

also that the meeting reached, and the report presents, the majority views of the participants including those outlined above (it is noted that, although the aim was to achieve consensus views wherever possible, there were, unsurprisingly, some differences of opinion between the experts present and that the conclusions reached represented the majority views).

As regards current good practice, it was the general opinion of the participants that minimising unpleasant feelings is more important than minimising time to loss of consciousness. Since all delegates agreed that placing animals into chambers pre-filled with high levels of CO₂ causes serious welfare problems, using a rising concentration is better. Although optimum filling rate is uncertain, it is reported that use of 100% CO₂ at a flow rate of 20% of chamber volume per minute has been shown to produce loss of consciousness without evidence of pain (but not without evidence of dyspnoea).

This report shines light on this controversial subject and is a valuable contribution in taking the debate forward. It identifies the key areas of remaining scientific uncertainty and outlines the research needed to address them.

Newcastle Consensus Meeting on Carbon Dioxide Euthanasia of Laboratory Animals (August 2006).

Hawkins P, Playle L, Golledge H, Leach M, Banzett R, Coenen A, Cooper J, Danneman P, Flecknell P, Kirkden R, Niel L & Raj M. A Report of a meeting held at the University of Newcastle-upon-Tyne, 27th & 28th February 2006. 17 pages, A4. Available at the websites of the National Centre for the Three Rs and of Laboratory Animals Ltd: www.nc3rs.org.uk/CO2ConsensusReport and www.lal.org.uk/news.html

J Kirkwood

UFAW

Review of Livestock Movement Controls in the UK

There is a tension between the needs for moving livestock for economic and trade reasons and the risks of infectious disease transmission that movements present. Rules about livestock movements in the UK developed in a piecemeal way over the years and the major Foot and Mouth Disease epidemic in the country during 2001 drew attention both to the scale of within-country movements and the need for better biosecurity arrangements. In 2001 tighter controls were introduced which banned the movement of animals from a premises for 21 days after new animals had arrived on it (the 'standstill' period has since been reduced to 6 days for cattle, sheep and goats and to zero for deer). New rules have recently been introduced in England and Wales requiring the pre-movement testing of cattle aged over 15 months for bovine tuberculosis.

The Minister for Local Environment, Marine and Animal Welfare at the Department for Environment, Food and Rural Affairs, Ben Bradshaw, asked Bill Madders to examine current policy on the movement of farmed livestock (except pigs and poultry): "To review and make recommendations

on the degree to which current rules in England and Wales on the movement of cattle, sheep and deer deliver a sufficient reduced risk of disease taking account of the need to support the sustainability of the livestock industry...". The review was conducted between February and the end of June 2006 and the Report (see details below) has been recently published.

The Report concludes that various changes need to be made to the rules. These include: simplification to enable livestock keepers to understand them and to understand their responsibilities; measures to enable trading practices convenient or necessary for profitability whilst minimising disease risks; and, measures to be undertaken by Defra and its agencies to identify more accurately places between which livestock are moved and thus to improve traceability. Annexes outlining various existing relevant provisions are included and a total of 21 recommendations are made. The keys to the prevention and control of disease are, the Report states: "...good biosecurity, not allowing animals to move more than once per week, the appropriate use of isolation facilities and knowing what is where and when...".

Striking the right balance here; to enable necessary movements whilst minimising infectious disease risks, is important for livestock welfare. This Report provides a helpful review of the present regulations, with clarifications about interpretation of some of these, and draws attention to various points where changes could be made.

Review of the Livestock Movement Controls (July 2006).

Madders B. Report commissioned by Defra. Publication number PB 12097. 36 pages, A4. Published by the Department for Environment, Food and Rural Affairs, and available from Defra, Nobel House, 17 Smith Square, London SW1P 3JR, UK and at the Defra website: www.defra.gov.uk

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UFAW

The Humaneness of Badger Dispatch Procedures in the Randomised Culling Trial for the Control of Bovine TB in the UK

The Randomised Badger Culling Trial (RBCT) began in the UK in 1998 as part of the Government's strategy to investigate the control of tuberculosis in cattle. Aspects of the trial have been subject to independent audit and the fifth of these audits, concerning the humaneness of dispatch procedures, has recently been published. This audit was carried out by Dr James Anderson and is published (see details below) together with Defra's response. It outlines observations made during twelve field visits on the dispatch of 9 badgers and the blood sampling, under anaesthetic, of 18 animals. The auditor commended the field staff involved "for carrying out the unpleasant task of killing badgers in a particularly conscientious, efficient and humane manner" and noted that no new recommendations were required to the standard operating procedures.

During the period covered by this Report, blood samples were collected from some badgers under anaesthesia, and

the auditor has outlined the methods and commented on the humaneness. In comparing humaneness of dispatch by shooting and overdose of anaesthetic it was concluded that “both methods are humane”. The blood sampling procedure was undertaken under the Animals (Scientific Procedures) Act 1986 and the Report discusses the reasons for this and recommends that, in any future work, discussions with the Animals (Scientific Procedures) Inspectorate should include the trapping arrangements and the likely effects on the animals.

The RBCT ended in October 2005 and the results are being assessed by the Independent Scientific Group on Cattle TB (ISG). The ISG’s final report and recommendations to Ministers are expected in early 2007.

TB in cattle: The fifth Independent audit on the humane-ness of dispatch procedures used in the randomised badger culling trial and Defra’s response (2006). Defra Publication number PB 11908. 27 pages, A4. Published by the Department for Environment, Food and Rural Affairs, and available from Defra Publications, Admail 6000, London SW1A 2XX, UK and at the Defra website: www.defra.gov.uk

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UFAW

South Asian Edition of the World Zoo and Aquarium Conservation Strategy

The Zoo Outreach Organisation (ZOO) of Coimbatore, India and the South Asian Zoo Association for Regional Cooperation (SAZARC, the administrative office of which is based at ZOO) have produced and published a summary document (see details below), which provides an introduction to the World Zoo and Aquarium Conservation Strategy (available at www.waza.org) that is specifically tailored for South Asian readers. The need for long-term thinking and planning is neatly introduced by drawing attention to the great success of the Przewalski’s horse conservation and reintroduction scheme and then to the highly endangered status of the Indian wild ass (*Equus hemionus khur*): “there is no coordinated management programme for Indian wild ass in S. Asian zoos so captive breeding will not save this species...unless...”.

There are a variety of brief illustrated articles including: ‘Why Develop a New Zoo Strategy?’, ‘From Menageries to Conservation Centres in South Asia’, and ‘The Role of Modern Zoos and Aquariums in South Asia’. The importance of good welfare standards is emphasised strongly and the piece on ethics and animal welfare states: “Well-meaning zoos and aquariums follow ethical principles and maintain the highest standards in wildlife welfare and management and breeding.” and, under the heading ‘WAZA’s main goals’, “All institutions permanently strive after an improvement of methods and professional techniques. If the killing of surplus animals is not justifiable and reproduction cannot be prevented without causing health problems, then institutions should not have these animals in

their collection”. The need for balancing conservation aims with animal welfare needs is also outlined, and attention drawn to the importance of animal welfare education for zoo visitors.

SAZARC has member zoos in India, Bhutan, Afghanistan, Bangladesh, Nepal, Pakistan and Sri Lanka. This well-written and illustrated publication provides an interesting summary and introduction, with a South Asian perspective, to the World Zoo Conservation Strategy and is likely to help in getting zoos to work together internationally for wildlife conservation and high welfare standards.

Building a Future for Wildlife: The World Zoo and Aquarium Conservation Strategy- to help zoos and zoo visitors understand animals and protect them in South Asia (2006) Dollinger P & Walker S (Eds). ISBN 81-88722-15-4. 21 pages, A4. Published by the World Association for Zoos and Aquariums, the Zoo Outreach Organisation and the South Asian Zoo Association for Regional Cooperation. Available from the South Asian Zoo Association for Regional Cooperation; www.zooreach.org

J Kirkwood

UFAW

NC3Rs Guidelines on Primate Accommodation, Care and Use

The UK’s National Centre for the Replacement, Refinement and Reduction of Animals in Research (NC3Rs), in partnership with the Medical Research Council, the Biotechnology and Biological Sciences Research Council, the Wellcome Trust and the Association of Medical Research Charities, has produced new guidelines on the accommodation, care and use of non-human primates used in research which is funded by these organisations or their member charities (see details below). These guidelines set out best practice in the use of primates in biomedical, biological, veterinary and behavioural research.

In the introduction it is made clear that researchers and their host establishments are responsible for applying the guidelines and it is recommended that institutional ethical review processes (ERPs) should be central to their implementation. The booklet includes sections on the source of primates, experimental design, accommodation and environment, capture, handling, restraint and training, veterinary care, staff, fate of animals, and implementing the 3Rs. There are four pages of references.

This is a neatly produced and illustrated piece of work. The guidelines are clearly laid-out, numbered, and stated pithily and unambiguously. Amongst the points that are likely to help drive progress in this field are in the section on ‘Implementing the 3Rs’: “Developments in the 3Rs should be widely disseminated to colleagues and peers, ideally through publication...” and “The funding bodies encourage their researchers to work with animal welfare