(Clutton-Brock 1989). However, this is by no means the only definition. The essays by anthropologists collected in Where the Wild Things are Now: Domestication Reconsidered, reveals just how slippery a concept domestication is. For example, evidence is presented that suggests that 'unconscious' selection rather than artificial selection was responsible for the majority of changes seen since the Neolithic period. Others argue that domestication might be best thought of as a loose collection of practices with intentional and unintentional consequences, which may or may not produce biological changes; and that the effects of the practices are highly dependent upon location and time. In Zimbabwe, wild animals have been variously classified as vermin and game, wildlife and property; the classifications depending upon the prevailing political climate. So, for example, the designation of wild animals as the property of the owners of the land on which they were found, coupled with the concept of sustainable use, radically changed the view of wildlife from competitors with domestic stock, to owned property of economic value.

The book contains some heavy anthropological debates, but is also a fascinating read. I discovered that Darwin once kept more than 100 fancy pigeons "to see whether crosses are fertile and for the fun of seeing what sort of creatures appear", and that he encouraged Sir Charles and Lady Lyell to visit by promising to show them his birds. Another 'fancy' domesticate, the fancy mouse, was the origin of the laboratory mouse, with scientists working alongside amateur fanciers to develop some of the inbred strains still produced today. The collection also convincingly dispels the myth of 'untouched' wilderness and 'wild' animals that contrast with 'domesticated' animals under human control. A particularly interesting chapter highlights the lack of interest in the potentially catastrophic loss of genetic diversity in 'domesticated' rice in Vietnam, compared with the tremendous external investment in protecting 'newly-discovered' charismatic fauna such as the saola in that country. The author argues that this investment was driven by an erroneous concept that the species were truly 'wild' and could be protected by the preservation of pristine habitat. In fact, the areas had been subjected to substantial anthropogenic activity for a considerable time, and it appears that the conservation efforts have been largely unsuccessful.

Unfortunately, readers will find very little in this book of direct relevance to animal welfare. There is a brief discussion of Francis Galton's proposal that animal domesticates were initially raised in a caring and protective manner, and probably had a non-economic relationship with humans, much like modern-day pets — but little else of note. Even detailed studies of temple macaques, and of the recently 'domesticated' Atlantic salmon in fish farms. make no mention of animal welfare implications. Given the importance of the human-animal interface to animal welfare, this book serves to highlight the need for greater cross-disciplinary dialogue.

## Reference

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## **HACCP-based** Risk Applying Quality Management on Dairy Farms

Edited by J Noordhuizen, J Cannas da Silva, S-J Boersema and A Vieira (2008). Published by Wageningen Academic Publishers, PO Box 220, NL-6700 AE Waginingen, The Netherlands. 312 pp Hardback (ISBN 978-90-8686-052-4). €85.00.

The Hazard Analysis Critical Control Points system of risk management has been established in many parts of the food industry with the intention of managing risk where it can have the most effect. This book makes a valiant attempt to apply this system to dairy farms, but it is evident that the authors soon realise that the system does not lend itself well to animal populations with biological variations and the confounding factors of animal management and economic expediency add complications that make the rigid use of the system unworkable.

As the book progresses with this impossible task it becomes somewhat confusing and confused. The ease of reading and understanding of the book is not helped by its peculiar style of English grammar which belies the nationality of its authors. There are numerous errors, including a most basic one where one of the central cores to the principles of HACCP—"12 steps to design a Quality Risk Management Programme for a farm" — are incorrect in the text, and have been replaced by a table, inserted loose in the front of the book cover.

It is apparent that the authors aspire to a system of risk assessment and risk management on any dairy farm, initiated by a "strengths and weaknesses assessment" (SWA) using scoring sheets that are pictured in the pages of the book. However, these are shown in a way that they cannot be read, and while they are also available on a supporting website, this is still currently under construction. These assessment sheets are comprehensive and an excellent guide to risks in the various 'domains' that the authors identify as the major health areas of dairy cattle. The second chapter of the book proposes the creation of standard operating procedures (SOPs) to manage the risks and problems identified by the SWA. Examples are given of such hugely complex and comprehensive systems as the storage and use of veterinary medicines, along with much more useful examples of procedures for the provision of colostrum and neonatal calf care. Building such a manual of SOPs for all animal husbandry tasks on the farm would create a very comprehensive document, but would it change farmer and stockman behaviour? Such basic guidance as "cleaning and disinfection of the milking machine should not be done during moments that the milk

is being produced" is likely to bring hoots of derision from any experienced dairyman.

The flow diagrams generated under the instruction from chapter 8 demonstrate the difficulties of fitting animal husbandry systems into a matrix designed for simple mechanical tasks. The complexity is inevitable, and the writers even give a warning that such complexity is likely to overload farm workers.

The book eventually recognises that classical HACCP principles and procedures do not fit with animal-based systems, and reverts to the use of 'Points of Particular Attention' rather than the Critical Control Points of the HACCP system. In our own health-planning systems that are established in UK dairying, these are 'Action Plans'. The use of sensible targets and veterinary guidance on how such health and product quality outcomes can be achieved is the core of practical health and welfare management on dairy farms, and the third part of the book is excellent in offering knowledge and practical advice on how this can be achieved.

The chapter on dairy farm economics, which included specific advice and tips on the best approach to problem-solving on dairy farms, is undoubtedly the most useful part of the book. Unfortunately, the following chapters revert to the creation of masses of documentation with advice on its validation and verification which, in my experience, is treated with some contempt by most of our dairy farmers.

An intriguing chapter on the use of HACCP for health and safety management on farms that have public visitors is included. Apparently, the Dutch have over 400 'children's farms' which handle over 15 million visitors per year, and so health and safety of the public is a major issue for them. HACCP principles work well in these situations, and perhaps the potential threat of litigation makes the presence of a formal plan with the appropriate documentation more pressing. However, the example of a 'monitoring sheet' does not give the reader much confidence. A visit of 15 children and 2 adults to a small pet corner was described as 'quiet' but resulted in the euthanasia of one of the five rabbits due to a fractured leg!

A short chapter on specialist goat dairy farms is of some use to those specialists who deal with such enterprises, but it is chapters 13 and 14 which are the highlights of the book. These deal with the approach to the larger commercial units that we see expanding throughout northern Europe and which bring particular challenges to the veterinary profession and health advisors. There is much useful guidance on the approach to these farms, and the skills required to deal with them. The strengths and weaknesses assessment of the cattle veterinarian, provided on page 231, is an enlightening résumé of some of the realities of vets involved with cattle health management, and lists the skills that we must all acquire if we are to provide a useful service to meet the demands of the modern dairy farmer.

The penultimate chapter on communications and marketing of veterinary skills is an excellent piece, and worth the purchase of the book in itself. It seems to have left the original scheme of HACCP application behind and focuses on the promotion and adoption of health management programmes on to farms. It is an area which many cattle veterinarians, intent on a future in cattle practice, require help and guidance and this well-written chapter provides it. Overall, the book is an interesting, if difficult, read. Ploughing through the first few chapters is rewarded by the more useful last third of the book. It is unfortunate that at the time of review, the supporting website does not appear to provide the promised support, but that will undoubtedly come. This book has useful parts that will provide ideas and guidance needed to create and implement health plans on modern dairy farms and so should be part of the cattle veterinarian's practice library.

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## Livestock Handling and Transport: Third Edition

Edited by T Grandin (2007). Published by CAB International, Wallingford, Oxfordshire OX10 8DE, UK. 400 pp Hardback (ISBN 978-1-84593-219-0). £75.00.

This is the third edition of this book and it is a delight. It is true that any textbook that has gone through 3 editions must be highly thought of, be useful and popular and this book is all of these things. The contents of the book and the authors of most of the chapters have remained constant over the years since the first edition was published in 1993 and the second in 2000. The contents of each chapter have been updated and, in most, the authors have used recent publications where available and appropriate. There are chapters, such as sheep yard design and deer handling, however, where there are few new significant references. This may reflect a lack of research and publication in these fields but the surge of material about horse handling and transport, and cattle behaviour is heartening. The third edition is different from the previous edition in that it has two new chapters titled 'Low stress restraint, handling and weaning of cattle' and 'Biosecurity for animal health and food safety'. One chapter, which was in the second edition, 'Behavioural principles of handling and transport' has been removed from the third edition. Thus, although this is the third edition, it is worthwhile purchasing to complement the previous editions.

The book includes general chapters on stress and welfare during handling and transport and one on the importance of meeting customer requirements. Then, there are six chapters on handling and transport of cattle, three on sheep, two on pigs, and one each on dogs, horses, deer, poultry and slaughter plants. The authors are all notable scientists and from many different countries with, for example, persons from Australia and Scotland covering sheep, a New Zealander covering deer, a Dutchman on pigs and others from North and South America and England dealing with the other species and perspectives.

This is a standard text for people interested in the handling and transport of animals. There are many texts on the mechanics of animal handling and restraint but none approach the subject with the scientific rigour of this book.

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