

Animal welfare, ethics and the 3Rs — an online teaching resource

The concept of the 3Rs: replacement, reduction and refinement, was devised by William Russell and Rex Burch at UFAW, and propounded in their 1959 book: *The Principles of Humane Experimental Technique*. Since then they have been adopted internationally to improve the welfare of laboratory animals through changing the way in which laboratory animal experiments are designed and carried out.

In 2007, a report entitled, *In vivo Sciences in the UK: Sustaining the Supply of Skills in the 21st Century*, and published by the Bioscience Federation and the Association of the British Pharmaceutical Industry (ABPI), highlighted a need for future *in vivo* scientists to receive greater training in animal welfare, ethics and the 3Rs. With the support of the National Centre for the Replacement, Reduction and Refinement of Animals in Research (NC3Rs) and the Laboratory Animal Science Association (LASA), Dr David Lewis, University of Leeds, undertook a project to evaluate the provision of training in animal welfare, ethics and law within UK Higher Education and to gather and disseminate good practice and teaching materials.

The project culminated in the publication of *Animal Welfare, Ethics and the 3Rs: Training Materials and Resources*. The booklet, which is freely available online, covers a range of strategies for teaching students about animal experimentation, animal welfare, the 3Rs, legislation, and other associated topics. Twenty-two lesson plans are included in total, all of which are clearly laid out and encourage the audience to consider the use of animals in research from various standpoints through a variety of teaching approaches, such as group discussions, role play, individual and group presentations, workshops and self-directed learning. Guidance notes for both students and tutors are incorporated, together with many useful website links to other constructive resources. Lessons are predominantly aimed at teaching undergraduate and postgraduate students, although Key Stage 4 & 5, Schedule 1 users, Personal Licence Holders, Animal Care and Welfare Staff, and others are also catered for. The lesson plans may be used as they are or modified to suit individual requirements.

The online publication is intended to be a living document that is updated as and when new information is available.

Animal Welfare, Ethics and the 3Rs: Training Materials and Resources (2009). A4, 65 pages. Dr David Lewis, University of Leeds, Available from: 3Rs@leeds.ac.uk, or at: <http://www.bps.ac.uk/uploadedfiles/Education/3RsResourceeVersi onDec09.pdf>.

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EFSA publishes two Scientific Opinions on broiler chickens

Many billions of chickens are raised and slaughtered annually to supply the commercial meat market and meat

chickens (broilers) have undergone increasingly intense selective pressure to grow faster and convert feed more efficiently. In 2000, the Scientific Committee on Animal Health and Animal Welfare (SCAHAW) published a report that reviewed in detail the welfare of chickens kept for meat production and concluded that: “Most of the welfare issues that relate specifically to commercial broiler production are a direct consequence of genetic selection for faster and more efficient production of chicken meat, and associated changes in biology and behaviour”. The report describes a number of disorders that compromise the welfare of broiler birds, including leg problems, contact dermatitis conditions, ascites and sudden death syndrome. Additionally, it was concluded that the welfare of broiler breeders is adversely affected due to severe feed restriction.

Following the SCAHAW report, the European Union put forward a proposal for a Council Directive laying down minimum rules for the protection of chickens kept for meat production. This Directive, published in 2007, became the first piece of legislation to address the welfare of broiler birds across all European Union (EU) member states. Council Directive 2007/43/EC set out minimum standards for chicken holdings, such as maximum stocking densities, lighting levels, litter quality and feed requirements, as well as introducing a condition that people attending chickens must have either suitable experience or training. Member states were required to incorporate these standards into domestic legislation by 30 June 2010. Additionally, the Directive requires the EU Commission to submit a report to the European Parliament by 31 December 2010 regarding the influence of genetic parameters resulting in poor welfare of chickens.

The European Commission therefore requested the European Food Safety Authority (EFSA) to produce two scientific opinions covering: (i) the influence of genetic parameters on the welfare and the resistance to stress of commercial broilers, and (ii) the welfare aspects of the management and housing of the grand-parent and parent stocks raised and kept for breeding purposes. Following a two-tier consultation process, involving a Technical Meeting of relevant stakeholders in 2009 and a web-based public consultation in early 2010, the EFSA AHAW Panel published both Scientific Opinions (outlined below) in June of this year. These will assist the European Commission in preparing the report for the European Parliament later in the year.

Scientific Opinion on the influence of genetic parameters on the welfare and the resistance to stress of commercial broilers

The welfare of commercial broiler birds may be compromised through a variety of means. The EFSA Scientific Opinion provides an overview of the welfare of broiler birds in general and describes eleven common conditions that result in poor welfare, including musculoskeletal disorders, respiratory diseases, thermal discomfort and behavioural restriction. This section is followed by a discussion of a range of indicators which could be used to record and assess welfare on-farm and at the slaughterhouse.