

the traditional farm species (ie cattle, sheep, goats, pigs, rabbits and domestic fowl) are covered – as are horses, farmed fish and pen-reared game birds.

The papers are written by some 24 eminent authors – all from the animal science/extension service community – and were doubly reviewed by a panel of ‘individuals from many points within the ideological spectrum of animal welfare/rights’. The authors, however, retained the right to make final corrections and decisions regarding the contents of their papers.

Most of the material deals with the problems associated with individual species of farm animals. There is, however, a substantial and well-written general review, with some 155 books, papers and videos mentioned in its reference and supplementary reading lists, on the scientific, social and ethical aspects of animal welfare, and there are brief but very informative pieces on animal exhibits, shows and fairs and on the handling of crippled and non-ambulatory livestock. Some papers, such as that on farmed fish, cover in detail many aspects of the husbandry of the species; others such as that on game birds reared for shooting mainly concentrate on the problems associated with this welfare-fraught but little-discussed areas of animal production.

Many of the individual species papers are constructed round a series of issues/questions which are likely to be advanced by the critics of the particular production system. This is not to say that the papers are just ready-made replies which can be used to rebut attacks. Most of the issues are fully discussed – often, but not always, with a full acceptance that there are, at times, real problems with some aspects of some husbandry methods.

This collection of discussion papers has a use well beyond the immediate needs of the US Country and State Co-operative personnel. It should be read and thought about by all scientists, technologists, teachers and extension workers involved in farm animal production and by animal welfare workers in general.

Animal Welfare Issues Compendium. A Collection of 14 Discussion Papers. Facilitated by Reynnells R D and Eastwood B R (1997). USDA: Washington, DC. 141pp. Paperback. Obtainable from Animal Welfare Information Centre, National Agricultural Library, Fifth floor, 10301 Baltimore Blvd, Beltsville, MD 20705, USA. Free

Ethical approaches to animal-based science

There is currently a move towards a more self-regulatory system for animal research in the UK, with the requirement for establishment of local ethical review processes to complement the external regulation by the Home Office. In contrast, in New Zealand, the current system is based largely on self-regulation through local animal ethics committees but, in this volume, Mr Andrew McCaw of the Office of the Ombudsman, New Zealand, argues that greater external surveillance would be beneficial and would help to promote the 3Rs most effectively. This and the other papers presented in this Proceedings of the 1997 conference, jointly organized by the Australian and New Zealand Council for the Care of Animals in Research and Teaching (ANZCCART) and the National Animal Ethics Advisory Committee (NAEAC), provide an interesting insight not just into current debate about the ethics of the use of animals in research in New Zealand, but also into the history of the approaches this country has evolved to try to resolve conflicts in this field.

This is an interesting collection of high-quality papers from an international authorship, edited and presented to a high standard. Most of the contributions are concerned with ethics, public perceptions, and the operation (and refinements in the operation of) animal ethics committees, but there are also some papers addressing more technical matters within sections on humane end points and researching vertebrate pest control methods. The final section includes papers from

a 'point-counterpoint' session at the conference, presenting a spectrum of opinions and positions held by various advocates. This includes papers which argue the case for animal research for the benefit of humans, other animals, science, and for the environment respectively.

Introduced species are a major threat to the indigenous fauna and flora of New Zealand and ethical dilemmas associated with pest control and other aspects of human/wildlife interactions are discussed in several of the papers including Sir Colin Spedding's introductory overview 'The environment and animal welfare: ethical issues'. As Professor Neville Gregory points out in his paper on 'Rationale for controlling vertebrate pests', in the control of introduced species that threaten indigenous species with extinction, it is often the case that 'a majority has to die in order to save a minority'. This is an emotive issue, and the data that are needed for informed debate on the ethics of such cases, namely the welfare costs of control methods and the benefits of the control, are rarely as clear and comprehensive as many would wish. There is mention of the fact that in New Zealand, the Animal Welfare Advisory Committee (AWAC) makes recommendations about humane control agents. This illustrates another striking difference between New Zealand and many other countries (including the UK): there is no UK counterpart to New Zealand's AWAC, ie a body that is concerned with the welfare of all animals including wildlife, although there must be many advantages in having such a national body.

In his paper 'How can animal-based scientists demonstrate ethical integrity', Professor David Mellor argues that scientists have tended to be ethically naive and, until recently, 'have left fundamental ethical issues to be explored by others'. This volume is indicative of the current interest in the ethics of animal-based science and it provides both a great deal of valuable information and also many interesting perspectives on the subject.

Ethical Approaches to Animal-based Science. Proceedings of the Joint ANZCCART/NAEAC Conference held in Auckland, New Zealand, 19–20 September 1997. Edited by Mellor D, Fisher M and Sutherland G (1998) 159pp. Paperback. Obtainable from The Royal Society of New Zealand, PO Box 598, Wellington, New Zealand (ISBN 0908654839). Price NZ\$35.00 (in New Zealand) or US\$35.00 (overseas).

Guidance on the *Welfare of Animals (Transport) Order 1997*

These guidance notes have been produced to aid consistency of understanding and enforcement of the *Welfare of Animals (Transport) Order 1997*. The Order is long and complex and these notes provide a useful interface and considerable help with its interpretation. It is clear that a lot of effort has been made to try to make the complexities of the law as accessible and unambiguous as possible. The notes take the reader through the articles, explaining and expanding as appropriate, in an orderly and thoughtful way. The text is well written and good use is made of bullet points, tables and diagrams to help convey the essential messages. For example, boxes are provided containing flow diagrams to take the reader through the necessary steps to decide whether, for a given transport event, a Route-Plan or an Animal Transport Certificate is required, and to help unscramble the rules for transport involving journeys through markets. Rules concerning journey times are set out in tables.

The booklet is divided into two parts. Part 1 covers guidance on the Order and includes: scope and exemptions; general provisions (eg on space allowances and fitness to travel); a long and detailed section on feeding, watering, travelling times and rest periods; accompaniment by competent persons; duties and responsibilities of transporters; and various aspects of certification and authorization. Part 2 contains technical advice on vehicles and their operation for road transport, on the transport of animals on roll-on roll-off vessels, and on the transport of animals by air. The layouts of the various forms used to certify and record the transport of animals are