

Royal Society of Biology response to the Department for Environment, Food and Rural Affairs call for evidence on controlling live exports for slaughter and to improve animal welfare during transport after the UK leaves the EU

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The Royal Society of Biology (RSB) is a single unified voice, representing a diverse membership of individuals, learned societies and other organisations. We are committed to ensuring that we provide Government and other policymakers, including funders of biological education and research, with a distinct point of access to authoritative, independent, and evidence-based opinion, representative of the widest range of bioscience disciplines.

The Royal Society of Biology welcomes this consultation and is pleased to provide summary comments informed by our membership of individuals and organisations with expert interests across the biosciences; several of whom will also be responding to this call for evidence (please see the Appendix for a list of our member organisations). Much of this expertise is represented in the [Animal Science Group](#)¹, a special interest group of the Royal Society of Biology.

1. Summary

- 1.1. We welcome the Government's desire to reflect the latest scientific and veterinary knowledge in regulatory regimes governing animal transport; we also welcome its focus on welfare. Our response to this consultation does not attempt to address the first of the consultation's noted purposes relating to exports of farm animals for slaughter, but rather addresses one aspect of Defra's broader question about improvements to the welfare of animal during transport. We focus this evidence submission on specifically highlighting the fact that EU Council Regulation No 1/2005, and related UK legislation², also applies to regulated species when they are transported for scientific use (predominantly breeding

¹ For further information about the Animal Science Group, a special interest group of the Royal Society of Biology, see: <https://www.rsb.org.uk/policy/groups-and-committees/asg>

² EU "Council Regulation No 1/2005 on the protection of animals during transport and related operations" is the main legislation governing the transport of animals, it states that: "No person shall transport animals or cause animals to be transported in a way likely to cause injury or undue suffering to them"; URL: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32005R0001&from=EN>. The Welfare of Animals (Transport) (England) Order 2006 and parallel national legislation in Scotland, Wales and Northern Ireland is the UK statutory instrument that transposes this into UK legislation; URL: <https://www.gov.uk/government/publications/welfare-of-animals-during-transport>.

and research), rather than for slaughter. Therefore, any review of the regulations governing live animal transport must take due care to avoid unintended consequences for the regulated transport of live animals for the purposes of scientific use, which constitutes a separate and distinct purpose from the transport of live animals destined for slaughter. Animal health and welfare remains a key and important consideration when transporting animals for scientific use, and is currently regulated as such. We suggest that any legislative development should clearly delineate focus and scope.

- 1.2. The regulated use of laboratory animals in research remains necessary, where no alternatives are available, to support improved scientific and medical knowledge and health and welfare outcomes for people and animals.³ National and international legislation and regulations on the use of animals in scientific procedures incorporate a set of principles, called the 3Rs for Replacement, Reduction and Refinement, which provide a framework for performing humane animal research and endorsing appropriate methods of experimentation on animals⁴; these should be taken into consideration when implementing current best practice for transportation of animals for research purposes.
- 1.3. A collaborative approach to scientific research is key for the UK to maintain excellence and a leading role in the global science and innovation community. These collaborations often require the sharing of resources, including for example certain animal strains. Undue restrictions on the movement of laboratory animals could therefore disrupt ongoing and upcoming collaborative international projects - thereby impacting the UK biosciences sector and medical progress, and animal health and welfare.
- 1.4. There is general consensus that the transport of cryopreserved germplasm (frozen embryos and gametes) for use in research is preferable to the transport of live animals, however, transport of germplasm is very difficult in some cases and for some species and lineages; thus, the transport of live animals is currently necessary in these cases.
- 1.5. A number of species, such as sheep, which are also bred for farming purposes, are currently used in biomedical research in the UK. Unlike in farming, such animals for research purposes are often genetically altered (GA) and sourced from specialist providers, meaning they may need to be imported into the UK.
- 1.6. The RSB supports the approach to achieve current best practice and standards of animal health and welfare at all points in animal care and husbandry, including in transport between this and other nations. We consider that good welfare and good science go hand in hand, and both are key to the public benefit and in response to need. Further advice on the subject of animal welfare is provided by our response to the Defra consultation on the draft Animal Welfare (Sentencing and Recognition of Sentience) Bill⁵.
- 1.7. We recommend that high standard transport (import and export) of animals necessary for scientific use (predominantly breeding and research) should be separately considered, as part of any regulatory development to ensure it continues.

³ For the fundamental contribution of animal research to biomedical and veterinary progress and an overview of how these studies are highly regulated in the UK please see <https://www.rsb.org.uk/policy/policy-issues/biomedical-sciences/animal-research>

⁴ 'What are the 3Rs?' on the National Centre for Replacement, Refinement & Reduction of animals in research; URL: <https://www.nc3rs.org.uk/the-3rs>

⁵ Response from the Royal Society of Biology to the Defra consultation on the draft Animal Welfare (Sentencing and Recognition of Sentience) Bill; URL: https://www.rsb.org.uk/images/RSB_response_Defra_draft_Animal_Welfare_Sentencing_and_Recognition_of_Sentience_Bill.pdf

2. Information on the current system of transport of live animals necessary for laboratory research and scientific study

- 2.1. The transportation of animals for laboratory research or other authorised scientific studies occurs in a variety of settings and circumstances relating to species, modes of transport, origin and destination, and the purpose/ reasons for their movement.
- 2.2. The principles of the 3Rs are embedded into the framework used by the governmental regulator, the Animals in Science Regulation Unit (ASRU), to grant licenses for experiments with animals under the relevant Act, the Animals (Scientific Procedure) Act (ASPA)⁶. No explicit reference to the 3Rs is made in the guidance from Defra on live animal transport, but the justification for transporting live animals for research should be considered in light of these important principles. A decision to transport live individuals of certain species, relative to embryos and/or germplasm, should be reached as the result of a balanced assessment of the total number of animals and severity of procedures involved in the research project for which the animals are transported. Such assessment enables the identification of many instances in which the transport of live animals results in fewer animals used for a scientific project, with less harm caused to them, making live animal transport the higher welfare approach, overall, in these circumstances⁷.
- 2.3. The vast majority of animals used for research in the UK are bred in the UK. However, many research programmes are based on international collaboration across borders. In certain cases the animals' breeding and rearing may rely on specific techniques only available at a research institution overseas, with subsequent transport to the UK where the necessary research facilities and expertise are. For example, genetically altered (GA) sheep have been recently imported into the UK for research purposes (as a model for the study of Huntington's disease, an inherited human condition.) Furthermore, GA pigs are a promising model in the important field of cardio-vascular research. In order to avoid the duplication of either breeding or research facilities within borders, and the associated increase in the number of animals used overall, regulated import and export of animals for research to and from the UK is required.
- 2.4. The Laboratory Animal Breeders Association of Great Britain (LABA) and the Laboratory Animal Science Association (LASA) have published guidelines for the care of laboratory animals in transit⁸, which supplements that of the International Air Transport Association (IATA)⁹.

⁶ About government's commitment to the principle of the 3Rs please see <https://www.gov.uk/guidance/research-and-testing-using-animals#replacement-reduction-and-refinement>

⁷ We are aware that Laboratory Animals Veterinary Association (LAVA) is submitting their response to this consultation. Please refer to their response for a paragraph detailing how live animals transport meets overall requirements set out by the principles of the 3Rs (Replacement, Refinement and Reduction).

⁸ LABA and LASA, (1993). Laboratory Animal Breeders Association of Great Britain and Laboratory Animal Science Association. Guidelines for the care of laboratory animals in transit. *Laboratory Animals*, 27: 93-107

⁹ IATA, (2002). International Air Transport Association. Live Animal Regulations Montreal.

3. Protection of animal welfare under current transport requirements and standards

- 3.1. EU Council Regulation No 1/2005¹⁰ predominantly applies to the transport of farm animals but by virtue of relevance to 'vertebrate' it also applies to most laboratory animals, which have specific and different needs in relation to transport.
- 3.2. The GA sheep model for human Huntington's disease provides an example of the different regulations applying to the transport of animals for use in research. In summary, in addition to the requirements of The Welfare of Animals (Transport) (England) Order 2006, the required license to conduct research is obtained from the Home Office under the Animals (Scientific Procedures) Act 1986 Amendment Regulations 2012 (ASPAs)¹¹ and the Health and Safety Executive is responsible for regulation of Genetically Modified Organisms (GMO)¹². As mentioned at point 2.2 of our response, at present transport of live animals for research is possible, in carefully controlled conditions, and is regulated under the authority of licences issued under ASPA as a result of a balanced consideration of harm and benefits and the application of the 3Rs principles. We would like to recommend that continuation of such an exemption will be duly considered and incorporated in any new legislation.
- 3.3. The transportation of all animals, including those used for research, must be carried out using current best practice to ensure the health and welfare of the animals transported. Conditions should include, for example, minimal time in transport, sufficient food and hydration sources and the maintenance of optimum temperature and airflow – all of which can be assisted by efficient export/ import process on the ground, and access to the most appropriate transport routes and means, including by sea and air. Currently there are no sea transport providers operating out of the UK that will carry research animals. Furthermore, many airlines now refuse to carry live animals for research, sometimes requiring charter of private aircraft. To enable vital research - of importance to human and animal health - to continue, we must ensure that, when necessary, animals can be transported using the most appropriate mode. Responsible decision making

¹⁰ EU "Council Regulation No 1/2005 on the protection of animals during transport and related operations" is the main legislation governing the transport of animals, it states that: "No person shall transport animals or cause animals to be transported in a way likely to cause injury or undue suffering to them"; URL: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32005R0001&from=EN>. The Welfare of Animals (Transport) (England) Order 2006 and parallel national legislation in Scotland, Wales and Northern Ireland is the UK statutory instrument that transposes this into UK legislation; URL: <https://www.gov.uk/government/publications/welfare-of-animals-during-transport>.

¹¹ Animals (Scientific Procedures) Act 1986 Amendment Regulations 2012. Available at: https://www.legislation.gov.uk/ukdsi/2012/9780111530313/pdfs/ukdsi_9780111530313_en.pdf. ASPA requires that consideration of potential pain and suffering plays a central role within the framework of the harm-benefit analysis that is used to grant licences to carry out experiments on animals. Schedule 2C: Conditions in Licences, Section 10(1), Part 1: Conditions in Section 2C Licences, point 11 (1) b) states: "a section 2C licence must include such conditions relating to the general care and accommodation of protected animals kept at the place specified in the licence as the Secretary of State considers appropriate to ensure that the conditions under which any such animal is transported are appropriate for the animal's health and well-being".

¹² The UK competent authority (CA) for the Genetically Modified Organisms (Contained Use) Regulations (GMO(CU)) (2014 URL: https://www.legislation.gov.uk/ukdsi/2014/1663/pdfs/ukdsi_20141663_en.pdf) comprises representatives of the four responsible authorities for GMO(CU) in the UK. The GMO(CU) 2014 regulations apply to England, Scotland and Wales. The GMO(CU) (Northern Ireland) 2015 Regulations apply to Northern Ireland; URL: <http://www.hse.gov.uk/biosafety/gmo/whos-responsible.htm>

relating to the transportation of animals should take into account the cumulative suffering¹³ and species-specific needs of the individual animals transported.¹⁴

4. Possible future reform

- 4.1. All transport of animals, whatever the species and the journey end-point, should be conducted to high standards of animal welfare. Animal research is vitally important to improve the health and wellbeing of people and animals in the UK and internationally; the ability to transport animals remains essential until viable alternatives are found. There are already strict rules in place to ensure animal care standards enabling safe and humane transportation when necessary.
- 4.2. In the specific context of laboratory animals, it is advisable to transfer cryopreserved germplasm (frozen embryos and gametes) whenever possible. The Animal Welfare and Ethical Review Bodies (AWERBs), which are involved in ensuring that high standards of animal welfare are applied when research is carried out on animals, also support the transfer of germplasm as the current best practice, wherever possible¹⁵. This is on grounds of better welfare, since no live animal experiences the stress associated with transportation; and for health reasons, since very few relevant pathogens are transmitted vertically, making germplasm safer (in terms of biosecurity) by comparison to live animals, which are more likely to carry pathogens between animal facilities. The response from the RSB to the House of Lords EU Energy and Environment Sub-Committee call for evidence on *Brexit: plant and animal biosecurity* provides a summary of our recommendations in relation to UK biosecurity needs¹⁶.
- 4.3. A downside of transporting germplasm instead of live animals is that it takes time to re-derive live progeny through techniques of in-vitro fertilisation. Moreover, the transport of germplasm to generate live progeny directly at the research facility implies a cost in terms of animals used and severity of procedures involved and might not be feasible for certain species or breeds that require highly specialist care and conditions to re-derive or breed, such as: breeds of laboratory animals that carry desired changes at multiple genomic sites and which were generated through a long and complex sequence of genetic crosses; certain lines of genetically altered animals (GAAs); and species of non-human primate. These exceptions to the rule of transporting germplasm instead of live

¹³ For example, repeated or prolonged journeys can increase the susceptibility of animals to infections, e.g. some animals are susceptible to respiratory infections while travelling ('shipping fever').

¹⁴ For example, the *Suncus murinus* (house musk shrew) is highly susceptible to motion sickness. Nausea is not only unpleasant, but can also lead to dehydration and sometimes death of an animal. In these cases, the method of transport and the monitoring of animals must be very carefully considered. As an additional example, Council Regulation (EC) No. 1/2005 (in particular Annex 1, Technical Rules, Chapter 1: Fitness for Transport, point 2. c)) requires certain restrictions on moving pregnant animals and dams and their offspring – a similar restriction should not be omitted from UK legislation; URL: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/218747/council-reg1-2005.pdf

¹⁶ Please find our response to the House of Lords EU Energy and Environment Sub-Committee inquiry on Brexit: plant and animal biosecurity attached alongside our electronic submission of the RSB response to Defra's call for evidence on controlling live exports for slaughter and to improve animal welfare during transport after the UK leaves the EU. Our response to the EU Energy and Environment Sub-Committee has been provided prior to formal publication of evidence, with the permission of the Sub-Committee.

animals are important not only because of the fundamental contribution of these animals to several lines of research but also because they represent a higher welfare approach overall.

- 4.4. When considering updates and changes to legislation, the modes of transport with the least impact on animal welfare should be encouraged – enabling current best practice in animal husbandry – in accordance with national and international legislation. Appropriate monitoring may be one way in which improvements in the welfare for animals required to be transported live could be identified and assessed. We recommend that the Government ensure consultation with all relevant stakeholders and expertise groups throughout any regulatory revision process. Ongoing consultation should include academic and industry based researcher and institutions, and breeders and suppliers of animals for research among others.

The Society welcomes Defra’s consultation on “controlling live exports for slaughter and to improve animal welfare during transport after the UK leaves the EU”. We are pleased to offer these comments, which have been informed by specific input from our members and Member Organisations across the biological disciplines (Appendix). The RSB is pleased for this response to be publicly available.

For any queries, please contact the Science Policy Team at Royal Society of Biology, Charles Darwin House, 12 Roger Street, London, WC1N 2JU. Email: policy@rsb.org.uk

Appendix: Member Organisations of the Royal Society of Biology (following page)

Full Organisational Members

Academy for Healthcare Science
Agriculture and Horticulture Development Board
Amateur Entomologists' Society
Anatomical Society
Association for the Study of Animal Behaviour
Association of Applied Biologists
Bat Conservation Trust
Biochemical Society
British Andrology Society
British Association for Lung Research
British Association for Psychopharmacology
British Biophysical Society
British Ecological Society
British Lichen Society
British Microcirculation Society
British Mycological Society
British Neuroscience Association
British Pharmacological Society
British Phycological Society
British Society for Cell Biology
British Society for Developmental Biology
British Society for Gene and Cell Therapy
British Society for Immunology
British Society for Matrix Biology
British Society for Medical Mycology
British Society for Nanomedicine
British Society for Neuroendocrinology
British Society for Parasitology
British Society of Plant Breeders
British Society for Plant Pathology
British Society for Proteome Research
British Society for Research on Ageing
British Society of Animal Science
British Society of Soil Science
British Society of Toxicological Pathology
British Toxicology Society
Daphne Jackson Trust
Drug Metabolism Discussion Group
The Field Studies Council
Fisheries Society of the British Isles
Fondazione Guido Bernardini
GARNet
Gatsby Plant Science Education Programme (incl. Science and Plants for Schools)
Genetics Society
Heads of University Centres of Biomedical Science
Institute of Animal Technology
Laboratory Animal Science Association
Linnean Society of London
Marine Biological Association
Microbiology Society

MONOGRAM – Cereal and Grasses Research Community
Network of Researchers on Horizontal Gene Transfer & Last Universal Cellular Ancestor
Nutrition Society
Quekett Microscopical Club
The Rosaceae Network
Royal Microscopical Society
Society for Applied Microbiology
Society for Experimental Biology
Society for Reproduction and Fertility
Society for the Study of Human Biology
SCI Horticulture Group
Systematics Association
The Physiological Society
Tropical Agriculture Association
UK Environmental Mutagen Society
UK-BRC – Brassica Research Community
University Bioscience Managers' Association
Zoological Society of London

Supporting Organisational Members

Affinity Water
Association of the British Pharmaceutical Industry (ABPI)
AstraZeneca
BioIndustry Association
Biotechnology and Biological Sciences Research Council (BBSRC)
British Science Association
CamBioScience
Envigo
Ethical Medicines Industry Group
Fera
Institute of Physics
Ipsen
Medical Research Council (MRC)
MedImmune
Pfizer UK
Porton Biopharma
Procter & Gamble
Royal Society for Public Health
Syngenta
Understanding Animal Research
Unilever UK Ltd
Wellcome Trust
Wessex Water
Wiley Blackwell

Charles Darwin House, 12 Roger Street, London WC1N 2JU Tel: +44 (0)20 7685 2400 info@rsb.org.uk
www.rsb.org.uk

