














# PURPOSE OF ANIMAL EXPERIMENTS

	 mouse	 rat	 bird	 zebrafish	 other fish	 cephalopod	Total
Research for the benefit of humans (including breeding with discomfort)	992	25	-	355	-	77	1449
Research for the benefit of animals	-	-	143	48	-	-	191
Animals used in education or training	47	-	-	-	-	-	47
<b>Total</b>	1039	25	143	403	-	77	1687

# NUMBER OF ANIMAL EXPERIMENTS PER SPECIES

	2022	2023
 mouse	1103	1039
 rat	149	25
 birds	113	-
 zebrafish	12077	403
 other fish	-	143
 cephalopod	98	77
<b>Total</b>	<b>13540</b>	<b>1687</b>

## The four most frequently asked questions about animal experiments

This table shows the number of animals used in an animal experiment per species. Animals that were bred but not used in an animal experiment are not included in this table.

### What is an animal experiment? In an animal experiment, there is:

- A scientific question.
- Discomfort for the animal equal to or more than inserting a needle.
- An animal protected by the law on animal experiments. This includes all vertebrate animals from a certain life stage, as specified by the law.

### Which animals do we use and for what purposes?

The most commonly used species is the zebrafish.

We use the zebrafish for two types of research:

- Research to gain more insight into diseases such as cancer, diabetes, and infectious diseases. The majority of zebrafish has been used for cancer research.
- Research on the development of new screening methods for drugs.
- Research into the physiology of the animal itself.

We investigate whether we can use zebrafish embryos and larvae instead of mice and other rodents. In embryos and larvae up to five days old, the nervous system is less developed.

This means they experience less or no pain and stress, making them a good alternative for experiments with older zebrafish, mice, or other animals.

In addition to the zebrafish, we also use other fish for research on organ function and animal behaviour. Consider for example the effects of stress, such as the impact of human-generated underwater sound on the behaviour and well-being of fish.

### How does cancer research with zebrafish work?

Researchers study cancer cells in the blood of zebrafish embryos aged two to eight days. They use a microscope for this purpose. This allows us to examine properties that are crucial for understanding the development of cancer. How fast do cancer cells grow, and how do they spread?

### Why do we conduct research with mice?

Mice are also a commonly used species for research. Why?

- There is a lot known about the biology of mice.
- It is relatively easy to modify the genes of mice, making them even more similar to humans.
- Mice are small and easy to house.
- Mice are easy to breed; they reproduce quickly.

# ANIMALS EUTHANISED (for organs and tissues)

2022



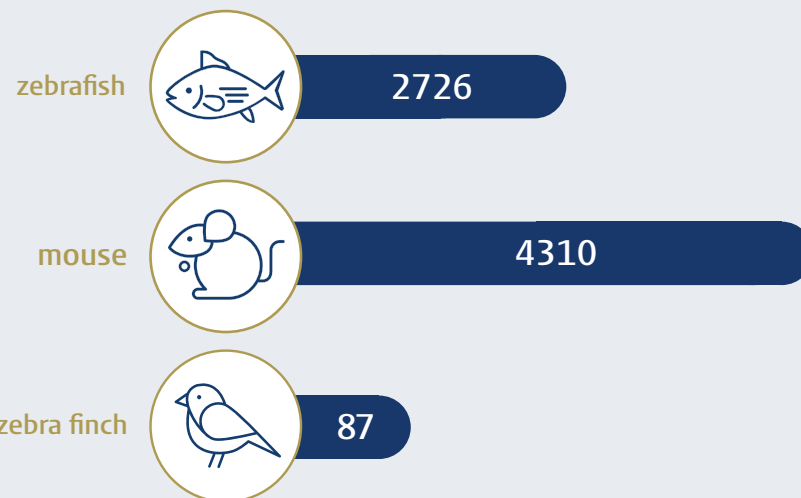
2023



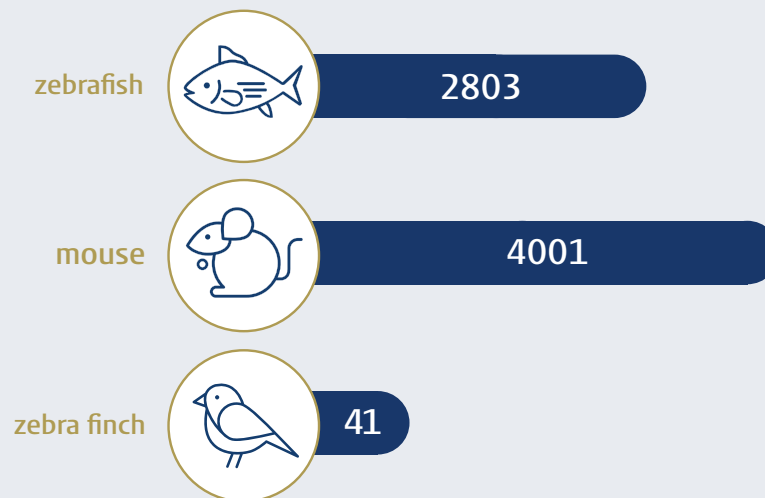
In the Netherlands, you need a license to euthanise animals for the use of organs or tissues in research or education. This is not the case in the rest of Europe. These animals have not undergone any experimental procedures but have been euthanised in a humane matter.

# ANIMALS EUTHANISED (not used in breeding or animal experiment)

2022



2023



Not all laboratory animals are used in an animal experiment. As a university, we strive to keep this number as low as possible.

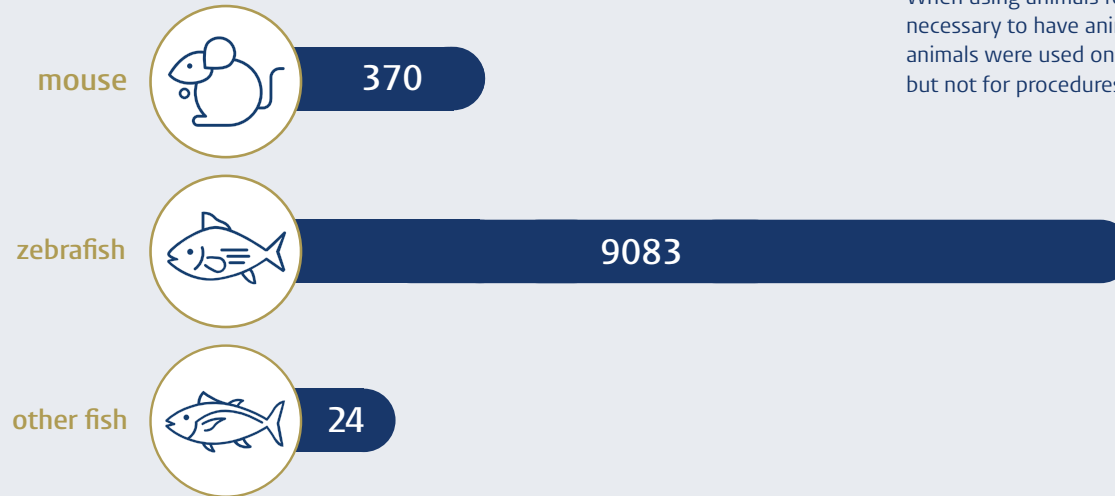
#### Why is an animal not used? The animal:

- Does not have the right genes for this experiment.
- Has the wrong sex.
- Is too old.

Additionally, we cannot precisely determine the number of offspring in a litter. Therefore, you cannot precisely breed the number of animals you need.

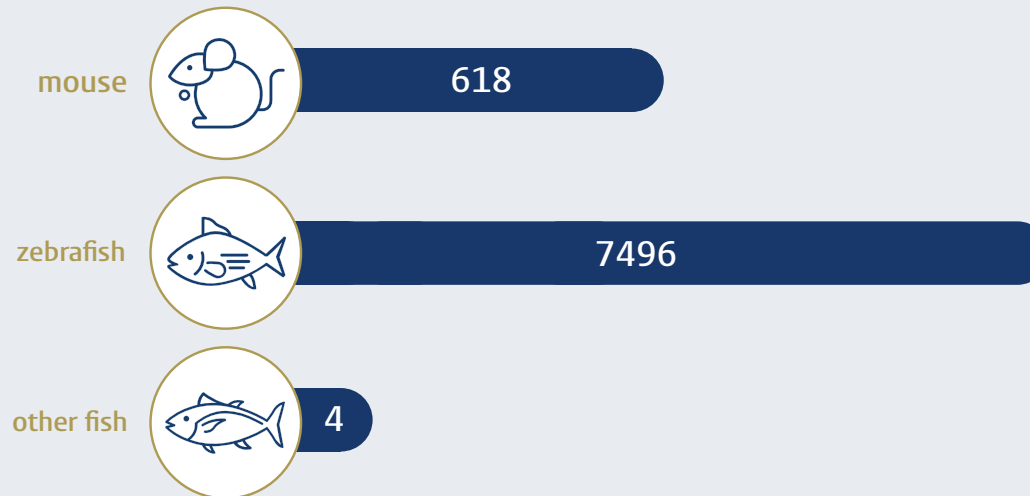
# ANIMALS EUTHANISED (after use in breeding)

2022

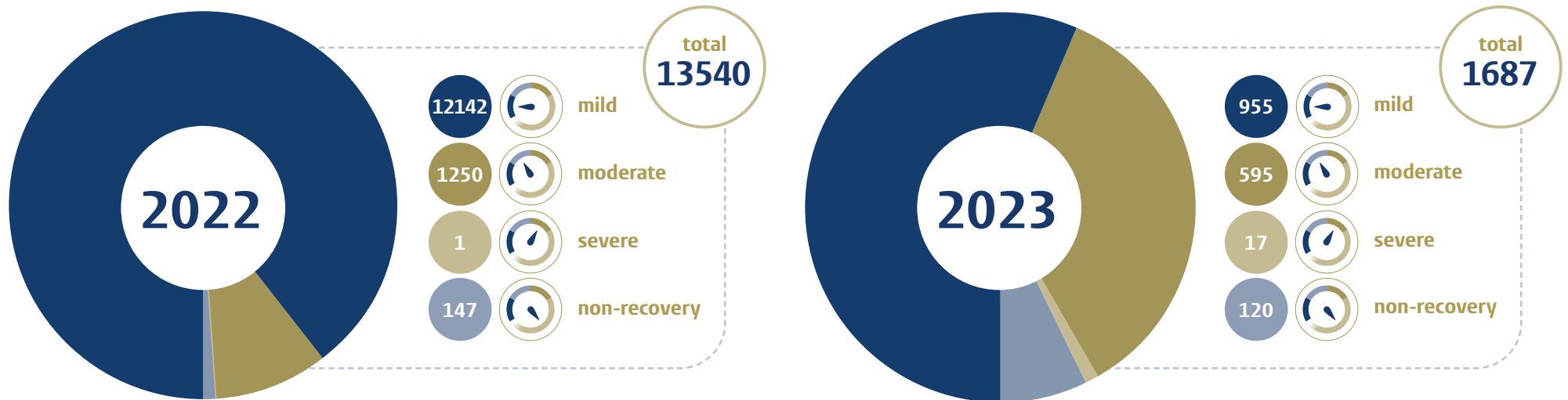


When using animals for experiments, it is also necessary to have animals for breeding. These animals were used only for breeding new animals, but not for procedures.

2023



# HOW MUCH DISCOMFORT DO ANIMALS EXPERIENCE DURING AN EXPERIMENT?



In animal experiments, the paramount consideration is always to minimise the discomfort for animals. Discomfort is the legal term for the degree of distress and pain animals experience during an experiment. According to the law, it is mandatory to distinguish between mild, moderate and severe discomfort, and experiments that are non-recovery.

**Mild discomfort** involves animals experiencing little discomfort from the treatment. The pain, fear, or suffering is equal to or less than inserting a needle.

**Moderate discomfort** involves more discomfort, such as surgery or a prolonged treatment.

In cases of **severe discomfort**, animals experience moderate discomfort for an extended period or intense pain or stress for a shorter duration. An example is undergoing a severe flu infection. Also, an unknown cause of death related to the experiment is considered severe discomfort.

## What are non-recovery experiments?

The non-recovery category includes all experiments where procedures take place under general anesthesia. During anesthesia, the entire body of the animal is numb, and the animal is completely unconscious. The animal does not wake up from the anesthesia. The discomfort the animal experiences is being put to sleep just before the anesthesia.