Reports and Comments

UK equine industry guidelines for the welfare of horses, ponies and donkeys

This compendium (see details below) is the result of a consultation with 17 organisations within the UK equine industry (including DEFRA, the British Equine Veterinary Association and the British Horse Society). It aims to promote good welfare and management practices for those responsible for the care and supervision of all horses, ponies and donkeys.

The introductory chapter sets out the reasons for the production of the compendium stating that *"No aspect of horse ownership is more important than ensuring the horses' health and welfare. Owners and keepers of horses have a moral and legal responsibility to care for them and to ensure their physical and mental well being."* Further chapters include guidelines on management, food and water, health, housing, abandonment, export, riding schools and livery yards, transportation, and EU legislation, with the relevant sections of UK legislation quoted throughout for ease of reference. The chapter on transport is particularly comprehensive and covers a range of issues, including the suitability of vehicles, trailers and equipment, loading density and headroom, space requirements (which are set out in a table according to age for quick reference), segregation, loading and unloading, holding facilities and feed, water and rest.

The appendices contain some useful sources of information, including a list and brief summary of government publications such as the Guidance Notes on the Welfare of Animals (Transport) Order 1997 (DEFRA) and the Summary of the Law Relating to Farm Animal Welfare (DEFRA 1996). Also provided is a list of advisory publications, codes of recommendations and codes of practice, from organisations including the RSPCA, ILPH, and the National Equine Welfare Council, on topics such as disease control, markets, riding schools and general welfare. A list of the Orders and Statutory Instruments relating to equine animals are included, together with a list of EU Council Directives and useful contact addresses. There are also diagrams of horses and donkeys showing 'good' and 'poor' body condition, which should assist the general public in assessing physical welfare.

This compendium summarises equine welfare legislation in a user-friendly manner and encourages more rigorous monitoring and enforcement of welfare legislation. It will be useful to all those responsible for the care and management of horses, ponies and donkeys.

Equine industry guidelines compendium for horses, ponies and donkeys (2002). 41 pp A4 paperback. Produced by and available free of charge from ADAS Consulting Ltd, Woodthorne, Wergs Road, Wolverhampton WV6 8TQ, UK. Also available at: http://www.adas.co.uk

The use of non-human animals in research: a guide for scientists

The use of animals in scientific procedures is an emotive subject, with opinion often sharply divided between those who defend the importance of such research and those wholly against the use of animals. The Royal Society has recently published a document (see details below) that sets out the arguments for the use of animals in research by addressing many of the key issues involved.

Following an introductory chapter summarising the past use of, and public attitudes towards, animals in research, Chapter 2 discusses the medical advances that have been achieved through such research. This is illustrated by three case studies: the development of polio vaccine; the development of kidney dialysis and kidney transplant techniques; and understanding the role of gastrin and histamine in gastric acid secretion. The advantages of using animals as models are discussed and the point often made by opponents, that the differences between animals and humans invalidates such research, is addressed.

Whilst alternatives are available in some areas of research, a great deal has been achieved through the past use of animals. Chapter 3 focuses on these developments, concentrating on drug therapies. The example of using mice to investigate the activity of the CFTR protein, which causes cystic fibrosis, is discussed in detail. Examples are given of future therapies that are likely to require the use of animals at some stage: the prevention of drug-resistant infections; the treatment of mental illnesses, especially depression, schizophrenia and anxiety, which will require some whole-animal studies; better treatments of conditions involving complex interactions throughout the body, such as diseases of the bone, joints and immune system; and the treatment of HIV/AIDS, which is likely to require animal models of the disease to test possible vaccines before trials can be safely conducted on humans.

Chapter 4 concentrates on the philosophical and ethical issues surrounding the use of animals in research, primarily by addressing the arguments that are used by its opponents, such as the view that each animal has the right to life. In particular, the ethical issues surrounding the use of genetically modified animals are addressed and it is concluded that *"...ensuring that any genetically modified trait is consistent with good welfare applies equally to animals bred by the conventional technique of selection and genetic modification..."*

The ethical theme is continued in Chapter 5, which expands on the view encapsulated in UK law that research is allowed, but only by qualified people who hold appropriate licenses, and under tightly controlled conditions. Russell and Burch's '3Rs' principles of humane experimental technique (replacement, reduction and refinement) are discussed in some detail with appropriate case studies. For example, the replacement of the lesioning method (which

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involves studying the effects on behaviour of compromising or removing neural tissue) with transcranial magnetic stimulation (TMS) is detailed. The latter technique replaces the need for permanent, surgical interference of brain tissue and has been used successfully to study the timing of information transfer between human cortical areas, and changes in brain function due to learning.

This guide is aimed at scientists new to research involving animals and to the debate surrounding animal use. For those requiring more detailed information, a list of organisations that are active in these issues is included. Appendices contain details of current UK legislation and a statement of the Royal Society's position on this topic.

The use of non-human animals in research: a guide for scientists (2004). 28 pp A5 paperback (ISBN 0 85403 598 2). Produced and published by The Royal Society and available free of charge from Science Advice Section, The Royal Society, 6-9 Carlton House Terrace, London SW1Y 5AG, UK. Also available at: http://www.royalsoc.ac.uk/news

Welfare of animals during transport

In March 2002, the European Commission adopted a report by its Scientific Committee on Animal Health and Welfare (SCAHAW) on the welfare of animals during transport, which covered horses, pigs, sheep and cattle. A subcommittee of SCAHAW then set to work, under the chairmanship of Professor Donald Broom, to produce a further document covering the welfare of other species that are transported commonly. The resulting work (see details below) was adopted by the Commission on 31st March 2004 and has been published by the European Food Standards Authority. This report covers broilers, laying hens, turkeys, ducks, geese, pigeons, quails, ostriches and other ratite birds, deer, reindeer, rabbits, dogs, cats, rodents, primates, fish, reptiles and amphibians for the pet market, wild animals for translocation, invertebrates, and circus animals. In defining the task for the working group, SCAHAW requested that the group should address, in particular, loading densities, traveling times, resting times, watering and feeding intervals and interactions of these and other factors.

The report discusses general principles relevant to achieving good standards of welfare for transported animals and provides specific recommendations about transport on a species by species basis. Regarding the general principles, there are chapters on welfare assessment during transport, inspection, training of personnel, and on infectious disease aspects which include: effects of transport stress on susceptibility to infection, increased shedding of infection during transport, and the effects of transport on transmission and disease.

The species-specific sections vary in layout because very much more is known about the transport of, and the effects of transport on, some of the species covered than others. In most cases there is discussion of relevant aspects of the biology of the animals and the potential stresses of transport on them. This is followed by sections that cover pre-transport preparation and handling, journey management, feeding and watering, stocking density, thermal environment, and, for some species, transport times and post-transport treatment.

This is a valuable review and summary of the extensive scientific literature on this subject: the list of references includes some 700 publications. Some species are covered in very much greater depth than others (eg there are 24 pages on chickens but only one on primates). As the authors point out, *"the amount of scientific work about welfare during transport of animals varies from substantial to about zero"*. Their aim, given that transport has to occur, has been to present *"the best possible basis for recommendations and legislation"*. A few sections, for example that on ornamental fish, are so brief that it is hard to see how they could be used in this way but, in general, this is a substantial contribution that will be very useful to all those involved or interested in transporting animals.

The welfare of animals during transport (March 2004). Scientific Report of the Scientific Panel on Animal Health and Welfare on a request from the Commission related to the welfare of animals during transport (Question No. EFSA-Q-2003-094). 183 pp A4 paperback. Published by the European Food Standards Authority. Available at: http://www.efsa.eu.int/science/ahaw/ahaw_opinions/424_en.html

Animal pain: the need for a cross-species approach

In September 2002, 29 experts in animal and human pain (including veterinarians, biomedical researchers, and ethicists) gathered for an international workshop in Virginia, USA, in an effort to encourage cross-disciplinary communication and collaboration in the study of animal pain and to raise awareness of key areas where knowledge is lacking. A report on the workshop has recently been published in the Journal of the American Veterinary Medical Association, in which the participants state that *"animals feel pain and that although it is unclear... at what taxonomic level nociception is associated with pain and whether all species, including humans, feel pain with the same qualities and intensities, operationally, vertebrates and some invertebrates experience pain."*

The report begins by discussing the debate concerning nociception versus pain, concluding that animals can experience pain although they cannot verbally express the emotional component of it. There follows a short discussion on taxonomic differences in the complexity of the CNS anatomy as one progresses up the phylogenetic tree, including whether pain perception differs from one species to the next. The report states that *"although higher degrees of encephalization imply greater self-awareness... and potential for mental distress, this may have minimal effect on the immediate, acute perception of and response to pain."*

The next section highlights a number of gaps in our current knowledge of animal pain and analgesia, many of which relate to a lack of data on molecular biology, cell signalling, genomics, proteomics, and other basic mechanisms of pain. In order to address this issue, the report calls for a collaborative effort to form a new understanding of animal pain. Areas of particular concern include the large variability in the amount of species-specific information (especially related to analgesia), limited formal training in animal analgesia

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