

## Health and welfare monitoring of fish used in research

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800,000 fish were used in research in Norway in 2003, and these constituted over 94% of the total number of animals used. One of the main objects of this project is to document what kind of research these fish were used for. How many fish were for instance used for development of vaccines or toxicological testing?

As part of the project an International Consensus Meeting was held in Oslo in May 2005 with the title 'Harmonisation of the Care & Use of Fish in Research'. Researchers spent three days discussing key topics such as welfare, pain assessment and analgesia, health monitoring, procedures and guidelines for implementing the three R's (Replace, Reduce, Refine) in fish research. A website containing all the reference material from the meeting has been established:

<http://oslovet.veths.no/fish>

The conclusions from the meeting in Oslo were presented at the World Congress on the Use of Animals in the Life Sciences held in Berlin in August 2005.

The second object of the project is to provide suggestions on how to improve implementation of the 3 R's in Norwegian fish research.

Monitoring of health and welfare is a key part of the refinement of the use of fish in research. The health status and well-being of the animals has a major influence on the results of experimental trials, but the role of these factors is still poorly documented.

Monitoring of the health and welfare of fish includes:

- The environment
- The behaviour of the fish
- Infectious agents such as bacteria, virus and parasites
- Infectious diseases

- Non-infectious diseases

Each fish species and each type of trial design generates a need for different types of monitoring. As an example, we will give suggestions for the monitoring of Atlantic salmon (*Salmo salar*) in research related to aquaculture.

This project is supported by the Norwegian Food Safety Authority and will be summarised in a report which includes plans for a Norwegian Platform for Alternatives. Eleven European countries have already established platforms that have been approved by the organisation *ecopa*, the European Consensus-Platform for Alternatives.