

6. Protection of animals used for experimental or other scientific purposes

Animal testing, also known as **animal experimentation**, **animal research**, and in vivo testing, is the use of non-human animals in experiments (although some research about animals involves only natural behaviours or pure observation, such as a mouse running a maze or field studies of chimp troops). Worldwide it is estimated that the number of vertebrate animals—from zebra fish to non-human primates—ranges from the tens of millions to more than 100 million used annually. Most animals are euthanized after being used in an experiment. Sources of laboratory animals vary between countries and species; most animals are purpose-bred, while others are caught in the wild or supplied by dealers who obtain them from auctions and pounds.



Products in Europe not tested on animals

The **research** is conducted inside universities, medical schools, pharmaceutical companies, farms, defence establishments, and commercial facilities that provide animal-testing services to industry. It includes pure research such as genetics, developmental biology, behavioural studies, as well as applied research such as biomedical research, xenotransplantation, drug testing and toxicology tests, including cosmetics testing. Animals are also used for education, breeding, and defence research. The practice is regulated to various degrees in different countries.

Supporters of animal testing

Supporters of the use of animals in experiments, such as the British Royal Society, argue that virtually every medical achievement in the 20th century relied on the use of animals in some way, with the Institute for Laboratory Animal Research of the U.S. National Academy of Sciences arguing that even sophisticated computers are unable to model interactions between molecules, cells, tissues, organs, organisms, and the environment, making animal research necessary in many areas. Animal rights, and some animal welfare, organizations—such as PETA and BUAV—question the legitimacy of it, arguing that it is cruel, poor scientific practice, poorly regulated, that medical progress is being held back by misleading animal models, that some of the tests are outdated, that it cannot reliably predict effects in humans, that the costs outweigh the benefits, or that animals have an intrinsic right not to be used for experimentation.

Opponents of animal testing

Crueltyfree



The extent to which animal testing causes pain and suffering, and the capacity of animals to experience and comprehend them, is the subject of much debate. According to the U.S. Department of Agriculture, in 2006 about 670,000 animals (57%) (not including rats, mice, birds, or

invertebrates) were used in procedures that did not include more than momentary pain or distress. About 420,000 (36%) were used in procedures in which pain or distress was relieved by anaesthesia, while 84,000 (7%) were used in studies that would cause pain or distress that would not be relieved.

In the UK, research projects are classified as mild, moderate, and substantial in terms of the suffering the researchers conducting the study say they may cause; a fourth category of "unclassified" means the animal was anesthetized and killed without recovering consciousness, according to the researchers. In December 2001, 1,296 (39%) of project licenses in force were classified as mild, 1,811 (55%) as moderate, 63 (2%) as substantial, and 139 (4%) as unclassified. There have, however, been suggestions of systemic underestimation of procedure severity.

Legislation for the protection of animals used for scientific purposes

The protection and welfare of animals is an area covered by a wide range of EU legislation. This includes the protection of wildlife, zoo animals, farm animals, animals in transport and animals used for scientific purposes. Animal studies, whether for the development or production of new medicines, for physiological studies, for studying environmental effects or for the testing of chemicals or new food additives, has to be carried out in compliance with EU legislation.

Since 1986, the EU has had in place specific legislation covering the use of animals for scientific purposes. On 22 September 2010 the EU adopted Directive 2010/63/EU which updates and replaces the 1986 Directive 86/609/EEC on the protection of animals used for scientific purposes.

Directive 2010/63/EU revising Directive 86/609/EEC on the protection of animals used for scientific purposes was adopted on 22 September 2010

The Directive is firmly based on the principle of the **Three Rs**, to replace, reduce and refine the use of animals used for scientific purposes. The scope is now wider and includes foetuses of mammalian species in their last trimester of development and cephalopods, as well as animals used for the purposes of basic research, higher education and training. It lays down minimum standards for housing and care, regulates the use of animals through a systematic project evaluation requiring inter alia assessment of pain, suffering distress and lasting harm caused to the animals. It requires regular risk-based inspections and improves transparency through measures such as publication of non-technical project summaries and retrospective assessment. The development, validation and implementation of alternative methods is promoted through measures such as establishment of a Union reference laboratory for the validation of alternative methods supported by laboratories within Member States and requiring Member States to promote alternative methods at national level.

Sources:

http://ec.europa.eu/environment/chemicals/lab_animals/legislation_en.htm

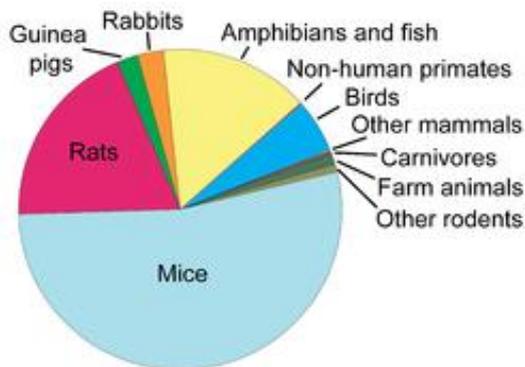
http://en.wikipedia.org/wiki/Animal_testing

Vocabulary:

achievement	/ə'tʃi:vmənt/	úspěch, výsledek
anaesthesia	/,ænes'θi:ziə/	anestezie, znečitlivění, umrtvení
assessment	/ə'sesmənt/	ohodnocení, posudek
auction	/'ɔ:kʃ(ə)n/	dražba, aukce
chimp	/tʃɪmp/	šimpanz
defence	/dɪ'fens/	obrana
directive	/dɪ'rektɪv/ or /daɪ'rektɪv/	směrnice, direktiva, pokyn
distress	/dɪ'stres/	utrpení, strádání, bolest
euthanasia	/ju:θə'neɪziə/	eutanazie
foetus	/'fi:təs/	plod
housing	/'haʊzɪŋ/	poskytnutí domova, umístění
implementation	/,ɪmplɪmən'teɪʃ(ə)n/	uskutečnění, realizace, zavedení
in terms of	/...tɜ:(r)mz.../	pokud jde o co, co se týče, z hlediska čeho
intrinsic	/ɪn'trɪnsɪk/	vnitřní, (vnitřně) vlastní
lasting	/'lɑ:stɪŋ/	trvalý, stálý
legitimacy	/lɪ'dʒɪtɪməsi/	legitimita, legitimost, zákonnost
maze	/meɪz/	bludiště, labyrint
mild	/maɪld/	mírný, slabý, lehký
moderate	/'mɒd(ə)rət/	umírněný, rozumný
outdated	/,aʊt'deɪtɪd/	zastaralý, nemoderní, staromódní
pound	/paʊnd/	útulek pro nalezené psy a kočky
procedure	/prə'si:dʒə(r)/	postup, procedura
promote	/prə'məʊt/	podporovat, prosazovat
refine	/rɪ'faɪn/	(z)kultivovat, vylepšovat, zlepšovat
revise	/rɪ'vaɪz/	popravit, (z)korigovat, přehodnotit
scope	/skəʊp/	záběr, rozsah
severity	/sɪ'verəti/	vážnost, kritičnost
substantial	/səb'stænj(ə)l/	značný, velký, podstatný
troop	/tru:p/	skupina, tlupa
underestimation	/,ʌndər,estɪ'meɪʃ(ə)n/	podcenění, podceňování
validation	/,vælə'deɪʃ(ə)n/	potvrzení (platnosti)
virtually	/'vɜ:(r)tʃʊəli/	prakticky, v podstatě, fakticky
xenotransplantation	/,zenəʊtrænsplɑ:n'teɪʃ(ə)n/	xenotransplantace
zebrafish	/'zebrə.../	dánio pruhované

1. Comprehension questions:

- 1) What other words for animal testing do you know?
- 2) What animals are commonly used for scientific purposes?
- 3) Where do laboratories gain animals for testing?
- 4) What types of research often requires testing animals?
- 5) How does the British Royal Society support animal testing?
- 6) What is the classification of projects in the UK?
- 7) What EU legislation deals with the protection of animals used for scientific purposes?
- 8) Explain the principle of the three Rs.
- 9) Look at the pie chart and describe it.



Types of vertebrates used in animal testing in Europe in 2005: a total of 12.1 million animals were used.

2. Try to find the expression from the text to match the right definition:

	experimentation using a whole, living organism
	something given to someone before they have a medical operation
	a developing baby human or animal, before it is born
	exclusively marine animals characterized by bilateral body symmetry, a prominent head, and a set of arms or tentacles
	a feeling that you have when you are very unhappy, worried, or upset
	among other things
	a public occasion when things are sold to the people who offer the most money for them
	transplantation of living cells, tissues or organs from one species to another
	good care and living conditions for animals
	a place where pets that are lost or not wanted are kept

3. Translate the following sentences:

1. Zdroje laboratorních zvířat se mohou lišit země od země.

2. Krysi a jiní hlodavci musejí být pradielně krmeni.

3. Nemůžete předpovídat budoucnost vývoje legislativy ochrany zvířat.

4. Výzkum by měl být prováděn v souladu s nařízeními Evropské Unie.

5. Nemohli operovat zvíře bez podání anestezie.

Translate the following phrases:

- vlivy prostředí _____
- ulevit od bolesti _____
- podceňovat vážnost situace _____
- působit bolest a utrpení _____
- předmět mnoha diskuzí _____
- chovaný pro vědecké účely _____
- propagovat alternativní metody _____
- zpětné posouzení _____
- chycení v divočině _____
- převážit výhody _____

Form the proper word form and add the Czech meaning:

noun	adjective	
science		
behaviour		
transparency		
	cruel	
	able	