

Book Reviews

The Welfare of Sheep

Edited by C Dwyer (2008). Published by Springer, Dordrecht, The Netherlands. 366 pp Hardback (ISBN: 978-1-4020-8552-9). Price £91.00.

The Welfare of Sheep is both an account of the biology and husbandry of the animal, and a series of different perspectives of its well-being. Refreshingly, the book begins (and ends) acknowledging humanity's long history of compassion towards animals (see Preece 2002), something which is all too easily forgotten in our almost mythical belief that "animal welfare is becoming increasingly important". This belief has its roots in the West's relentless pursuit of production and efficiency, epitomised in the problems of intensive systems where animals are kept in confined and barren environments. In contrast to concerns with some modern poultry and pig production systems, most sheep are usually kept outdoors, often in extensive environments, with the freedom to behave normally but exposed to the vagaries of the climate and the environment.

There are many different ways to gain an insight into animal welfare ranging from the view that sheep may have 'chosen' to be domesticated (Budiansky 1992) to the fact that genetic changes in the modern sheep mean it differs from its wild ancestors (Clutton-Brock 1999). In ten chapters, the eighteen contributors to this volume provide a variety of different perspectives. They begin with an introduction to animal welfare and the sheep, before addressing domestication and the impacts of the animals' different environments, sheep behaviour, senses and cognition, diseases, nutrition, management and farming, the economics of welfare, and end with a future perspective. It is the sixth volume in a series that addresses the welfare of horses, laboratory animals, cats, dogs, cattle and pigs, as well as animal welfare in general.

Reflecting the diverse nature of sheep farming systems, there is a comprehensive collation of information from a variety of sources evident in the following examples:

- mountain lions, feral pigs and brown bears have accounted for the highest reported losses due to predation;
- sheep not only provide meat, wool and milk, but in some places they are also used for transporting goods;
- selection over the 8–10,000 years of domestication has resulted in more than 2,000 breeds;
- flock sizes average 2–6 in parts of Ethiopia where they are almost all housed at night;
- modern technology, ultrasound scanning to determine litter size, has halved mortality by enabling better nutrition to be provided during pregnancy;
- human intervention can reduce the adaptive capacities of sheep, while sheep may feel safer in a more complex environment;
- animal welfare is as much determined by shepherds, farmers, veterinarians and others as it is by the actions and

inactions of consumers — people must be willing to pay for the additional costs of higher animal welfare systems either as consumers or as taxpayers.

The book raises several points that will have implications for the future of animal welfare. One such theme is consideration of the animals' social environment. Evidence is presented suggesting there are important bonds between twins, dam and offspring, and flockmates, indicating that welfare may be compromised when management determines the composition of different flocks. This evidence of the collective nature of sheep bears resemblance to the observations penned long ago by Muir (1911): "A sheep can hardly be called an animal; an entire flock is required to make one foolish individual." Another aspect is that many domestic sheep are kept in featureless paddocks without access to escape terrain, such as slopes or cover. These examples highlight the complexity of our relationship with sheep, a relationship the authors suggest appears to be changing. Many management practices have the potential to enhance or compromise animal welfare. Society therefore requires knowledge of their significance, and the wisdom to justify those which compromise both animals and the humans dependent upon them. Increasingly, these considerations are made in the public sphere, acknowledging the broader aspects contributing to an animal's welfare. There are many instances of a common-sense or 'big picture' approach to animal welfare through, for example, acknowledging the limits of objective measures of animal welfare or that measures of an animal's coping response do not necessarily mean welfare is compromised.

The only omission, understandable perhaps given the scope of the book, is the role of stockmanship, a respect for the essence of the animal (Gatward 2001). Although the qualities and importance of good stockmanship have been addressed, as they have elsewhere in animal welfare science (for example, see Hemsworth 2007), it is relevant to ask just what might animal welfare science learn from skilled and experienced shepherds, stockmen and farmers?

While what the animal experiences is important to it, its welfare is inextricably determined by the nature of the relationship with humans and the environment. This contribution provides that context by acknowledging the impact of factors as diverse as local politics and drought, the features of intensive and extensive farming, and nomadic pastoralism, as well as the animal itself, including its history, evolution and ecology. Sheep have long been part of humanity, as humans have long been part of their world, and the information collated and discussed in *The Welfare of Sheep* reflects both the complexity and the importance of this relationship between man and animals. A superb and informative read, Dwyer and her colleagues offer students and teachers, researchers and regulators, farmers and citizens, an important and necessary resource, providing the context for whatever aspect they deem worthy of following.

References

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Equine Reproductive Physiology, Breeding and Stud Management, Third Edition

MCG Davies Morel (2008). Published by CAB International, Wallingford, Oxfordshire OX10 8DE, UK. 400 pp Paperback (ISBN 978-1-84593-450-7). Price £37.50, US\$75.00, €60.00.

This well-written textbook is both interesting and informative. Like many things in life, this third version has definitely improved with age. The author has used the constructive comments provided by reviewers of earlier versions to enable her to produce a well-referenced, delightfully illustrated and practically useful third edition of this textbook.

The book now contains 21 chapters sequentially arranged to provide all students of equine reproduction with sound science-based information relating to the anatomy and physiology of the mare and stallion, the physical process of parturition, management of mare and stallion and the management of the young animal. The last few chapters take a look at different breeding techniques, recognising that many performance horses are now bred using AI, and the new chapter on embryo transfer discusses the various uses and limitations of this technology as applied to equine breeding.

I found this book to be easy to read and well organised. The index worked well, the chapters followed a logical sequence, and I liked the way the author pointed you to other chapters for more detail in areas of interest. The book certainly contained a lot of references but I was surprised by how few of these were of papers produced in recent years. In fact, I struggled to find many younger than 2005. This was of particular concern in the later chapters on the use of modern technologies for breeding horses — where one might expect more recent references, for example articles on cloning only go up to 2004. As such, this is an area where readers would need to recognise how rapidly this field is moving and how much more information there now is. I also felt that the book was limited in relation to discussion on equine welfare. For example, in the section on handling young horses in chapter 17, I felt that this would be an

obvious place to increase content in relation to the appropriate methods for early training — especially given that some of these young animals may be used later in the breeding process. The author talks about teaching ‘basic manners’ and dealing with ‘bad habits’ — and I would suggest that with the advent of increased knowledge in relation to the application of learning theory for humanely training horses, it would be more appropriate to adopt scientific language and knowledge in these sections. In chapter 18, the author discusses a range of abnormal and problem behaviours commonly seen in stabled and intensively-managed horses. Given that there are numerous scientific articles describing such behaviours as symptomatic of a poor environment and asking readers to consider these something other than ‘vices’ (a term that could lead the reader to assume that the horse is at fault), I am surprised to find these behaviours being labeled in this way. Some of the author’s statements regarding crib-biting and wind-sucking are misleading; in fact there is no scientific evidence that these behaviours lead to colic and there are some concerns about the misuse of devices such as cribbing straps for stopping these behaviours. The same can be said for the weaving section where no management or prevention suggestions were provided despite there being a body of work in this area. The impact of stressors on the success of pregnancy is also an area that appeared to receive little attention. I could find little detail on this in chapter 19 and yet for most stud managers this is the one thing that they are most concerned about. I had questions on whether there is research into the following: What level of exercise is too little or too much? How does stress impact on pregnancy? And how much handling is good for a foal? (and how much is too much?) Finally, although the author did occasionally note that there was a difference between northern and southern hemisphere breeding units, it is clear that this book is written for the northern hemisphere breeder. Many of the excellent pictures were relevant only to readers based in the UK and the terminology used to describe breeding management was not always universal (eg a foaling box is called a foaling stall in the US). This is understandable given the size of the international equine industry but I would hope that in version 4 the author takes up the challenge of making this excellent textbook, truly international.

Finally, apart from the constructive comments above, I can see that this recently updated textbook will continue to be a must for students studying on degree and diploma courses in equine science, as well as being a useful supplementary text for veterinary students and of practical use for equine veterinary practitioners and stud managers.

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