will be specified by group (eg rodents) rather than by individual species. Procedures will also be specified in general terms (basic or advanced) corresponding to either Modules 1–3, or Modules 1–4 of the accredited training system for those responsible for carrying out scientific procedures on animals under the Act. These changes are intended to reduce the load on the Inspectorate and the number of technical infringements. However, they could also be interpreted as a reduction in the high standards of inspection and might allow a personal licensee to change to a different procedure or species without sufficient experience or training. That the Home Office will be consulting on this issue is, therefore, to be welcomed.

In response to a number of concerns, the Committee will also be establishing a Working Party to consider the issue of genetic modification and cloning. Some of these concerns clearly give the animals the benefit of the doubt: for example, apprehensions that animals might be released from the Act into commercial production before their welfare has been assessed under conditions pertaining outside the laboratory. Others seem to originate more from the users' point of view, such as the concern that the requirement for all transgenic animals be treated as 'procedures' makes no sense, as in many cases their phenotypes are normal. However these matters are resolved, it is clear that this is a time of change and development not only in animal experimentation but also in the functioning of the APC and the *Animals (Scientific Procedures) Act 1986.*

Report of the Animal Procedures Committee for 1997 (1998). The Stationery Office: London.110pp. Paperback. Obtainable from The Publications Centre, PO Box 276, London SW8 5DT, UK and other usual HMSO sources. Price £13.60.

The welfare of circus animals

On the instruction of the UK Government's All Party Parliamentary Group for Animal Welfare, the Circus Working Group was formed in November 1996 to examine animal welfare aspects of circuses and to review current legislation and husbandry practices. This Group, which included representatives from a number of organizations with relevant interests and expertise, made a 2-year investigation of circuses in England and Wales and published a report of its findings, deliberations and recommendations in October 1998. The Group looked into various issues including: the law, the numbers of animals in circuses, accommodation, training, physical and psychological effects, transport, and standards of veterinary care. Evidence was gathered through consultations and also through visits to circuses.

The Group found that, although the *Performing Animals (Regulation) Act 1925* requires that anyone who trains or exhibits animals must register with their local authorities and provide details of their animals, there is no reliable source of data on the total numbers kept in circuses. A 1989 survey undertaken by Kiley-Worthington (Kiley-Worthington 1990) concluded that there were 513 animals in circuses at that time. In 1997, there were 12 large circuses and 9 smaller ones touring Great Britain – and it seems likely that the current number of animals involved is of a similar order of magnitude to that found in the 1989 survey. Although few in number, these animals have a very high public profile – the Report cites the Association of Circus Proprietors as estimating that there are over 3 million paying visits each year to see performing animals in circuses.

The *Performing Animals (Regulation) Act 1925* gives local authorities powers to enter circuses and inspect both animals and circuses. However, there are no guidelines on standards of animal welfare and husbandry. Whereas the licensing of zoos under the *Zoo Licensing Act 1981* is dependent on their demonstrating adequate standards of husbandry, there is no such system for circuses and they are regulated by a system of registration rather than licensing. Local

authorities vary in their approaches to zoos. Although, they do not have powers to ban circuses from operating within their districts, some refuse to allow them to operate from council-owned parks.

The Circus Working Group were unable to visit any winter quarters and recommended further investigation in this area. In addition, the Group were able to acquire little information on travelling conditions during the touring season but expressed the view that existing legislation under the relevant EU Transport Directive, and industry guidelines, should provide an adequate framework. The Report indicates some differences of opinion between Group members about the adequacy of circus animal accommodation. Thus: 'whilst some... felt that accommodation was restrictive in space and complexity, circuses argue that such restriction is balanced by the stimulus of training and performance'; and others took the view that 'circuses, by their very nature, cannot provide what the animal needs in terms of space and complexity and that training cannot overcome a lack of environmental enrichment'. Similarly, there were clear differences of perspective between members of the Group on the training of circus animals. The lack of any formal structure for training the trainers was highlighted as a constraint on the development of consistent standards. On the subject of physical and psychological stress, the Report states that the Group 'found clear evidence of both physical and psychological abnormality in some circus animals, whereas others appear to be comparatively unaffected'.

The Group were able to agree some important conclusions. First, that current legislation is inadequate to ensure that best practice welfare standards for circus animals are met. Second, that circuses should not impose any significant or unnecessary physical or mental suffering or distress on animals. Third, that acts should not be allowed which put physical or mental condition at risk; and, finally, that performances should not demonstrate unnatural behaviour.

Of the three options considered for the way forward – no change, complete ban, or new legislation – the Group were able to agree on discounting the first but did not reach a consensus on the others. However, it is clear that there is a strong case for tighter control and for a licensing system based on inspections to standard guidelines.

A Report into the Welfare of Circus Animals in England and Wales (1998). The Circus Working Group, c/o RSPCA: Horsham. 34pp. Paperback. Obtainable from the RSPCA, Causeway, Horsham, West Sussex RH12, UK. Free.

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Kiley-Worthington M 1990. Animals in Circuses and Zoos: Chiron's World? Little Eco-Farms Publishing: Basildon, UK

Welfare implications of cloning farm animals

The birth of Dolly, the first mammal cloned from an adult cell, at the Roslin Institute in Edinburgh in 1997, prompted worldwide debate about the ethics of this technology. Conscious of public concerns about its welfare aspects, the UK Ministry of Agriculture Fisheries and Food asked the Farm Animal Welfare Council (FAWC) to advise on the matter. In the foreword to this, the last report produced before his recent retirement from the FAWC Chairmanship, Professor Sir Colin Spedding reported the Council's view that no aspect of cloning was 'intrinsically objectionable to the extent that it might be considered something not to be done at all'. However, the Report identifies a variety of potential welfare risks and proposes a number of safeguards.

FAWC recommended adopting the ethical framework developed by the 1995 'Banner' Committee (on the ethical implications of emerging technologies in the breeding of farm

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