

Annual report 2023

The Swedish National Committee for the Protection of
Animals used for Scientific Purposes



Cover: During 2023 the National Committee and the 3Rs Center have, among other things, visited animal facilities and cell culture labs. We have organised educations and seminars to different target groups such as researchers and animal technicians.

Cover photos: Sören Andersson/2See AB and the Swedish 3Rs Center.

Other photos: The Swedish 3Rs Center, if nothing else is specified.

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Preface

This year marks 10 years since the EU directive on the protection of animals used for scientific purposes was implemented. Then came the requirement that each EU member state must have a national committee for issues relating to animal experimentation. The Swedish National Committee was installed at the Swedish Board of Agriculture.

For a few years, the establishment of a national competence centre for 3Rs questions was investigated. In November 2017, the Swedish 3Rs Center was inaugurated as part of the Swedish Board of Agriculture, with the National Committee as steering group. Today, the Swedish 3Rs Center is established as a contact point for 3Rs issues in Sweden, but also as an international collaborator.

The National Committee received six new members at the beginning of this year, when a new Committee was appointed for two years. In May, the Committee's group of experts was appointed, to assist with additional knowledge. The portfolio management is successful and efficient as a way to organise the operational work.

In connection to one of its meetings, the National Committee celebrated the first 5 years with the 3Rs Center. We had a modest celebration to which we invited former members and other partners.

Several projects have been finished during the year. Among other things, the National Committee's statement about not lifting mice by the tail was presented at the annual meeting for Swedish animal welfare bodies. Several films have been published during the year; mostly with a focus on replacing animal experimentation, but we have also made a film about all 3Rs. In January, we arranged an appreciated seminar on animal-free methods to study the brain and brain diseases. Towards the end of the year, we held a requested practical education about handling and training of large experimental animals. Our short webinars are popular and have attracted hundreds of participants.

In September, the Swedish government's budget proposition for 2024 was presented, in which the previously dedicated funding for the 3Rs Center's work has been removed. The Swedish Board of Agriculture hence needs to reduce the Centre's resources and staff in 2024. The Swedish 3Rs Center will remain as a national competence centre with the same contact channels as before, but with a significantly smaller budget and operations.

The 3Rs principle – for ethical animal research

The two researchers William Russell and Rex Burch introduced the principle of the 3Rs in 1957 and two years later, they published *The principles of human experimental technique*. Russell and Burch proposed that researchers should constantly strive to use as few animals as possible and at the same time reduce suffering and improve animal welfare during experiments. The core was and still is the 3Rs: Replace, Reduce and Refine.

Replace

Replace means that you replace a research method that uses live animals with a method, which does not use live animals but still provides equivalent or better information.

Reduce

Reduce means that you use fewer animals than in previous experiments and still obtain the same amount of information. It could also mean that you obtain more information from a single animal without increasing the suffering.

Refine

Refine means that you work to minimize pain or suffering for animals in experiments. It can also mean that you improve the welfare for animal used in experiments.

Today, the 3Rs principle is embodied into both Swedish and European legislation for using animals in research. The EU Directive on the protection of animals used for scientific purposes (2010/63/EU) is incorporated into Swedish legislation. This means that everyone who uses animals for scientific purposes shall implement the principles of the 3Rs in their work.

The National Committee for the Protection of Animals used for Scientific Purposes

The National Committee is an advisory body that in accordance with the Directive 2010/63/EU of the European Parliament and of the Council must exist in all EU member states.

The purpose of the National Committee is to promote and coordinate efforts on the 3Rs together with other stakeholders, such as the animal welfare bodies, the regional ethics committees on animal experiments, competent authorities, researchers and associations.

The National Committee's mission

The National Committee will:

- advise animal welfare bodies and competent authorities on issues relating to the acquisition, breeding, housing, care, ethic reviews and use of animals in experiments
- support animal welfare bodies in exchanging information on each other's work
- share best practices and collaborate with stakeholders and other national committees in Europe.

The National Committee is the steering group of the Swedish 3Rs Center. This means that the Committee shall prioritize the Center's work and decide which recommendations the Center shall produce. The National Committee uses portfolio management in their work, which means that the operational work is managed via three portfolios. These are:

- science in focus
- animal welfare in focus
- strategic work.

Members of the National Committee

Members of the National Committee are appointed for two years. The current committee is installed until February 2025.

Members of the National Committee are

- Jan Cedervärn, chair in the National Committee, Deputy Director General at the Swedish Board of Agriculture
- Anders Forslid, vice chair in the National Committee and portfolio chair, Associate Professor and Chief Veterinarian at Lund University
- Karin Gabrielson Morton, second vice chair in the National Committee and portfolio chair, Senior Policy Advisor at the Swedish Fund for Research Without Animal Experiments
- Elin Nyman, regular member in the National Committee, lecturer, researcher and Associate Professor at Linköping University
- Elin Törnqvist, regular member in the National Committee, Head of department at the Swedish Veterinary Agency, researcher and veterinarian
- Helena Elofsson, regular member in the National Committee, Head of Animal Welfare at the Swedish Board of Agriculture
- Ivan Nalvarte, regular member in the National Committee, Associate Professor at Karolinska Institutet
- Katarina Cvek, regular member in the National Committee, Coordinator for laboratory animals at the Swedish University of Agricultural Sciences
- Kristina Fant, regular member in the National Committee, Senior consultant at Key2Compliance AB
- Lotte Martoft, regular member in the National Committee, Industry consultant
- Madeleine Le Grevès, regular member in the National Committee, university lecturer at Uppsala University
- Emma Brunberg, alternate member in the National Committee, expert on Animal welfare at Animal Welfare Sweden (Djurskyddet Sverige)
- Lars Bräutigam, alternate member in the National Committee, researcher and Head of the zebra fish facility at Karolinska Institutet
- Oskar Karlsson, alternate member in the National Committee, university lecturer and Associate Professor at Stockholm University
- Sara Barr, alternate member in the National Committee, 3R-coordinator at the University of Gothenburg
- Sofia Östman, alternate member in the National Committee, Head of department at AstraZeneca.



The picture shows the National Committee for the Protection of Animals Used for Scientific Purposes at their meeting in October 2023.

From the left in back row: Katarina Cvek, Lars Bräutigam, Sofia Östman, Karin Gabrielson Morton, Ivan Nalvarte, Jan Cedervärn, Elin Nyman, Anders Forslid, Kristina Fant and Elin Törnqvist. From the left in front row: Lotte Martoft, Emma Brunberg, Sara Barr and Helena Elofsson.

Madeleine Le Grevès and Oskar Karlsson are missing.

The Swedish 3Rs Center

The Swedish 3Rs Center is the executive body of the National Committee, which means that the 3Rs Center shall carry out the majority of the Committee's assignments. The Center also promotes animal welfare and continuously works to reduce the number of animals used in experiments and to replace animals in experiments with animal-free methods when possible.

The Swedish 3Rs Center shall

- collect, compile and actively disseminate information on the 3Rs
- provide advice and recommendations on the 3Rs
- support competent authorities in their strategic work with the 3Rs
- promote collaborative use of organs and tissues
- develop, assess and share best practices regarding animals used for scientific purposes.

The staff at the 3Rs Center are employed by the Swedish Board of Agriculture and are placed at the Animal Research Unit.

The staff in 2023 has been

- Emma Svensk, Operations manager
- Emelie Jansson, Administrative officer, portfolio officer
- Emma Persson, Administrative officer, portfolio officer
- Anna Haglund, Administrative officer
- Ebba Jennolf, Administrative officer
- Elvira Hukasova, Administrative officer
- Kaisa Askevik, Administrative officer (parental leave)
- Malin Jägsell, Administrative officer
- Marie Doane, Administrative officer
- Pernilla Strigner, Administrative officer
- Lisa Andersson, Communications officer.



The picture shows the Swedish 3Rs Center's staff in December 2023.

From the left: Pernilla Strigner, Emma Svensk, Emelie Jansson, Kaisa Askevik, Emma Persson, Marie Doane, Malin Jägsell, Anna Haglund, Lisa Andersson, Ebba Jennolf and Elvira Hukasova.

The benefit of a national competence centre

“A national centre provides a national structure, something that can function in the same way within the EU's various member states. I see it as a knowledge hub, where anyone who is concerned or interested can get relevant and objective information and good support.” [researcher]

“The 3Rs Center can be a hub for knowledge and arguments so that in the long run we can eliminate unnecessary suffering in animals. You can support the regional ethics committees on animal experiments with knowledge and evidence in their decisions. It would promote the 3Rs in general and also facilitate discussions with researchers.” [animal welfare body]

“Supporting Swedish research is important both from a societal perspective and an animal welfare perspective. We are generally good at animal welfare in Sweden and there is a profit for the animals as well in maintaining and developing research in Sweden. It's not all about replacing animal experiments either, we must work to improve for the animals that still need to be used in experiments.” [government agency]

“A 3Rs Center itself cannot replace any animal experiments, but by having a national actor who shares knowledge, meets those who work with animal experiments and connects them with others – then the 3Rs are on the agenda and become more and more a natural part in everyday work.” [animal right organisation]

“The Center must work with all the three Rs and push for the area to be seen and valued highly in the society. The dialogue needs to be held at a political level to make the decision-makers truly understand the importance of this, not only for the sake of the animals but also for Swedish research and our future.” [researcher]

“Sweden has a good position and a good reputation. Our research is in the front line and we are good at converting new knowledge into practical use. A large percentage of our GDP [BNP] are dedicated to research, compared to many other countries. The 3Rs Center can also contribute in its role as a neutral point of contact and information channel.” [industry]

The work in 2023

The National Committee

The Swedish National Committee for the Protection of Animals used for Scientific Purposes has held six meetings in 2023. The operational work has been performed in parallel with regular meetings. One Committee member is responsible for each portfolio and the other members are connected to the portfolios. The portfolios have administrative support from the 3Rs Center.

Early 2023, the Swedish Board of Agriculture appointed a new national committee. Six of the Committee's 16 members were appointed new, which made parts of the spring meetings opportunities for the members to meet and get to know each other.

During the spring, work also began on the plan for operations in 2024. The Committee's strategic work has started to take shape and we often aim three years ahead in the projects that are decided. This means that the operational planning requires less work.

Study visits and competence development

This year, the Committee has also had opportunities to broaden its competences and networks.

During the spring, the Committee made a study visit to AstraZeneca with its members Lotte Martoft and Sofia Östman as hosts. The National Committee then got to visit the facility for larger laboratory animals and learn more about drug development.



5 years with the Swedish 3Rs Center

At the end of March, the National Committee invited to an informal celebration of the 3Rs Center's first 5 years. The celebration took place in Gothenburg, in connection with one of the Committee's regular meetings. Former members of the Committee and other collaborators were invited.

A series of pictures from the Center's first years were displayed on a big screen, two members of the chairman's group gave speeches and a quiz about the establishment of the Center was held for the participants.

Adjustment in 2024

In September, the Swedish government's budget proposition for 2024 was presented, in which the dedicated funding to the 3Rs Center is removed. Due to this, the Swedish Board of Agriculture has notified nine of the twelve positions at the 3Rs Center. This change also means that the conditions for the work of the National Committee will change. In order to adjust to a smaller budget, the National Committee conducted a workshop in connection to its regular meeting in Jönköping in October.

The workshop aimed to identify the most important target groups for the 3Rs Center's work in 2024 and an operational plan with initiatives aimed at them. Despite the circumstances, the National Committee worked with great focus and dedication, to form the basis of a significantly reduced operational plan for 2024.

The group of experts

The National Committee has an appointed group of experts, to assist the Committee with additional expertise. The group consists of a chair and six members with extensive experience in ethics, ethology, refinement and replacement methods.

The group of experts is appointed for two years at a time, and this year it was time to appoint a new group, which was done in May. Chair of the group is Lotte Martoft from the National Committee.

Members of the group of experts are

- Elin Spangenberg from the Swedish University of Agricultural Sciences
- Jonas Malmsten from the Swedish University of Agricultural Sciences
- Erika Roman from the Swedish University of Agricultural Sciences and Uppsala University
- Maria Karlgren from Uppsala University
- Peter Gennemark from Linköping University and AstraZeneca
- Rebecca Sandgren from Lund University
- Stina Oredsson from Lund University.

During the year, members of the group of experts have been involved in the work of developing a support for euthanization of mice, compiling information on housing of rabbits and producing films about research with non-animal methods.

Strategic work

Input to the government's proposition on research and Innovation

During the summer, the government requested input on what the next proposition on research and innovation should include. The response from the National Committee, submitted and published in October, focuses on the 3Rs principle as a means to increase research quality.

It also specifies the need for increased funding for research on all 3 Rs, increased funding for validation and increased funding to allow for collaboration between stakeholders. All this is crucial to replace, reduce and refine animal experimentation.

European Research Area

During the fall, the 3Rs Center has participated in a work to put focus on replacing animal experimentation in the upcoming EU political agenda for 2025–2027 within the European Research Area (ERA).

ERA is the EU's policy for the European research system. The policy contains overall descriptions of the areas to be prioritized over a 3-year period as part of the work with the long-term Pact for Research and Innovation in Europe.

The proposal that the 3Rs Center has worked on was initially submitted by representatives from the European Commission and the Netherlands. During the fall, the 3Rs Center participated in conversations and comment rounds to refine the proposal based on a Swedish perspective. Input has been obtained from members of the National Committee as well as other stakeholders.

Collaboration in Europe

European NC Network

For a few years, the Swedish National Committee has participated in a network for all committees in Europe - the European NC Network. In 2019, Sweden hosted an on-site meeting in Stockholm and since then the network has met online, which means that more committees have had the opportunity to participate.

In 2023, Poland hosted the annual meeting, where the participants discussed current topics and questions that they have in common.

The European network EU3Rnet

The European network for 3Rs organisations, EU3Rnet, was initiated in 2018. Together with 22 European 3Rs centres, companies and institutions, we have formed a consensus for the network; for example, that it shall focus on all 3Rs.

COST-project IMPROVE

The network initiated a COST application that was approved in 2022. COST stands for European Cooperation in Science and Technology and the organisation funds European networks for research and innovation, in this case a network to promote the 3Rs in a period of four years, 2022–2026.

The National Committee has decided that the 3Rs Center shall be involved in the COST project IMPROVE.

The 3Rs Center and the National Committee are included in the network's steering committee and in two of the working groups dealing with training and implementation. During the year, the 3Rs Center has participated in two meetings with the steering committee and further meetings in the various working groups that are now starting up their activities.

3Rs across Europe

In a smaller and more informal network initiated by NC3Rs, the 3Rs Centre in United Kingdom, a number of 3Rs actors from Sweden, Denmark, Germany, Switzerland and the Netherlands meet to share knowledge, but also to collaborate when possible.

In June, we jointly organised a webinar series on Culture of care with a focus on implementation and success factors. Sweden participated with a speaker from the National Committee and the 3Rs Center hosted the third and final webinar. Together we came up with five potential scenarios that may take place in a laboratory animal facility, which formed the basis of the closing panel discussion. The scenarios are also intended to be used for dialogue at workplaces across

Europe. A total of around 700 people listened to the webinars and 350 screenings of the recorded talks have taken place afterwards.

Meeting with Nordic 3Rs Centres

In connection to the Scand-LAS congress in Uppsala, the 3Rs Center invited its Nordic counterparts to a meeting. During the meeting, we exchanged experiences of both work areas and approaches as well as the structure of our various organizations.

The meeting was very much appreciated and hopefully it can result in closer contacts and additional meetings in the future. We have a lot in common with our Nordic colleagues and can benefit from each other's work.

National contact point for the PARERE network

According to the EU Directive every member state shall nominate a single point of contact to provide advice on the regulatory relevance and suitability of alternative approaches proposed for validation. The national contact points are gathered in the PARERE-network – EURL ECVAM Network for Preliminary Assessment of Regulatory Relevance.

The purpose of the PARERE network is to facilitate the flow of information between the EU reference laboratory EURL ECVAM and national regulatory authorities regarding the development and validation of methods, but also to identify areas worth to prioritize. The network will also be helpful to find expertise for specific project groups and to comment on EURL ECVAM's future recommendations.

Since 2021, the Swedish 3Rs Center has the role of contact point for the PARERE network. During 2023, we have participated in two meetings; the annual meeting at the EU Commission's Joint Research Center in Ispra, Italy. Yet another meeting was held online in June, where a new algorithm was discussed, an algorithm that can be used for chemical safety testing and assessment based on non-animal methods.

Recommendations

Refined mouse handling

Handling mice by their tail to capture, lift or move them has been standard procedure within research animal facilities for a long time. During the last decade, the knowledge about how mice are affected by being lifted by the tail has increased. Several studies have been published showing that mice become noticeably stressed by being caught, lifted or moved by the tail.

Despite the increased knowledge and scientific evidence, the transition to a more refined way of handling mice is slow in Sweden. Some facilities have come a long way and stopped handling mice by the tail completely, while others have not initiated the transition.

In recent years, the Swedish National Committee and the 3Rs Center have made several efforts to inspire refined ways of handling laboratory animals. During this year, the National Committee has taken one step further in this work by publishing a written statement. The statement is published as a poster, which can be printed to be put up on a wall or notice board at the workplace.

As support for implementing refined handling of mice, the Swedish 3Rs Center has also collected experiences from Swedish laboratory animal facilities. We have compiled their experiences in a document and also included tips from the 3Rs organization NC3Rs. The support material can also be downloaded from our website.

We hope that this material together with the National Committee's statement, will make it easier for animal facilities to implement refined handling of mice, and thus contribute to improved animal welfare and better research quality in Sweden.



Photo: Sören Andersson/2See AB

Support in choosing euthanasia method for mice

During the year, we have worked on developing a material for support when choosing a method for euthanasia of mice. Together with members from the National Committee's group of experts, the Swedish 3Rs Center has reviewed scientific literature and collected experiences from Swedish facilities working with mice in research.

In addition to all approved methods for euthanasia, the material also includes anaesthetic methods and control methods for euthanising mice. The hope is that the material can provide a clear overview and facilitate the choice of method for euthanasia. The material was published in the end of the year.

Group and solitary housing of rabbits

The work to investigate the possibilities for keeping rabbits in pairs or groups has continued during the year. The National Committee's group of experts delivered its compilation of information and the Swedish 3Rs Center collected information from facilities that keep rabbits as laboratory animals. They contributed with their experiences regarding what works and what does not work when rabbits are kept in groups, and also what rabbits want to have access to.

The knowledge from the facilities is combined with the information from scientific articles and other written sources that was compiled by the experts. The conclusions from the project will be presented as a report with recommendations for group and solitary housing of rabbits, but also in a more concise poster version. The material will be distributed to Swedish laboratory animal facilities.

Interior for laboratory fish

Since before, the National Committee has initiated a project investigating the need for bottom substrate for fish kept in laboratories. At that time, there was already knowledge available about zebrafish, but it was unclear whether other fish needed bottom substrate, or not. It was also unclear how scientists meet the requirement to keep fish in an environment similar to their natural environment, while keeping aquariums clean and not interfering with research.

After finding out which fish species researchers actually work with in Sweden, we contacted three experts from SLU, Uppsala University and the University of Gothenburg. After an initial discussion, it was concluded that complete recommendations on bottom substrate should also include other enrichment and the zebrafish species.

With this change in focus, the experts collected information on how each species of fish kept in laboratories in Sweden lives naturally. They also made assessments of what the fish need, to feel as well as possible in a laboratory environment. Factors the experts looked into included need for and type of bottom substrate, whether the fish needs vegetation, hiding places and protection from above, and whether the

fish can share water with other species without being stressed. The result will be published as a recommendation in 2024.



Photo: Lars Bräutigam

Acclimatization of laboratory animals

When using laboratory animals, it is important that the animals are given time to acclimatize when changing their environment, diurnal rhythm or group. Routines for acclimatization vary between different facilities in Sweden, which can lead to differences in research results.

Together with veterinary students from the Swedish University of Agricultural Sciences, the Swedish 3Rs Center has investigated how, when and for how long rats, mice and zebrafish are usually acclimated before they are used in studies. During the year, the 3Rs Center worked together with members of the National Committee to compile the results of a literature review. The aim is to develop a guide for good practice in acclimatization of mice, rats and zebrafish before experiments. The work will continue with the ambition to publish the guide in 2024.

Good examples of Refinement

There is a lot of ongoing work to refine animal testing in Swedish laboratory animal facilities. During the year, we have continued the work to collect material for our compilation of good examples of refinement.

The purpose of the compilation is to collect and distribute concrete examples of refinement that is done for research animals in Sweden. Our hope is that the compilation will promote and inspire further work on refining animal experimentation.

The compilation is directed to anyone who works with laboratory animals, and the report was published at the end of the year.

Animal welfare bodies

The animal welfare bodies are one of our most important target groups and an important channel to reach organisations and individuals working with animal experimentation. We work continuously to keep in touch with the animal welfare bodies and answer their questions to us.

The annual meeting for animal welfare bodies

A recurring event for the animal welfare bodies is the annual meeting arranged by the 3Rs Center. This year, 43 participants took part in the meeting which was held in Stockholm.

The theme for this year's meeting was change management, communication and refined handling of mice. The first half of the meeting included presentations on motivational interviewing and an inspirational lecture on change management.

The afternoon began with Katarina Cvek, coordinator for laboratory animals at SLU and member of the National Committee, giving a presentation on why one should avoid lifting mice by the tail. Katarina presented evidence and summarized research within the field and for the first time, the National Committee's statement "Don't lift mice in the tail!" was presented.

The meeting ended with a workshop on the implementation of refined mouse handling and a presentation on how AstraZeneca worked with this matter globally.

We have received good response from the participants at this year's meeting. They particularly appreciated the theme and the concrete tools and methods that were presented during the day.

Animal welfare bodies collaboration

The 3Rs Center occasionally receives questions from animal welfare bodies regarding their work. They request information on each other's work, on best practice and how to improve and refine their work. In the past, we have received questions about housing and tagging of mice. This year we received a question about if and how other organizations have used music in their animal rooms.

When such a question is received, we ask all animal welfare bodies to share their experiences, which we then compile and send to the organization that asked the question. It turned out that most facilities avoid having music in their animal rooms for rodents to avoid sounds that can stress the animals. For larger species of animals, such as rabbits and pigs, several facilities chose to have music and experienced that it has a calming effect on the animals.

The animal welfare bodies have also helped the 3Rs Center to reach out to both animal technicians and researchers in their organisations to share information about

our activities. They have also helped us to answer questions in projects where we wanted to gain insight into their work. Such projects are group and solitary housing of rabbits, refined mouse handling, good examples of refinement and euthanasia methods for mice.

Changes in ethical approval of animal experimentation

In Swedish animal welfare legislation, there is a section that enables animal welfare bodies to within certain limits handle applications about changes in ethical approvals of animal experimentation. The 3Rs Center has received signals that there is uncertainty about which changes the animal welfare bodies actually can approve.

Towards the end of the year, we started a project which aims to facilitate the handling of such applications by the animal welfare bodies. The idea is to compile information on changes that have been handled and approved, or not, by the animal welfare bodies, and on what basis the decisions have been made. When finalized, the material will be distributed directly to all animal welfare bodies.

Study visits

Every year, the 3Rs Center make study visits to some of Sweden's laboratory animal facilities. The aim is to deepen our knowledge, get to know the organisations and anchor our role as a national competence centre. The visits are often planned together with representatives from the local animal welfare body.

This year began with a trip to Umeå for a study visit at Umeå University and the antibody producing company Agrisera. During the year, we have also visited Lund University, Stockholm University, AstraZeneca, the Swedish University of Agricultural Sciences and the Swedish Veterinary Agency. During the visits, we met laboratory animal veterinarians, animal technicians and researchers, and got to see how they work with the 3Rs in their daily work.

Animal technicians and animal caretakers

An important group in addition to the animal welfare bodies are animal technicians and animal caretakers.

Network for animal technicians and animal caretakers

During the year, the 3Rs Center's network for animal technicians and laboratory animal care takers has expanded to nearly 100 members. The communication with the network has mostly consisted of the 3Rs Center e-mailing about upcoming activities and other current information.

We have also received help from the network members to obtain material for an edition of Focus on the 3Rs, about the role of the animal technician in research. We hope that the network can continue to be active and increase its interaction.

National meeting for animal technicians

In February, we held an on-site meeting in Stockholm for animal technicians during the International Laboratory Animal Technician Week. All animal technicians were invited to the meeting and more than 40 people attended.

The purpose of the meeting was to give animal technicians the opportunity to meet, exchange experiences and increase their competence. The meeting included lectures on current legislation with staff from the Swedish Board of Agriculture. Led by a veterinarian, the animal technicians also got to practice health assessment of different animal species under different circumstances.



Lecturers from the United Kingdom guided the animal technicians in recognizing and dealing with signs of emotion overload and compassion fatigue, linked to their work with laboratory animals. This part ended with a workshop where the participants took part in possible scenarios that they could encounter as animal technicians in Sweden and reflected on how they would have acted.

The meeting was appreciated by the participating animal technicians as well as the lecturers and members of the National Committee that attended, and we hope to be able to organize more such occasions in the future. In particular, participants praised the section on emotion overload and compassion fatigue; they wish to work further with these subjects in the future.

The day was evaluated via a short survey. Some of the comments were:

Fantastic human encounters. Interesting meetings. Good program and committed lecturers and participants.

Good to also address the emotional part of our job as animal technicians. Good tools that should be available in all organizations.

Gave some aha-moments. And opened up for thoughts I hadn't thought of before. Interesting and nice with lecturers from other countries.

It targeted me as an individual, which was good because it is often easy to focus on the animals and the research, which you yourself also contribute to.

Very good lecturers, they were easy to listen to, appropriate length of the sessions and nice with topics that are relevant for us as animal technicians. Many lectures are otherwise relevant just for researchers. There were good discussions, it felt as if everyone dared to speak up. Valuable to have a longer lunch when you could chat with others.

The regional ethics committees on animal experiments

In Sweden, research using animals may not be conducted if not preceded by evaluation and approval from a regional ethics committee on animal experiments. This ethical evaluation must ensure that the aims of the experiment justify the use of animals, that the experiment is of urgent interest to the general public and justified, e.g. for scientific reasons to benefit humans, animals or the environment. The value of the experiment should be assessed as greater than the suffering that the animals may experience. Experiments using live animals should not be approved if there are alternative methods that provide equivalent or better results.

The Swedish Board of Agriculture is the government agency responsible for the six regional ethics committees on animal experiments. The National Committee is assigned to support the regional committees by giving them advice on issues related to animals in research.

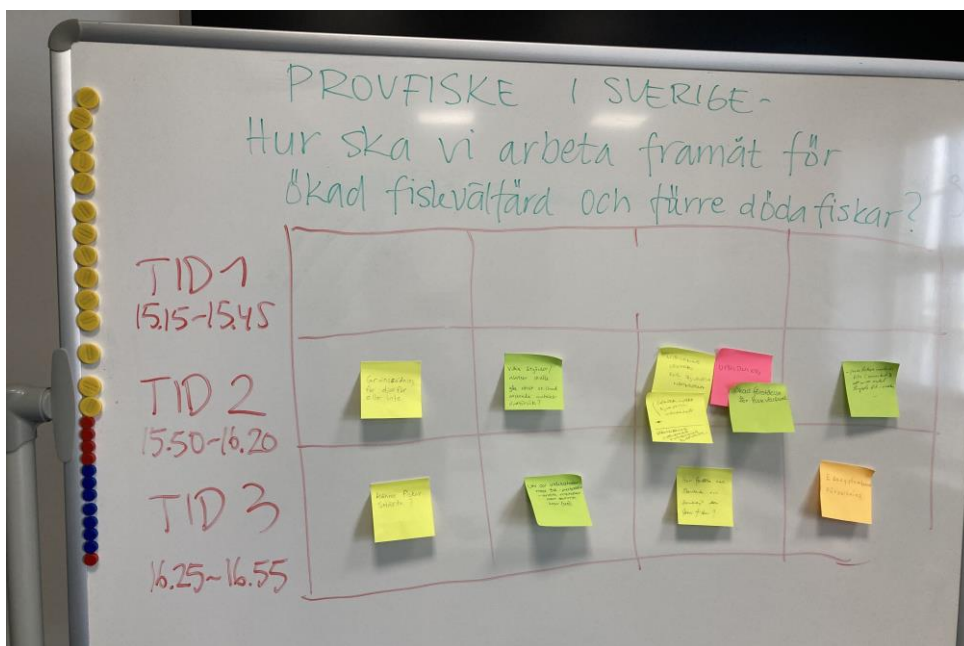
During 2023, the 3Rs Center has shared information about our activities through digital newsletters that the Swedish Board of Agriculture is distributing to the regional committees on a regular basis.

Support to government agencies

There are a number of government agencies that, to a varying degree, are involved in activities related to animals in research. Some of these agencies perform or order animal experiments themselves, while others assess and review documentation based on data from research using live animals, or are involved in legislative processes within this area.

In Sweden, six government agencies are assigned to relate their work to the 3Rs principle and these agencies are: the Swedish Chemicals Agency, the Swedish Medical Products Agency, the Swedish Food Agency, the Swedish Veterinary Agency, the Swedish Environmental Protection Agency and the Swedish Agency for Marine and Water Management.

The Swedish 3Rs Center has a role to support these agencies in their 3Rs work and we do this in different ways.



Workshop on fish populations and the 3Rs

During the fall, the Swedish Agency for Marine and Water Management held a workshop on the theme: 3Rs in evaluation of fish populations, together with the Swedish 3Rs Center.

Representatives from several organisations, including academia, government agencies, county administrative boards and a sports fishing association participated. Many fruitful discussions took place and resulted in several proposals for the continuous future work with implementation of the 3Rs in evaluation of fish populations.

Financing of experts

Together with the Swedish Chemicals Agency, we have identified and financed various experts to participate in the OECD's work on developing new test guide documents for non-animal methods, a task with ambitious goals to replace and reduce animal-use in safety assessment and hazard evaluation of chemicals. The Swedish Chemicals Agency is the national coordinator for the OECD's work in this area.

During 2023, the Swedish 3Rs Center has also financed participation of an expert in a validation management group for evaluation of test methods within the French initiative *Public-private platform for the pre-validation of endocrine disruptors characterization methods* (PEPPER).

Partnership for the Assessment of Risk from Chemicals – PARC

PARC is a seven-year research and innovation program with a regulatory perspective and it is about developing, improving and strengthening the EU and national authorities' risk assessment of chemicals. PARC is part of the EU program for research and innovation, Horizon Europe.

Swedish government agencies and a large number of researchers at our universities participate in various work packages within the PARC partnership. The Swedish 3Rs Center is part of the national hub for government agencies, which also includes the Swedish Food Agency, the Public Health Agency of Sweden, the Swedish Work Environment Authority, Formas, the Swedish Agency for Marine and Water Management, the Swedish Chemicals Agency and the Swedish Environmental Protection Agency.

In May, a second meeting was held for the Swedish PARC cooperation group, consisting of government agencies, research funding bodies, researchers and stakeholders from other parts of the community. The aim was to build relationships between researchers and government agencies to accommodate that the needs of the agencies are fulfilled by the current research within specific fields and that the research has regulatory relevance. The meeting also gave the participants an opportunity to present their work and to discuss difficulties and requirements for the work within PARC.

Research funding bodies and the 3Rs

Since 2020, the National Committee and the Swedish 3Rs Center have arranged annual meetings with Swedish research funding bodies. In 2023, we intensified this work and organised two meetings, during which we produced three documents together:

- a statement from the National Committee regarding the importance of the 3Rs in research funding
- a document describing the 3Rs principle, to be used by the funding bodies in their work with funding of academic research projects
- a statement that can be used by funding bodies to verify their opinion on the importance of the 3Rs principle in Swedish academic research.

The funding bodies that have been participating in the meetings are dedicated to the 3Rs work and have inquired these types of documents as a support in their work. The documents have been approved by the National Committee and are now available for use.

The work with the third document, the statement that can be used by the research funding bodies to verify their opinion on the importance of the 3Rs principle in research, will continue in 2024 and onwards. The 3Rs Center will continue the work to engage more funding bodies, as this is of great importance for the implementation of the 3Rs in Swedish research.

Horizon Europe

Horizon Europe is one of the largest funding programs for research and innovation within the EU, and the funding program includes the period 2021–2027. As the 3Rs both contribute to and is an important part of research and innovation, the Swedish 3Rs Center has reviewed the program to identify calls relevant for the 3Rs. The program is based on three pillars with different focus areas. Our review has been focusing on Pillar 2, that contains calls related to global challenges and industrial competitiveness for projects within environment, health, new techniques and new materials.

This year, we reviewed all clusters within Pillar 2 to identify relevant calls for 3Rs work during 2023 and 2024. Funding is available for establishment and validation of non-animal research methods. It is also possible to obtain funding for projects with focus on all three Rs.

Information regarding calls related to 3Rs work within Horizon Europe has been published on our website.

Activities to promote non-animal methods

We continue our work by addressing different target groups to share knowledge about non-animal methods. One of our most important target groups in this work is researchers, both those who develop non-animal methods and those who use animal models in their research. We address them mainly via various forms of activities such as seminars, webinars and workshops.

A strategy to replace animal experimentation

The work with compiling a strategy to replace animal experimentation has progressed during the year. The aim of this strategy is primarily to direct the work of the National Committee, but we will also use it to inspire others. A cornerstone in the work is an open dialogue with relevant stakeholders to ensure that the strategy is well anchored.

In 2021, we collected material for the strategy during an open workshop that brought together researchers as well as representatives from national regulators, research funding bodies and animal welfare organisations. The National Committee processed the material during 2022 and produced and approved a working material for further discussion with stakeholders. We have put great emphasis on the aim and delimitations of the strategy so that these are clear and accepted by the entire Committee.

During 2023, the new National Committee continued the work with the strategy through a workshop. During this meeting, the members also brought forward ideas for actions to promote the implementation of the strategy.

Additional suggestions for actions were collected during a seminar on animal experimentation organised by The Swedish Research Council, where the National Committee and the 3Rs Center presented the strategy working document.

The work with the strategy will continue, and the collected ideas about actions to add to the document will be discussed further. Additional meetings will be arranged for dialogue with stakeholders but due to the financial situation, the work will continue at a slower pace than expected.

Seminar with focus on the human brain

At the beginning of the year, we welcomed researchers and other stakeholders with an interest in neuroscience to a seminar on non-animal methods for studying the human brain. The seminar was a hybrid meeting in Gothenburg with a total of 60 participants, of which about 40 participated on site.

We started off with a presentation from the Joint Research Center of the EU Commission, describing their systematic work to collect and compile available non-animal methods used within different disease areas. Further, five researchers from Swedish universities presented their projects and methods with focus on the 3Rs. Four shorter presentations were also given, selected from submitted abstracts.

The program also contained a poster session, and a representative for the Swedish Society for Neuroscience presented their activities. The day ended with a panel discussion about possibilities and possible obstacles for implementation of non-animal methods within research on the human brain and its diseases.



Webinars about non-animal methods

During the year, we arranged four webinars on research based on non-animal methods. The topics were the Swedish Research Council's 3Rs project grant, organ-on-chip methods, cell culture using animal-free components, and 3D-printing of tissues.

External experts have been invited to present novel and innovative research. The invited lecturers have been representatives from the Swedish Research Council and both Swedish and international universities. All webinars have been presented in English, allowing an international audience. In total, we have had hundreds of webinar participants from different parts of the world.

Helpathon

A helpathon can be described as a creative workshop used to solve complex problems and implement change management. The concept was originally established in the Netherlands to solve problems in socio-economically challenging areas. Helpathons can be used to solve diverse problems. The Netherlands has developed a program, Transition Programme for Innovations without the use of

animals (TPI), that uses helpathons as a method to work with questions and challenges related to the implementation of non-animal methods in research.

The National Committee and the 3Rs Center have for a long time had interest in helpathons as a concept in Sweden, since it has been used successfully in other countries as a tool for establishment of non-animal methods.

In April, we invited a Dutch company specialised in the helpathon concept to Jönköping to run a course in organising helpathons for the staff at the 3Rs Center. We learned about helpathon as a concept and how to arrange a helpathon in practice. The course also included a simulation of a helpathon for the participants to try out the concept.



Staff from the 3Rs Center have also participated in several helpathons organised by the TPI in Amsterdam. We have also used parts of this concept in several of the activities we have organised for different target groups this year.

Evaluation and formal validation of methods

In order for new research methods to be considered reliable, they need to be evaluated. Methods to be used in risk assessment need to be evaluated in particular detail and this process is called validation. Evaluation and formal validation of non-animal methods is necessary for the methods to be used and able to replace animal experimentation.

For researchers who develop methods that can replace animal experimentation in risk assessments, the formal validation process can be perceived as an obstacle that is both difficult to finance and difficult to find relevant information about. Therefore, the National Committee and the 3Rs Center have initiated a number of actions to support this work.

During 2023, the 3Rs Center started a project where information regarding evaluation of methods and formal validation has been collected from various

organisations and resources. The aim is to publish this information on our website in 2024 as a resource for researchers.

Films to promote non-animal methods

During the spring, we published the first impact story about a researcher using non-animal methods, to inspire other researchers to make transitions to other research models. The film shows how researchers at Uppsala University have replaced animal experimentation in drug development by using cell models.

This fall, we have recorded and edited a similar film at Lund Stem Cell Center showing new non-animal methods based on stem cells. The film explains how pluripotent stem cells can replace rodents in research about neurological diseases, and will be launched in early 2024.

We have also published a film where different stakeholders are discussing the prerequisites for replacement of animal experiments in Sweden. Researchers, method developers, research funding bodies, representatives from the industry and government authorities, and politicians answer questions about the advantages and challenges with replacement of animal experimentation.

National network for Replace

At all our activities on non-animal research and replacement during the year, the attendees have had the opportunity to sign up for a Replace network. We initiated this network a couple of years ago and it is open to anyone who has an interest in the area of non-animal methods. It has grown during the year and today has more than 400 members.

At present, the network functions as a communication channel, where the 3Rs Center sends out relevant information to its members. In the coming years, the idea is to develop the network with the hope of becoming a platform where members can exchange information, make new connections and find partners for collaboration. A first step in that direction is the network's closed group at LinkedIn, the "Swedish 3Rs Network for Replace".

Activities to reduce and refine animal experiments

We address different target groups to disseminate knowledge about methods that can reduce and refine animal experimentation. One of our most important target groups in this work is the animal welfare bodies and those who work closely with the animals. Our work is conducted mainly via various activities such as educational activities, seminars and webinars.

Workshop on stress-reduced handling of mice and rats

For the third year in a row, the 3Rs Center has held workshops on reducing stress in mice and rats used in research. The workshop includes a lecture by the Swedish University of Agricultural Sciences, on how laboratory animals have been kept historically and how the current housing may look like. It is, among other things, about how cages have looked and been enriched, but also how animals have been handled. The second part of the workshop deals with handling and training, and staff from the research institute RISE tell and show how they for example, train animals to receive medicine and give blood samples.

The workshop's final part gives the participants opportunities to ask questions and discuss with the lecturers which parts of the content that they can take home to their own workplace.

After the workshops in 2022, we asked all participants to answer a survey about how they have changed their way of handling mice and rats since attending the workshop. The final surveys were answered early 2023. The results show that most of those who answered the survey have implemented some of the methods they learned, or started to think along these lines. The most common reason why they had not changed their way of working was that they were already working in a similar way.

Education in handling and training of large research animals

At a previous meeting with animal welfare bodies that work with large research animals, a desire for a practical education in handling and training emerged.

At the end of the year, we organised such an education at the Swedish University of Agricultural Sciences in Uppsala. Two consultants who work a lot with animal training, especially in zoos but also with laboratory animals, were hired for the educational parts. During two days, they trained 16 participants from various organizations from all over Sweden. The participants had different backgrounds

and experiences, but most of them worked as animal technicians and barn managers.

The participants were educated in basic animal training by combined lectures and practical exercises on both animals and humans, and discussions about the lessons learned. There was a good atmosphere in the group and the participants discussed among themselves. They were also given two short demonstrations in training where the object of training on one occasion was a member of the National Committee.



The trainers, participants, National Committee members and staff from the 3Rs Center were satisfied with the education. Several participants expressed the need for this type of training with a focus on their own animal species and with their entire group of staff.

Some quotes from the evaluation:

Thank you for two very rewarding days! Couldn't have been better! I have so many thoughts and ideas with me!

Very good and experienced lecturer. Didn't have any expectations before the course, but thought it was very good.

I thought everything [was good] as we had not practiced anything before so everything was new and interesting.

Compilation of retrospective assessments

At the beginning of the year, we started a project to summarize particularly good 3Rs efforts in the retrospective assessments that are carried out by the Central Ethics Committee on Animal Experiments (CDFN). The Committee's task is to evaluate all animal experiments that reach a severe level of suffering, use non-human primates or for some reason have been designated for evaluation by the regional ethics committee that approved the experiment. The purpose of the retrospective assessment is to investigate whether the experiment achieved its purpose, to what extent the animals may have suffered and how the experiment could be further developed from an animal welfare perspective.

We wanted to compile and disseminate 3Rs efforts that emerge from these evaluations. The project resulted in several new contacts within the 3Rs. We were able to share information, good examples and knowledge about the 3Rs via webinars and digital letters. The 3Rs Center will continue to seek for new good examples of the 3Rs in the retrospective assessments.

Webinars about animal welfare and the 3Rs

During the year, we have organized five webinars with a focus on animal welfare. Several of them focused on reducing the use of laboratory animals.

The first webinar of the year was about systematic literature reviews to use existing research and thus reduce the number of animals needed in experiments. Other webinars have dealt with using alternative methods for health assessment of laboratory animals, good examples of the 3Rs and reducing the use of laboratory animals through planned breeding and other methods. Lund University was invited to speak at a webinar about a checklist they use to ensure that researchers have really thought through all 3Rs aspects in their ethical application.

At the end of the year, we organized our annual webinar for stakeholders that work with estimation of fish stocks in Sweden. This time, the participants were able to share knowledge about the welfare of crustaceans, the animal protection legislation for fish monitoring and 3Rs efforts to sample and release fish.

Activities for students and teachers

To reach tomorrow's researchers – today's students – we produce a wide range of educational material aimed at students and teachers in primary and secondary school.

Education on research and the 3Rs for upper secondary school

In 2022, the 3Rs Center launched an educational material for the upper secondary school. The material consists of three separate lessons about research, animal experimentation, ethics and the 3Rs. The lessons are produced in a digital format and can be used together, but also separately. The education is based on letting the students themselves receive information from the digital material in text, film, images and tasks. Students also get the opportunity to reflect individually and in groups. The material connects to the upper secondary school curriculum and contains clear instructions to the teacher on how to use it and which subjects it is applicable to. There is also extra material and a teacher's guide attached to each lesson.

Use and marketing of the material has continued during 2023. The material has been marketed through web-based resources for teachers, distributed by different co-partners, in social media, in webinars and at conferences or other meetings for teachers.

During the year, we also got the opportunity to write a blog post about our work with students and teachers. The blog post was published at the website of Public & Science, from which one can also easily find our educational material.

National writing competition for the upper secondary school

In February, we organised a national writing competition for the upper secondary school. We encouraged students to write a story or a poem about a world without animal experimentation, and reflect upon how such a reality would differ from today's. The competition aimed to spark interest in the 3Rs in general, and non-animal methods in particular, among young people. But also, to raise awareness of our educational material on research, animal experimentation and the 3Rs.

The competition was open for one month and we received 216 short stories and poems from all over Sweden. The ten best contributions were selected to be reviewed by a jury, that consisted of a teacher, a linguist, a journalist and a researcher. The winning story was written by a student at Campeon Gymnasium in

Helsingborg. Besides a diploma, the student's class was given an award of 15 000 SEK to the class savings.



Alma Hansson Sondén won the national writing competition with her short story. The 3Rs Center visited Alma and her class at Campeon Gymnasium in Helsingborg to give her the award and to give a lecture to the students about the 3Rs.

The jury also awarded two honourable mentions to the second and the third best story, written by students at the Per Brahe Gymnasium in Jönköping.

Education for future animal technicians

In Sweden and the EU, you need proper training to work with laboratory animals. In Sweden, there are a number of secondary school courses for future animal technicians. The 3Rs Center collaborates with teachers at the upper secondary level to educate their students on the 3Rs.

This year, we offered this half-day education at two different occasions, to make it possible for all students to attend. The education focused on refinement and modern handling techniques. The students also got to learn about methods that can replace animal experimentation today and tomorrow.

We hope to motivate the students to continue developing the 3Rs in their future work.

Researchers' Week (ForskarFredag)

Every year, the European Commission initiates a science festival for children and young people, which takes place simultaneously throughout the EU. The festival is called ForskarFredag in Sweden, and it lasts for a week.

The Swedish 3Rs Center together with four researchers met 500 students from the upper secondary school during the week, to talk about animal experimentation and

the 3Rs. The subjects varied from drug development and risk assessment to research on wild animals, the zebrafish as a model for humans and research about the brain and its diseases.

The students were active and talked about their opinions and thoughts on animal experimentation, and also gave suggestions for future replacement methods. They asked questions and had reflections on the ethical approval of animal experimentation, the legislation and the daily life of a researcher. Many of them were interested in animal welfare and how to refine animal experimentation.



Lars Bräutigam from Karolinska Institutet and the National Committee was one of four researchers that met students online during Researchers' Week.

Collaboration with Unga forskare

During 2023, we have started a collaboration with Unga forskare (Young Researchers). Unga forskare is an organization that works to increase interest in science and technology among school students. On their website, they have published a resource with school materials available for teachers in the primary and secondary school. The 3Rs Center's educational material for the upper secondary school is now displayed at this resource site, so that teachers and others can find it there as well. In this way, the distribution of the material can reach even more students.

Teachers' meeting with Upptech Jönköping Science Center

During the spring, the 3Rs Center initiated a collaboration with Upptech Jönköping Science Center to have the opportunity to meet students and teachers in primary and secondary schools. In October, we held a common meeting with teachers from

the secondary school in Jönköping municipality. We wanted to know what the teachers knew about the 3Rs and the teachers were curious about the 3Rs Center and how the 3Rs are relevant to their students. We informed about the 3Rs and our work, then a dialogue on the subject followed. The participants were engaged and came up with several suggestions on what the 3Rs Center could contribute to in their teaching. Finally, we shared a board game about animal experimentation and the 3Rs that teachers can use in their classrooms.

Communication and knowledge dissemination

A leading activity for the 3Rs Center is to disseminate knowledge and good examples of 3Rs work and to do so we need to work with strategic communication. Our communication shall lead to increased knowledge and commitment to the 3Rs and animal welfare in our prioritized target groups. Through the efforts made by the National Committee and the 3Rs Center, the relevant target groups will actively pursue the 3Rs in their work, share their knowledge with colleagues and partners and contribute to the development and implementation of non-animal methods.

Web and social media

Digital channels are important to reach out to our target groups. On our website, we publish 3Rs news with a focus on the Swedish context. Our website is bilingual and as far as possible we publish information and news in both Swedish and English. One can subscribe to our news.

We are also present on LinkedIn and X (former Twitter). We mainly share our own projects and activities via these channels, but we also share resources and information from others, when we think that it can lead to benefits for Swedish organisations and researchers.

Focus on the 3Rs – focus and facts

Focus on the 3Rs is a digital letter which functions as a complement to our news and articles on the website. The target group is researchers, students, staff at animal facilities, authorities and others with an interest in the 3Rs. The aim is to offer compiled facts about the 3Rs from different angles.

During the year, we published four editions with different themes; methods to replace animal experimentation, the role of the animal technician, methods to reduce the number of animals used in research and the 3Rs Center's impact on the development of Replacement in Sweden. We publish the focus letter on our website, in social media and in direct emails to those who have chosen to subscribe. During the year, we have transferred the digital letter into a more accessible and user-friendly format.

Articles on the 3Rs, research and development

In parallel with the focus letter, we also publish articles with good examples of research and development within the 3Rs. We want to highlight and increase knowledge of new methods and approaches with examples from Swedish universities, companies and authorities. It is also important to share good examples of practical 3Rs work conducted at Swedish laboratory animal facilities.

In connection to a webinar about the 3Rs grant from the Swedish Research Council, we published an article about the projects funded in 2022. We have also interviewed representatives from the animal welfare body at Lund University and researchers at SLU, Karolinska Institutet and the University of Gothenburg, about their work to replace, reduce and refine animal experimentation.

Film about the 3Rs and the Swedish 3Rs Center

The National Committee saw a need for a short film about all the 3 Rs and what the 3Rs Center is tasked to do. This fall, we could present an animated film about the 3Rs, research and research methods. The film is available in Swedish and in English.

It has a broad field of application and is targeted to audiences that are not familiar with the 3Rs, for example schools and students, but also politicians and research funding bodies.

Infographics and posters

During the year, we have updated our infographics on the 3Rs and animal experimentation with new statistics. We have also updated some of our posters to make them accessible for digital publishing.

Conferences and meetings

World Congress on Alternatives and Animal Use in the Life Sciences

At the end of August, the 12th World Congress on Alternative Methods and Animal Use in Life Sciences was held. For five days, representatives from academia, industry, government and the non-profit sector gathered in Niagara Falls, Canada.

Representatives from the Swedish 3Rs Center and the Swedish National Committee attended the congress to share their work, to network, to learn more and to get further inspiration. The World Congress offered an extensive scientific programme divided into six parallel themes, of which Regulatory acceptance, Global Harmonization and Next-gen education were in focus. The general take home message was that we have to stop focusing on obstacles and move forward step by step in order to change the global animal landscape of animal experimentation.

Overall, the World Congress was a huge success and the participants from Sweden left Niagara Falls with renewed hope and inspiration to advance the 3Rs.

The 3Rs Center participated with six posters in the poster exhibition. The posters presented our work on acclimatization of mice and rats, a template for assessing rodent health, educational activities for students and teachers, developing a strategy to replace animal experimentation, and target efforts towards replacement. We also presented a poster with an overall description of the 3Rs Center and our work.

National Committee member Elin Törnqvist gave an oral presentation about our work with recommendations on group housing of male mice.



Scand-LAS symposium

This year, the Scandinavian Society for Laboratory Animal Science (Scand-LAS) organized a symposium on laboratory animal science. The symposium was held in Uppsala. The 3Rs Center was there and took part in the extensive program with a focus on implementing the 3Rs and the Culture of care in practice. The 3Rs Center also participated with three posters at the conference. The posters dealt with our recommendations on keeping male mice in groups, the work with recommendations for how to acclimatize laboratory animals and the National Committee's work to develop a strategy to replace animal experimentation.

Danish 3Rs symposium

The Swedish 3Rs Center participated in the Danish 3R Center's annual symposium in Copenhagen for two days in November. We took part in the programme's various lectures on the 3Rs and networked with other participants.

We also presented two posters that dealt with the National Committee's statement on stress-free handling of mice and the Center's educational activities for students. The posters were also selected for an oral presentation in the program.

3Rs Day at the University of Gothenburg

Every year, the animal welfare body at the University of Gothenburg organizes a 3Rs day, where the 3Rs Center is usually invited to participate. We attend to meet those who work with laboratory animals at the university and we also get the opportunity to talk about what we are working with at the Center. We make useful contacts for further dissemination of knowledge within the 3Rs and of our activities.

3Rs Day at Lund University

During the fall, the 3Rs Center participated in a 3Rs seminar in Lund. We presented our work and got the opportunity to listen to presentations on replacement and refinement of animal experimentation at Lund University. The seminar was the first of its kind to be organized by Lund University.

Nordic meeting about zebrafish research

For two days in November, Karolinska Institutet together with Norwegian colleagues invited people in the Nordic countries who work with zebrafish to a meeting in Stockholm. The purpose of the meeting was to start a Nordic network for those who work with zebrafish in laboratories.

The Swedish 3Rs Center was there to present the Center and to learn more about different aspects of research with zebrafish such as harmonization, education, training and breeding.

Seminar about animals in research

At the end of the year, the National Committee and the 3Rs Center participated in the Swedish Research Council's annual seminar on issues related to laboratory animals. It is the Swedish Research Council's group of experts on laboratory animal science that organizes the seminar, which was held in Stockholm.

Together with a member of the National Committee, the 3Rs Center gave a talk about the Committee's strategy to replace animal experimentation, but also a brief update on the Center's activities in general. We also had the opportunity to present our work at a small stand. There were many meetings and conversations about what the stakeholders need from us.



Erika Roman from the National Committee's group of experts and Karin Gabrielson Morton from the National Committee were some of the participants who visited the 3Rs Center's stand at the Swedish Research Council's seminar about animals in research in Stockholm.

Animal Protection Conference

Two members from the National Committee participated in the annual animal protection conference, which is organized by the Swedish Board of Agriculture and the scientific council of the Swedish University of Agricultural Sciences. Part of the conference's content dealt with animal experimentation and the 3Rs. The Committee members were invited to talk about how the 3Rs have developed since the EU directive came into place in 2013. They also took the opportunity to talk about the work of the Committee and the 3Rs Center.



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