

Reports and Comments

A CD-based animal welfare syllabus

'Concepts in Animal Welfare' is a CD-ROM resource aimed at facilitating the teaching of animal welfare to students at veterinary institutes. Specifically, the aim is stated as being "to introduce the concepts of animal welfare into the veterinary faculties of developing countries". The resource includes 30 teaching modules. The first 18 of these are grouped under the heading 'General principles' and include material on: introducing animal welfare; welfare assessment and the Five Freedoms; indicators of animal welfare; introducing animal ethics; the role of the veterinary profession; and legislation. In the second section, the modules deal with specific examples, including: farm animal welfare assessment, farm animal transport and markets, livestock slaughter, working animals, animals used in experiments, companion animals, euthanasia and wild animal management.

Navigation through the CD-ROM is straightforward (but does require prior installation of a non-standard NewsGothic font, which is provided on a separate floppy disc in the package). From the title page of each module, single-clicking the appropriate icon takes the user either to a Microsoft PowerPoint presentation on the theme of the module or to Microsoft Word files which provide, respectively, ten questions (with answers) for use in assessing students' understanding, three discussion topics, and five project topics on the theme. The PowerPoint presentations include notes for the presenter that expand briefly on the points introduced in the slides. In some cases, these notes also provide references to further literature on the subject. The slides and the accompanying text are generally well produced and make their points clearly and succinctly. The resource also includes a list of suggested reading and a list of websites at which further information may be found; these are present both on the disc and in the accompanying booklet.

Each module starts by setting out the learning objectives and a summary of the content of that part of the course. It is suggested in the introduction and explanatory notes that, used together as a comprehensive animal welfare course, the package provides approximately 30 h of teaching.

This is on the whole a very good piece of work: some modules are well balanced and excellent. The CD-ROM is likely to prove very valuable to those engaged in establishing new animal welfare courses. There are some areas in which improvements could be made. One important issue that appears to receive little attention is the debate about the distribution of sentience among animal taxa (including where the lines are currently drawn and why). Another aspect that could be improved is the provision of supporting references for the material provided. This seems rather patchy and, in places, not well focused. For example, in the text accompanying the slide on 'Reduction' in the experimental animals module, no references are provided to sources of information on statistical methods or experimental design relevant to this. It appears also that, in some places where references are

provided (eg in the notes accompanying the slide on 'Refinement' in the experimental animals module), only author name and date are given, with no details of the title of the paper or the publication in which it was published.

In the press release announcing the publication of this teaching resource, John Callaghan, Education and Training Director of the World Society for the Protection of Animals (WSPA), in introductory comments about this initiative says: "Regrettably, animal welfare hasn't traditionally received the priority and attention it deserves from the veterinary profession." This mild veterinary profession bashing is aired again in the Preface to the booklet accompanying the CD: "For many years animal welfare organisations, like WSPA, have taken the lead in bringing about improvements in animal welfare as well as helping to change attitudes towards animals. Unfortunately the veterinary profession has often lagged behind in its support for reform...". On behalf of all those vets who have devoted their lives to prevention, alleviation and treatment of many problems that have caused major animal suffering, some may feel that it is regrettable that this rather curious analysis is presented here. However, it is unlikely that any will disagree that the education of veterinarians should include a good grounding in animal welfare. Material in this production by WSPA and the University of Bristol will be of interest and value both to veterinary students and to others involved in animal welfare.

Concepts in Animal Welfare (October 2003). A syllabus to assist with the teaching of animal welfare in veterinary faculties. CD-ROM plus associated booklet listing an outline of the syllabus. Produced by WSPA in collaboration with the University of Bristol. Published by and available, free to *bona fide* educators, from: WSPA, 89 Albert Embankment, London SE1 7TP, UK. Also available at: <http://www.wspsa-international.org>.

Refinement and reduction in the production of genetically modified mice

The sixth of the series of reports on refinements in laboratory animal research by the joint working group of the British Veterinary Association Animal Welfare Foundation, the Fund for the Replacement of Animals in Medical Experiments, the Royal Society for the Prevention of Cruelty to Animals and UFAW has recently been published. It addresses welfare issues relating to the methods of production of genetically modified (GM) mice and to the effects of the modification.

Since the first report of the genetic modification of mice in 1980, there has been a very dramatic growth in the use of GM mice. These animals are used in exploration of the roles and action of genes, in the generation of models of human diseases, and in the investigation of possible treatments. While there has been a long-term trend towards reduction in the numbers of non-GM animals used in scientific procedures in the UK, because of the rapid rise in GM research, this trend shows signs of being reversed.

The welfare problems associated with the production and use of GM mice include those that can be associated with the surgical procedures used in obtaining fertilised eggs and in tissue sampling, and those caused by genetic changes that predispose animals to pain, suffering, distress or lasting harm.

The report covers methods of producing GM mice, technical improvements aimed at reducing the number of animals used in production, training and competence, husbandry, health status, tissue biopsy collection for genotyping, transport, and assessing the welfare of GM mice. Regarding the latter, the report encourages observation and, where appropriate, objective measures of a variety of parameters including: number of live births, pre- and post-weaning mortality, developmental abnormalities, movement and posture, growth rates, and post-mortem analysis and histopathology of target tissues and primary organs.

This is a comprehensive and valuable review of the potential welfare problems associated with the production of GM mice and the range of measures that should be undertaken to minimise these risks of harm to welfare.

Refinement and reduction in production of genetically modified mice (2003). Report of the BVAAWF/FRAME/RSPCA/UFAW Joint Working Group on Refinement. Robinson V, Morton D, Anderson D, Carver JFA, Francis RJ, Hubrecht R, Jenkins E, Mathers KE, Raymond R, Rosewell I, Wallace J and Wells DJ. *Laboratory Animals* 37 (Suppl 1): S1-S51

Remote monitoring of animals in scientific procedures

The technology for remote monitoring of physiology and behaviour has developed greatly in recent years. The development of silicon chip electronics and compact long-life batteries paved the way for production of small implants that can transmit data on a remarkable range of parameters. These are being used in research into a variety of aspects of animal biology and they offer a method for hands-off monitoring of indices of welfare in experimental animals.

The BVAAWF/FRAME/RSPCA/UFAW Joint Working Group on Refinement chose to review this subject as the topic of its seventh Report, the first part of which has been published recently. The aim was to help scientists, animal technicians, veterinarians and members of animal use and care committees to refine all aspects of telemetry procedures in animals used for scientific procedures. As stated in the Report: "Telemetry is often presented as a refinement, in that it can reduce or eliminate stress caused to animals (eg by restraint), but it is vital to remember that telemetry, like all other procedures on animals, also needs to be refined". This is the scope of the review.

This comprehensive 38-page document includes sections on the harms and benefits associated with the use of telemetry, legal issues, selecting or designing devices, methods of attachment or implantation, post-surgery monitoring, and telemetry studies in the field or using wild animals. It contains a great deal of practical and clearly presented advice

on how risks to welfare can be minimised at all stages of animal telemetry.

Part B of the Working Group's Report, which addresses refinements in husbandry of rodents, dogs and non-human primates in which telemetry is used, is to be published shortly.

Refinements in telemetry procedures (2003). Part A of the seventh Report of the BVAAWF/FRAME/RSPCA/UFAW Joint Working Group on Refinement. Hawkins P, Morton D, Bevan R, Heath K, Kirkwood J, Pearce P, Scott E, Whelan G and Webb A. *Laboratory Animals* 37: 261-299

Veterinary surveillance strategy in the UK

One of the new initiatives in the UK animal health and welfare strategy that is to be launched by the regulatory authorities next year relates to enhancing veterinary surveillance. In advance of this, the Surveillance Group of Defra and the other UK administrations has now published a 10-year strategy for veterinary surveillance in the UK. The core objectives of this will be: "to deliver earlier warning and more rapid detection and analysis of disease threats, provide open and transparent prioritisation of surveillance activities, to give a clear, well defined evidence base for all animal health and welfare related policies, and to make better use of the data collected". The recent BSE and foot-and-mouth disease epidemics in the UK were factors involved in prompting the development of this strategy. These have been dramatic reminders of the enormous welfare, economic and other devastation that some animal diseases can cause. The risks of such events arising from the introduction of non-indigenous infectious agents are likely to continue to grow in line with the massive increase in human and animal transport around the world.

The strategy document has sections on the five strategic goals: 1) to strengthen collaborations; 2) to develop a prioritisation process; 3) to derive better value from surveillance information and activities; 4) to share information more widely; and 5) to enhance the quality of assurance of outputs. A set of objectives is presented and discussed under each of these headings, and a table is presented at the end of the document providing a detailed timetable for the implementation of the various components of the process.

Disease surveillance presents notoriously difficult challenges. The strategy set out here appears a sensible framework. However, a number of apparently new committee and board structures and a new IT system called RADAR (Rapid Analysis and Detection of Animal-related Risks) are involved. Since the behaviour of both these kinds of machinery can be subject to some of the same uncertainties that are encountered in disease surveillance, implementation of the strategy is perhaps unlikely to be entirely plain sailing.

The principles listed as those that will guide surveillance are as follows:

- to protect public health
- to protect the interests of the wider economy and society