

## **On animal experimentation**

In this document, the Royal Netherlands Academy of Arts and Sciences elaborates on its opinion regarding the use of laboratory animals in scientific research.

### *The importance of scientific research involving animals*

Animal experiments, conducted within the context of fundamental biological and biomedical research, are aimed at gaining more insight into the mechanisms underlying basic biological processes. The findings of such fundamental research add not only to our body of knowledge, but also offer a crucial basis for applied scientific research. For example, findings of fundamental biomedical research are used to develop new therapies, medicines and vaccines, or are applied for research aimed at to protection of human health (such as the registration of harmful substances in foodstuffs and consumer products). In another domain, a long-running biological field study on small songbirds produced data useful for mapping the effects of climate change.

### *The Academy's opinion about animal experimentation*

The Academy's opinion about animal experimentation is that animal experiments are still necessary for biological and biomedical scientific research because currently there are no equivalent or better alternatives for the use of laboratory animals. The existing body of knowledge in biology and biomedical science is acquired by using laboratory animals and animal experiments continue to be necessary to increase our knowledge in these fields.

Given the importance of animal welfare, the Academy has developed its own policy guidelines for the use of laboratory animals in its research organisation, above and beyond the prescribed statutory framework. The Academy regards the statutory framework described in such laws as the Animal Testing Act [*Wet op de dierproeven*, Wod] as minimum requirements for *in vivo* research and housing of laboratory animals. This also means that the Academy's research organisation must meet strict standards of diligence and transparency.

Other factors in the Academy's policy regarding animal experimentation include providing objective information and maintaining maximum openness about animal experiments in order to encourage dialogue with the public on this issue. As part of this policy, the Academy has joined forces with the Association of Universities in the Netherlands (VSNU), and the Netherlands Federation of University Medical Centres (NFU) in developing the *Animal Experiments Openness Code*. The code obliges signatory institutions to account for their actions and to be more open about their use of laboratory animals, for example by conducting guided tours (actual or virtual), engaging in conversation with stakeholders, giving lectures, participating in public debates, conducting surveys, publishing in in-house magazines and on websites, explicitly drawing attention to animal testing (and the ethical issues involved) in theses and dissertations, issuing press releases, and publishing an Annual Report on Laboratory Animal Use.

Openness raises a dilemma, however: it must not put the researchers or the confidential nature of the research data at risk. The difficulty lies in finding the right balance between these two considerations.

### *The importance of alternatives*

Another key factor in the Academy's policy on animal experiments is the development of alternatives for the use of laboratory animals. The Academy regards such alternatives as crucial and encourages its own research organisation to develop them wherever possible. In doing so, it subscribes to the principle of the 3Rs: the Replacement, Reduction and Refinement of the use of laboratory animals wherever possible. The 3Rs are given equal weight in this respect; this means that whenever replacement is impossible, an all-out effort must be made to reduce and refine the methods used. The Academy will report on the alternatives developed and applied within its own research organisation in its Annual Report on Animal Experimentation. Better

research and statistical methods, for example, can help reduce the number of laboratory animals used in research. Refinement includes using less invasive procedures, using pain-control substances, and improving housing facilities. Furthermore, the Academy has earmarked extra funds in its budget to support the 3Rs policy in its own research organisation. The institutes may apply for such funds on an annual basis.

#### *Final remarks*

The Academy emphasises the importance of diligent, transparent working methods in animal research. Such methods must naturally comply with all statutory requirements. The European Union is currently setting the standard in this regard by revising its Directive on the protection of animals used for experimental and other scientific purposes (Directive 86/609/EEC). Animal experimentation is also subject to Dutch legislation (for example, the Health and Welfare of Animals Act [*Gezondheids- en Welzijnswet voor dieren*], the Biotechnology and Animals Decree [*Besluit biotechnologie*], and the Flora and Fauna Act [*Flora en Faunawet*]). The administrative procedures have consequently become so numerous and complex that they require specialists to deal with them, and they also put heavy administrative pressure on organisations. There is a risk that this may lead to research being moved abroad, to countries where the rules and regulations are less restrictive than in the Netherlands. That would not be in the interest of the laboratory animals or of Dutch scientific research. The Academy therefore advocates simplifying the rules and regulations and streamlining the procedures, without conceding any of the diligence required when working with laboratory animals.

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