

The Danish 3R-Center

- and the National Committee

What we have done since last...



**ANIMAL PROTECTION
DENMARK**



Funding 2022

- Replacement of meningioma animal models with a meningioma ex vivo/organoid model to test pharmacological advances in meningioma treatment
- The PluriLum assay: A novel stem cell-based assay for testing of chemicals' embryotoxic effects
- Use of ultrasound for early diagnosis of necrotizing enterocolitis in laboratory premature piglets

Cooperation with The Animal Experiment Council

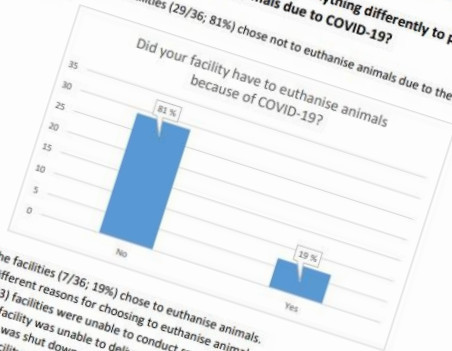


Animal research facilities and COVID-19

Part 1: The start of the pandemic

- Question 1: Did your facility have to euthanise animals because of COVID-19?**
- Which criteria did your facility decide upon in order to decide if euthanasia was required?
 - In your current opinion, was it the correct choice to euthanise animals?
 - Could your facility have done anything differently to prevent the euthanasia of any animals due to COVID-19?

The majority of the facilities (29/36; 81%) chose not to euthanise animals due to the COVID-19 pandemic.



The rest of the facilities (7/36; 19%) chose to euthanise animals. There were different reasons for choosing to euthanise animals:

- Three (3) facilities were unable to conduct specific experiments due to the restrictions
- One (1) facility was unable to deliver the bred animals to a specific recipient because the recipient was shut down
- One (1) facility was legally required to shut down and euthanise their animals (mink facility)

The remaining two (2) of the seven (7) facilities had the same reaction to the pandemic; they prioritised experiments according to their importance and how close the experiments were to completion. In some experiments, completion may result in the euthanasia of the research animals. One (1) of these institutions focused on preventing employee COVID-19 outbreaks that could result in no animal technicians being able to work and the subsequent euthanasia of animals that this could cause.

Experimental animals with the highest degree of suffering

- EAE
- Fish

Experimental animals with the highest degree of suffering in 2021

For several years, the Danish 3R-Center has been focused on the experimental animals that experience severe suffering as the result of experimental procedures. The reason for this has been for the 3R-Center to remain updated on the number of animals used in these procedures and to discuss the possibilities for reducing the amount of suffering inflicted on the animals.

Due to the EU Directive on the protection of animals used for scientific purposes, animal experiments must be classified according to the degree of suffering that the animals experience during the experiment (mild, moderate or severe). Animals that are anesthetized during an experiment and do not recover consciousness afterwards as a result of the procedure(s) are categorised as non-recovery.

The severe category represents the group of animals that experience the most severe degree of suffering in regards to what is allowed by the Animal Experiments Act. The number and type of animals inflicted with the highest degree of suffering can be seen in Table 1.¹

Table 1. The number and type of animals that were reported to the Animal Experiments Inspectorate as having experienced severe suffering in 2015 and 2019.

Animal species	Number of animals	
	2015	2019
Mice	1,387	1,746
Rats	279	149
Rabbits	4	4
Pigs	130	91
Cows	0	12
Zebrafish	80	62
Other fish	229	2,054
Total	2,168	4,118

¹ The table does not include animals that died spontaneously without a diagnosis that ruled out severe suffering and was therefore recorded as having experienced severe suffering. In 2019, this concerned 228 animals. This number describes the number of spontaneous fatalities amongst experimental animals, and it is not a number of concern when the total number of used experimental animals is considered.

Experimental animals in education

- Permission required
- No Permission Required

Forsøgsdyr i undervisningsøjemed (tilladelseskrævende)

I Danmark anvendes omkring 250.000 forsøgsdyr om året, hvoraf i omgængen af 4.000 dyr anvendes i undervisningsøjemed.¹
Det er ikke alle dyrearter, som er medtaget i ovennævnte optælling, idet dyreforsøgsloven kun omfatter kvæddyr og blaksprutter. Derfor er eksempelvis insekter og orme i lovmæssig henseende ikke at betragte som forsøgsdyr, hvorfor anvendelsen af sådanne ikke kræver en dyreforsøgstilladelse.
Det er heller ikke alle undervisningsformål, som kræver en dyreforsøgstilladelse og dermed – heller ikke – er inkluderet i optællingen. Hvis et dyr – i forbindelse med en undervisningssituation – blot udsættes for en belastning, som vurderes mindre end ubehaget/mermen ved et nålestik, er anvendelsen således ikke at betragte som forsøg. Et eksempel herpå er undervisning i at håndtere og fixere et dyr (f.eks. for at veterinære indgreb). Et andet eksempel er undervisning i anatomi og obduktion, hvortil der benyttes aflivede dyr.
Denne artikel omhandler den tilladelseskrævende anvendelse af dyr i undervisning.

¹ Antal dyr: 2018: 5.132; 2019: 4.144; 2020: 3.831 (tallene dækker kun over tilladelseskrævende dyr og forsøg, hvorfor antallet af dyr, som anvendes i undervisningsøjemed, reelt set er højere).

The annual meeting for the animal welfare bodies

Program formiddag (08.45-12.45)

- 08.45-09.15: Morgenmad og mulighed for at opstille medbragt 3R-tiltag til markedspladsen
- 09.15-09.25: **Velkomst ved Axel Kornerup Hansen**, formand for Udvalget for Forsøgsdyr og Alternativer
- 09.25-09.40: **Vurdering af belastningsgrader i henhold til lovgivningen** (Katrine Svendsen, Dyreforsøgstilynet)
- 09.40-10.00: **Udvalgets undersøgelse om "Forsøgsdyr i højeste belastnings-kategori"** (Axel Kornerup Hansen, formand for Udvalget for Forsøgsdyr og Alternativer)
- 10.00-10.20: **Experimental Autoimmune Encephalomyelitis: An invaluable model for multiple sclerosis and type 3 inflammation** (online) (Vasileios Bekiaris, DTU)
- 10.20-10.40: **Infektionsforsøg i fisk** (Kurt Buchmann, KU)
- 10.40-11.00: Livets svære start for præmature nyfødte (Thomas Thymann, KU)
- 11.00-11.15: Pause
- 11.15-11.20: Workshop – Introduktion til gruppearbejdet (Emne: mulighederne for at mindske belastningsgraden)
- 11.20-12.20: Workshop – diskussion i grupper
- 12.20-12.45: Workshop – opsamling i plenum

12.45-13.45: Frokost og Markedsplads

Mødet åbnes for alle interesserede deltagere resten af eftermiddagen.

Vinder af bedste forsøgsdyrsinitiativ 2022 blev Louise Langhorn og Diana Bianca Hansen fra SDU for deres initiativ vedr. træning af får (Video).

Program eftermiddag (13.45-15.30)

- 13.45-14.15: Nothing to do when not being tested: Boredom in laboratory rodents (Lars Lewejohan, Freie Universität Berlin (online og på engelsk))
- 14.15-14.35: Observer Effects & the Uncertainty of Mouse Glucose Phenotyping (Thomas Svava Nielsen, KU)
- 14.35-14.55: Refinement af per oral dosering af marsvin inklusiv tilvænning til håndtering og fiksering (Christian Nyberg og Gitte Lund, Leo Pharma)
- 14.55-15.15: Automatiseret monitorering i dyremodeller til studier af vacciner mod virusinfektioner (Gabriel Petersen, SSI)
- 15.15-15.30: Afsluttende bemærkninger (Axel Kornerup Hansen, formand for Udvalget for Forsøgsdyr og Alternativer)



Evaluation of 3R Center and Committee

Rapport:
**Evaluering af Danmarks 3R-Centers
virke for årene 2013-2022**



Aage Kristian Olsen Alstrup
Specialdyrlæge, ph.d. & dr.med.vet.
- Oktober 2022 -

New board 2023-



See you next year at...

Radisson Blu Scandinavia Hotel, Copenhagen

November 6-7



**ANIMAL PROTECTION
DENMARK**



Ministry of Environment
and Food of Denmark

