/vr.106135
- 12 De Aluja AS. The welfare of working equids in Mexico. *Appl Anim Behav Sci* 1998;59:19–29
- 13 Pritchard JC, Lindberg AC, Main DCJ, et al. Assessment of the welfare of working horses, mules and donkeys using health and behaviour parameters. *Prev Vet Med* 2005;69:265–83
- 14 Ali ABA, Elsayed MA, Matoock MY, et al. A welfare assessment scoring system for working equids – a method for identifying at risk populations and for monitoring progress of welfare enhancement strategies (trialled in Egypt). *Appl Anim Behav Sci* 2016;176:52–62
- 15 Galindo F, De Aluja A, Cagigas R, et al. Application of the hands-on donkey tool for assessing the welfare of working equids at Tuliman, Mexico. *J Appl Anim Welf Sci* 2018;21:93–100
- 16 Broster CE, Burn CC, Barr ARS, et al. The range and prevalence of pathological abnormalities associated with lameness in working horses from developing countries. *Equine Vet J* 2009;41:478–81
- 17 Burn CC, Dennison TL, Whay HR. Environmental and demographic risk factors for poor welfare in working horses, donkeys and mules in developing countries. *Vet J* 2010;186:385–92
- 18 Sánchez-Casanova RE, Masri-Daba M, Alonso-Díaz MA, et al. Prevalence of cutaneous pathological conditions associated with the presence of skin wounds in working equids in tropical regions of Veracruz, Mexico. *Trop Anim Health Prod* 2014;46:555–61
- 19 Du Toit N, Burden FA, Dixon PM. Clinical dental findings in 203 working donkeys in Mexico. *Vet J* 2008;178:380–6
- 20 Rodrigues J, Lilly G. Dental disorders of donkeys. *Vet Clin North Am Equine Pract* 2019;35:529–44