

POSITION ON THE ETHICS OF ANIMAL USE IN RESEARCH FUNDED BY THE RUSSIAN SCIENCE FOUNDATION

Scientific research today is often carried out using plants, microorganisms, animals, and other subjects. The type of animal used in studies must be of proper quality. Animal quality is determined by several factors: their origin, the presence of infectious agents, detention conditions, the type of anaesthesia used, the stress and pain endured by the organism, the procedures carried out, etc.

One of the main conditions for receiving a Russian Science Foundation grant is the obligation to publish the results of ongoing research in leading scientific journals either in Russia or abroad. This also implies that research results will be recognized by the global research community. To advance research in Russia and to make it more competitive globally, it is absolutely necessary to observe certain ethical principles when working with animals.

Russian and foreign experience shows us that ethical principles for animal use in scientific research are aimed primarily at avoiding animal experiments wherever possible, reducing the number of such experiments, and keeping the harm caused to animals during experiments to a minimum. The consistent and responsible implementation of these principles means observing ethical considerations, and also serves to improve the quality of scientific research results.

Ethical principles (the “three Rs”) are a methodological concept based on a set of provisions outlining the ethics of using animals in experiments and/or research. There are three main provisions for assessing the ethical component of using animals in any kind of study: “replacement” (replacing laboratory animals in an experiment with alternative subjects), “reduction” (reducing the number of animals used), and “refinement” (improving the methodology of the experiment – minimizing pain caused to the animals and ensuring their welfare). These provisions are an important part of the international standards of ethics and legal regulation, as well as of the quality of experiments carried out using animals.

What is more, the current global trend is to reduce the use of lab animals while at the same time improving the quality, level of expertise and conditions for carrying out research activities.

The Expert Councils of the Russian Science Foundation formed their position on the ethics of animal use in research (hereinafter the Position) on the basis of the current level of development of research in Russia, the experience of foreign countries, and the analysis of the best practices by Russian scientists working with animals in various areas.

The Position reflects the opinion of the RSF expert community and is aimed at improving the practice of using animals in research funded by RSF grants. The ethical principles of using animals are inextricably connected with the quality of the results obtained: animals of below-par quality and experiments carried out under suboptimal conditions make it impossible for the researcher to obtain reliable and reproducible results.

The Position is in no way intended to limit the academic freedom of researchers. The purpose of the document is simply to set out the level of scientific work with animals that the Expert Councils of the Russian Science Foundation deem minimally necessary for working with animals in order to obtain the most reliable results in scientific experiments conducted within the framework of projects supported by the Russian Science Foundation.

DOCUMENTATION

Researchers who use animals in their experiments should keep the relevant documentation in order to better structure and organize all work.

When planning research involving animals, researchers should be guided by the ethical principles of the three Rs, clearly formulate the purpose of the experiment, and determine the means that will be used to achieve this goal, including providing information about the animals to be used (species, strains, sex, age, number, etc.).

Animals brought into the vivarium should be recorded, and information about them and their suppliers should be entered in the relevant documentation (laboratory notebooks, ledgers, etc.).

A vivarium is a room or building used to house animals and carry out scientific work with them.

When carrying out experiments involving animals, researchers should keep records documenting the procedures used, data on the predicted and obtained results, the procedures carried out (anaesthesia, administration of substances, euthanasia, etc.), and information about the animals used.

The composition, content, and storage period of the documentation should ensure, among other things, that the experiment can be reproduced if necessary.

PERSONNEL

Only suitably qualified personnel should be allowed to work with animals to ensure compliance with the rules and ethical principles for working with animals.

Only persons with the appropriate education – medical, veterinary, zootechnical, pharmaceutical or biological – and knowledge of working with animals in vivariums should be allowed to work with animals. Relevant work experience and/or educational courses are sufficient to confirm this knowledge.

Scientists who have not worked independently with animals before should be supervised by an experienced researcher who will take responsibility for the work.

The level of education and experience of personnel should also ensure that the most accurate and reliable results are obtained.

ANIMAL MANAGEMENT

Animals should be kept in proper conditions in order to minimize possible health deterioration.

Animals must be kept in a specialized vivarium that provides a habitat that is appropriate to the physiological and environmental needs of the animal species being kept.

When carrying out research on animals, research teams should adhere to the following rules on caring for and maintaining animals:

During the study, the scientific team should adhere to the following rules for the care and maintenance of animals:

- All animals must be provided with proper housing conditions, food, water and care that is appropriate to their health;
- Conditions preventing the physiological and ethological needs of the animal from being satisfied should be minimized;
- Conditions in which animals are kept, used and breed must be monitored daily;
- All necessary steps must be taken to correct any deficiencies in animal care and maintenance and to prevent pain, suffering, distress or injuries with avoidable long-term health consequences as quickly as possible;
- When transporting animals, the conditions of transport must be comfortable for the animals in terms of temperature and social surroundings.

PROCEDURES

All procedures carried out with animals must be done so with due regard for their health in order to guarantee more accurate and reliable results.

A procedure is defined here as any animal used in experiments or for other scientific purposes that may cause it to experience pain or suffering or cause permanent damage, even if anaesthesia, pain relief or other methods of alleviating the animal's situation are successfully used. Procedures also include any intervention that results in or is likely to result in the birth of an animal. The least painful methods of euthanasia or marking/branding accepted in modern practice (in other words, "humane" methods) are not considered procedures. A procedure begins with the preparation of the animal for use and ends when all the necessary observations have been carried out.

When starting an experiment, it is necessary to ensure that the animal has adapted to the laboratory environment and, as much as possible, feels comfortable with the researcher.

Animals must be handled with care in order to avoid additional injury and pain.

All procedures with animals that may cause them pain or any other kind of distress should be carried out under general or local anaesthesia.

In the postoperative period, the animal must be given qualified care and adequate pain relief. The animal must receive adequate care (anaesthetics, food, water, etc.) up to the moment it is euthanized or removed from the experiment.

Euthanasia should be quick and painless, and the animal should not suffer any anxiety or fear.

The RSF Expert Councils believe that the content of applications submitted to the Foundation and project reporting materials (scientific reports, publications, media) should reflect these Principles when describing work with lab animals.

Despite the fact that this document is advisory in nature for research teams applying for, or in receipt of, RSF support, the RSF Expert Councils welcome decisions of Russian researchers and scientific organizations to share and adhere to this Position when carrying out their research works, regardless of their funding support by the Russian Science Foundation.