REPORTS AND COMMENTS

Alternatives to animal use in research: workshop on isolated perfused organs

Using techniques of harvesting, cooling and perfusion developed for human organ transplantation, it is now possible to use isolated organs from abattoir-slaughtered food animals as alternatives to laboratory animals in some types of research. These isolated perfused organ models permit studies of specific organ function under controlled conditions and are of value in various fields including pharmacology and toxicology. The use of organs taken from humanely killed food animals has the potential to reduce the numbers of animals that are bred, kept and used for some types of research. In line with their promotion of animal welfare, The Society for Laboratory Animal Science (GV-SOLAS) organized a workshop to review recent developments in this subject. The published Proceedings includes 23 chapters covering a range of aspects of the preparation and evaluation of isolated organ or tissue models and their use in research. The technology for maintaining isolated organs has developed considerably during the last decade resulting in 'an increase in validity and precision of experimental results under circumstances that are virtually true-to-life'. These Proceedings provide a view of the technology and the potential value of using isolated organ models as alternatives to laboratory animal use for some procedures.

Proceedings of a Workshop on Isolated Perfused Organs (Hamburg 1998). Edited by W Pittermann, M Kietzmann and C Grosse-Siestrup (2000). Published on behalf of GV-SOLAS by Laboratory Animals Ltd: London. 172pp. Paperback. Obtainable from: Sekretariat der GV-SOLAS, c/o Dr Hans Hiller, Centrale Tierlaboratorien, Freie Universität Berlin, Krahmerstrasse 6, D-12207 Berlin, Germany (ISBN 090133412X). Free.

Should raptor populations be controlled?

The populations of several species of birds of prey have increased dramatically in the UK in the last 20 years. In particular, peregrine, *Falco peregrinus*, and sparrowhawk, *Accipiter nisus*, numbers are much higher than they were at times in the last century because of effective controls protecting them from deliberate killing and from the persistent chlorinated hydrocarbon pesticides that caused massive declines in the 1950s and 60s. While this is generally received as good news, some take a different view. Peregrines and sparrowhawks are by no means uniformly popular with those who race pigeons; and hen harriers, *Circus cyaneus*, have a similarly difficult relationship with the grouse shooting community. The economies of the grouse and racing pigeon industries are considerable. In 1995, the Department of the Environment established the Raptor Working Group to look at changes in the population status of birds of prey, investigate the impact of species alleged to be causing problems, identify research needs and consider mechanisms for resolution of the problems. This group has now reported and any raptors that might have been awaiting the outcome nervously can now relax – nothing bad is planned for them.

The group concluded that most UK raptor species have not yet fully recovered their former range or numbers. As for the impact of raptors on grouse numbers, since in many areas grouse numbers have shown a long-term decline for reasons not associated with raptors, the group suggested that the long-term solution 'lies in the need to restore and enhance the extent and quality of heather moorland'. However, at a study site at Langholm in southern Scotland it was found that grouse numbers were significantly reduced by hen harrier predation. The group ruled out lethal control methods for dealing with such conflicts. The results of trials at Langholm showed that 'diversionary feeding' of hen harriers with carcases of rabbits, rats, mice and chickens was successful in reducing their predation on grouse at critical periods and the group reported that this technique should be widely promoted. It also recommended investigations of

the effectiveness of diversionary feeding of peregrines by establishing dovecotes on or near grouse moors.

With regard to the racing pigeon issue, research by the Hawk and Owl Trust estimated that peregrines take 3.5 per cent and sparrowhawks less than 4 per cent of the UK racing pigeon population each year. The Royal Pigeon Racing Association estimated higher total losses to raptors of 12.5 per cent annually. Annual losses through all causes are about 52 per cent. There are no legal provisions for issuing licenses for taking or killing raptors to protect racing pigeons. The group recommended research into a variety of measures (none of a type likely to harm welfare) that might help to limit raptor predation around pigeon lofts and on racing flights.

This report is an interesting and remarkably thorough review of a couple of relatively minor (in the present global context) conflicts between the interests of wild animals and humans. The report concludes: 'Compatibility between conservation and game management cannot be left to evolve by default: it must continue to develop by design – with the due support it so rightly deserves from all interested parties.'

Report of the UK Raptor Working Group. Chaired by the Department of the Environment, Transport and the Regions and the Joint Nature Conservation Committee (2000). The Department of the Environment, Transport and the Regions: London, UK. 123pp. Paperback. Obtainable from: the Department of the Environment, Transport and the Regions, Tollgate House, Houlton Street, Bristol BS2 9DJ, UK (ISBN 1853970786). Price £9.99.

Standards of modern zoo practice

The UK *Zoo Licensing Act 1981* established a system for the licensing of zoos by local authorities on the advice of government-appointed Zoo Inspectors with expertise in zoo animal care and zoo management. In carrying out their inspections, the Zoo Inspectors are required to have regard to a set of guidelines that set the ground rules for animal welfare and aspects of visitor safety in UK zoos – the *Secretary of State's Standards for Modern Zoo Practice*. These standards, published some 15 years ago, have been under review during the past year and, following extensive discussions and consultations, the new revised edition has now been published.

The meat of these standards is a comprehensive checklist of points of the sort: 'The condition, health and behaviour of all animals should be checked at least twice daily by the person or persons in direct charge of their care', and 'animals in outdoor enclosures must be provided with sufficient shelter for their comfort and wellbeing...'. These points, which provide a framework for the audit of zoo standards are laid out in a format linked to meeting the 'five freedoms', under the headings: provision of food and water, provision of a suitable environment, provision of animal health care, provision of an opportunity to express most normal behaviour, and provision of protection from fear and distress. There are 13 appendices which expand on the context and detail of the standards.

The revised standards take into account the requirement of the European Union Zoo Directive (1999/22/EC) that zoos must contribute to conservation through research, education and/or captive breeding – and one of the appendices provides a framework for the assessment of zoos' activities in these fields. Another of the appendices discusses ethical aspects and states that 'zoos should have some sort of ethical review process, particularly in situations where the use of animals (eg acquisitions, management or dispersal for conservation, education or research) may be in conflict with the best interests of the animal or animals involved'. Other appendices deal with such matters as animal transactions, veterinary facilities and the training of animals.