NC3Rs

National Centre for the Replacement, Refinement
and Reduction of Animals in Research

Note of the 2008 Primate Welfare Meeting on Breeding and Supply

Introduction

The NC3Rs hosts a free, one-day 'Primate Welfare Meeting' every year for the professional development of staff working directly with non-human primates (herein primates) bred for, and used in, research and testing. The broad aims of the meeting are to:

- support the development and implementation of refinements[1] in primate care and use;
- provide evidence that can be used to promote improvements in primate welfare and direct welfare research;
- bring people together to establish new contacts and for exchange of views and information on primate issues.

In response to feedback received from delegates at previous year's meetings, the theme for 2008 was 'breeding and supply'.[2] Ninety delegates from 43 organisations attended the meeting held in central London on 25 November 2008. Delegates included scientists, animal care and veterinary staff, and policy makers.

The meeting included presentations from national and international speakers, covering both practical and strategic issues associated with the breeding and supply of Old and New World monkeys. The following key points emerged from the presentations and discussion.

Key points

1. There is a growing awareness that good primate welfare is important for good quality and efficient science.

It is clear that the physical health and psychological well-being of primates can impact upon their suitability as research models, on scientific data and outcomes, and on the safety of staff working with them. There is however a need for more information and research on the specific factors believed to affect both welfare and science.

2. The early life experience of primates can affect their welfare in the short- and long-term.

The physical and social environment for primates early in life has a critical impact on their physical and behavioural development and responses to subsequent husbandry practices and scientific procedures, and hence potentially on scientific output. More research is required on identifying the most beneficial rearing practices, investigating if there are sensitive periods where stress can be avoided, and how to minimise adverse effects associated with management in captivity.

[1] Refinement refers to improvements to husbandry and scientific procedures that minimise pain, suffering, distress or lasting harm and/or improve animal welfare in situations where the use of animals is unavoidable.
[2] Previous meetings focussed on 'training and socialisation', 'welfare assessment' and 'advances in housing'.

3. Animal welfare forms an important part of the evaluation of potential suppliers of primates for research and testing.

Users of primates should be aware of the importance of high standards of animal welfare during breeding and rearing, and ensure that this is translated into practice at the facilities from which they obtain animals.

4. There is large variation in the breeding and rearing conditions and standards of animal welfare for primates at breeding facilities supplying the UK and other major markets.

Breeding facilities vary in terms of the physical environment provided, feeding and nutrition, social management, weaning policies, environmental enrichment, quarantine, conditioning and transportation procedures, as well as in the use of Standard Operating Procedures and protocols relating to animal welfare. Facilities supplying the UK should have comparable standards to those licensed under the Animal (Scientific Procedures) Act 1986 (ASPA).

5. High standards of animal welfare at primate breeding facilities are fully compatible with a financially viable and efficient business in a competitive global market place.

Breeding facilities operating to the highest standards of contemporary practice are financially viable in a competitive market. High standards of welfare can support competitiveness.

6. Accreditation schemes, such as that operated by AAALAC International, can contribute to quality assurance at primate breeding facilities.

Accreditation schemes, such as AAALAC International's peer review program, can help identify and develop well-maintained facilities with sound provisions for animal management, veterinary care and personnel education and training. This is particularly important in those countries where the regulatory framework for protection of animals bred for, and used in, scientific procedures is rudimentary.

7. Regulatory authorities should maintain a system of regular inspection and appraisal.

Regulatory authorities have helped improve standards at some breeding establishments through systems of regular inspection and appraisal, which should be maintained. There is concern that the new Home Office system of rolling acceptance of primate breeding facilities supplying the UK (rather than acceptance for periods of up to 2 years) will cause stagnation in welfare improvements. Supply should only be allowed from those facilities which have comparable standards of welfare to establishments licensed under the ASPA. A grading system would provide users with a benchmark of standards.

8. Users should carefully consider the information provided by their suppliers.

There is concern about the credibility of information provided by some macaque breeding facilities with regard to the filial status of animals (F0, F1, F2, etc.)[3], whether the animals were born in the supplying facility, whether the animals were tested for what is listed in the accompanying health documentation, and whether the colony has serious health problems (e.g. Herpes B or TB).

9. Genetic management of primate colonies is important for efficient production of high-quality animals and for reducing the number of primates used in research.

Maximising genetic heterogeneity within, and minimising genetic differences between, captive colonies simultaneously: 1) optimises opportunities to detect novel animal models for particular diseases and reduces loss of fitness due to inbreeding; and 2) minimises the proportion of phenotypic variance in traits of biomedical importance that is due to genetic differences, thus minimising the number of animals required for studies.

[3] F0 denotes a wild-caught animal, F1 an animal bred in captivity from wild-caught parents, and F2 an animal bred from parents that were themselves bred in captivity.

10. The species and sub-species (origin) of macaques used in research may be an important variable in studies of infectious disease.

Differences in susceptibility to disease and immune responses to infection have been observed for rhesus macaques and long-tailed macaques of different origins. Use of highly genetically homogenous lineages, such as Mauritian long-tailed macaques, can minimise inter-animal genetic influences on phenotypic variation in disease susceptibility and resistance and increase the power of the macaque model.

11. Close communication between users, breeders and suppliers of primates is important.

Good communication between primate users, breeders and suppliers is essential to ensure that supply and demand are matched insofar as is possible and that there is continuity of care. Collaboration between breeders and users is required to ensure the primates are reared and prepared (socialised, habituated and trained prior to issue) in order to meet the needs of the science and maximise the welfare of the animals.

12. Networks for sharing of tissues should be established and expanded.

The archiving of tissues and blood from euthanased primates, linked to exchange networks with good communication systems, will help match supply and demand and reduce primate use in the long-term.

13. Airline campaigns by anti-vivisection organisations have had a negative impact on the welfare of imported primates.

The decisions by airlines to stop carrying into the UK primates destined for research has meant that imported primates have to undergo longer, multi-staged journeys.

14. High standards of welfare at breeding facilities worldwide can only be achieved through international cooperation and harmonisation.

International primate breeding facilities operate globally, with the UK being a small but important market. Given the size of the UK's needs, it has had a disproportionate impact on improving the standards of welfare at breeding establishments. However, without the same drive and commitment from other counties with significant demands for primates, progress will remained confined to a relatively small number of facilities. The development of a UK National Primate Strategy and US International Primate Plan, the revision of the ILAR Guide, and the increasing globalisation of research collaboration provide the opportunity to make real progress which benefits science and animal welfare.

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