

Step-by-step guide to epididymal sperm freezing

26.5.2026

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Natural Resources Institute Finland



Decree 153/2024

Decree of the Ministry of Agriculture and Forestry amending the Decree of the Ministry of Agriculture and Forestry on the requirements for the control of animal diseases for gametes and embryos of bovine, porcine, ovine, caprine and equine animals collected for domestic trade

Type of act

Decree

Date of issue

2.4.2024

Publication date

4.4.2024

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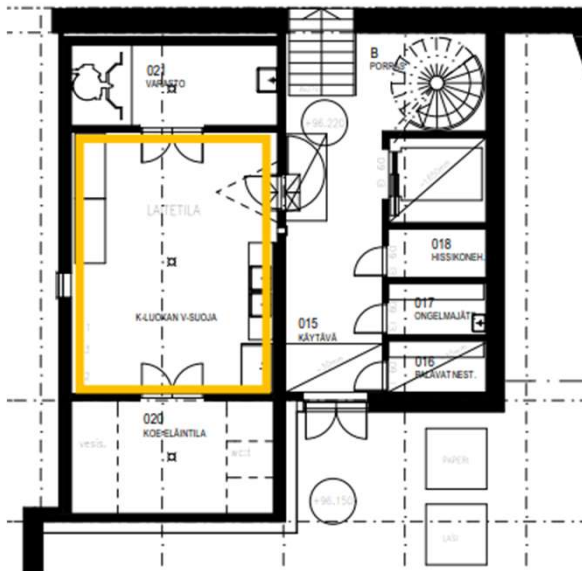
4a§ Approval of a semen collection station that does not keep animals

- **An appointed veterinarian required**

Attachment V

- **Quarantine conditions (on farm/after collections)**
- **List of diseases to be tested/species**

Approval by Regional State Administrative Agency



Aluehallintovirasto

Peruspalvelut, oikeusturva ja luvat
-vastuualue

PÄÄTÖS

DECISION

27.8.2024

ESAVI/25818/2024

SUOMI-E1

**SPERMAN KERÄYSASEMAN HYVÄKSYMINEN
APPROVAL OF SPERM COLLECTION STATION**

**Hakija
APPLICANT**

Luonnonvarakeskus

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19.6.2026

Register of Finnish Food Authority on approved stations



Luettelo kotimaan kauppaan hyväksytyistä spermankeräysasemista, joilla ei pidetä eläimiä
Förteckning över godkända spermasamlingsstationer avsedda endast för inrikeshandel och när inga djur hålls på stationen

SUOMI FINLAND		Luettelo kotimaan kauppaan hyväksytyistä spermankeräysasemista, joilla ei pidetä eläimiä (MMMa 329/2021, muutos 153/2024) Förteckning över godkända spermasamlingsstationer avsedda endast för inrikeshandel och när inga djur hålls på stationen (JSF 329/2021, ändring 153/2024)		Versio/ Version 3.9.2024
Hyväksymisnumero/ Godkännande nummer	Hyväksymispvm / Datum för godkännande	Nimi ja osoite / Namn och adress	Eläinlajit, joita hyväksyntä koskee/ Djurarter som godkännandet gäller	Huomautuksia/ Anmärkningar
SUOMI- E1	27.8.2024	Luonnonvarakeskus Heli Lindeberg Myllytie 1 31600 Jokioinen	naudat, hevoset, lampaat ja vuohet / nöt, hästar, får och getter	

Conditions for freezing epididymal sperm

The males have been quarantined for three weeks prior to disease testing and at least 30 days prior to slaughter

- no disease outbreaks that need to be controlled or monitored
- no new animals have arrived at the farm during the quarantine period



Finnsheep ram Eskils Kjell

The males have not been used for natural mating 30 days prior to slaughter

Disease testing before collection

Small ruminants are tested against:

Brucella ovis

Brucella melitensis

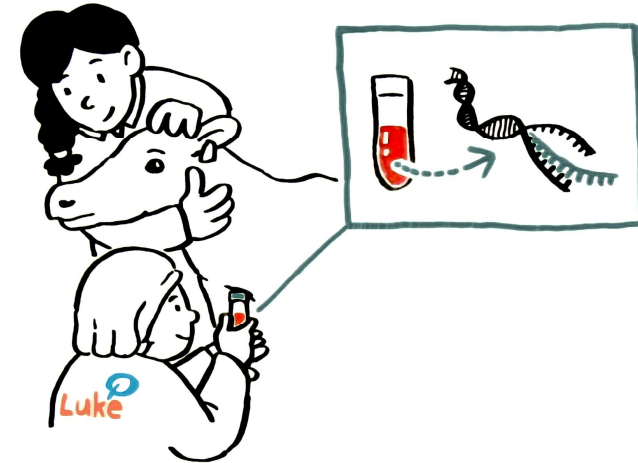
Border disease virus

-abortions, stillbirths, epididymitis

-Finland is free from these pathogens at the moment

Serum samples: ram/buck and 5 other males or females living in the same space

Sampling three weeks after the start of quarantine



Finnsheep ram Eskils Frans

An example of a schedule before slaughter

Today: ram/buck separated from the females and copulations not allowed after this = quarantine begins

3 weeks after the start of quarantine: blood samples from the ram/goat and 5 other animals

3-4 weeks after sample collection: disease testing results are available



Finnsheep ram Eskils Hjalmar

If results are negative: ram/buck can be slaughtered + no matings, no new animals arriving to the farm, no outbreaks of new diseases to monitor or control

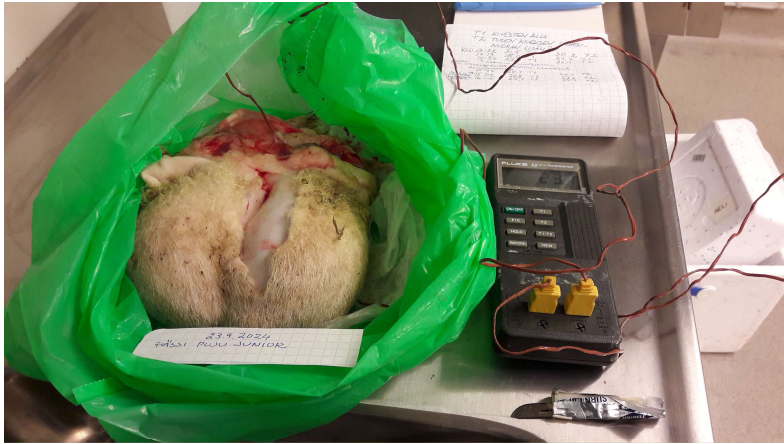
Transportation to the laboratory



styrofoam box, a digital thermometer, gloves, plastic bag and one must enjoy driving a car and love long working days

Transportation to the laboratory

Ram



Bull



In a styrofoam box testicles inside the scrotum, temperature is let to decrease from body temperature to room temperature during transport

Stallion

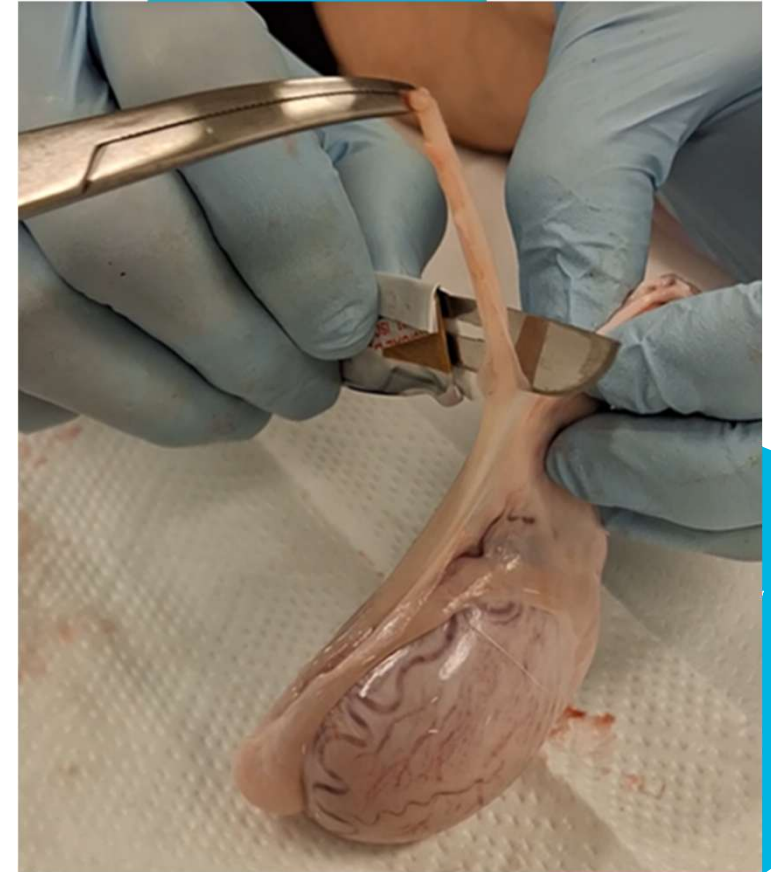


Photo Jaana Peippo

Preparation for collection

Wild forest reindeer male, photo Jaana Peippo

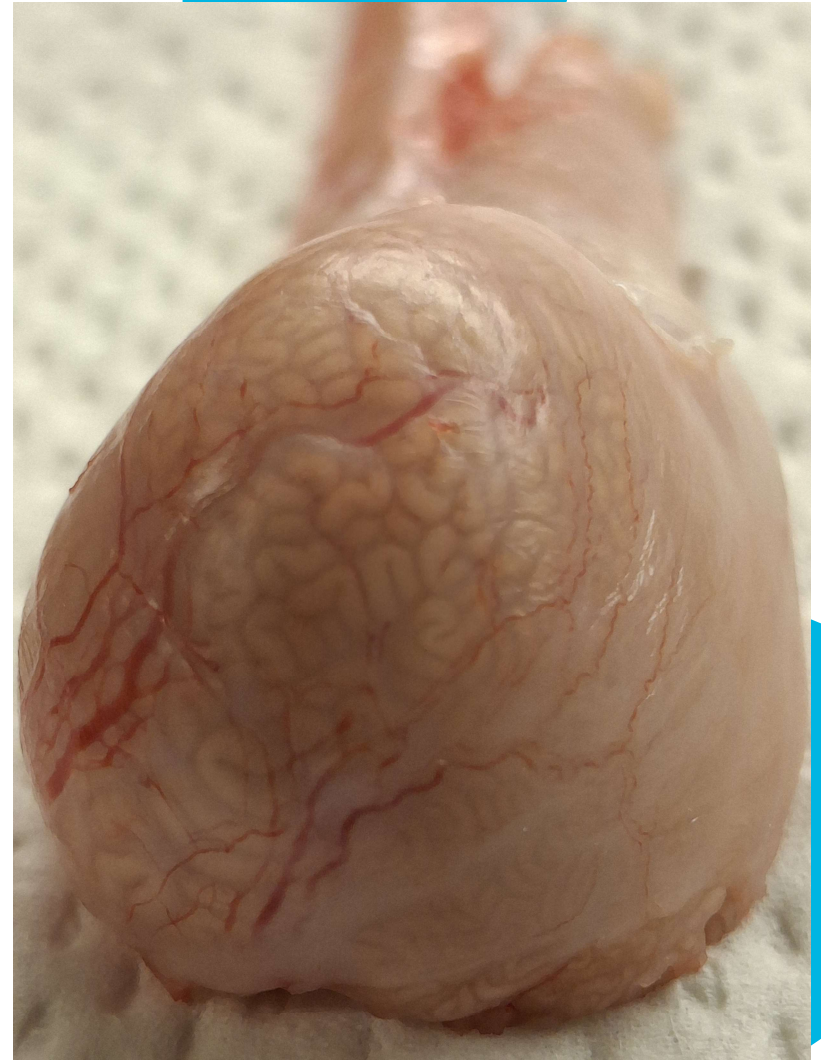
Scrotum removed,
the cauda epididymis
and vas deferens cut
from the testicle



Tubules before collection

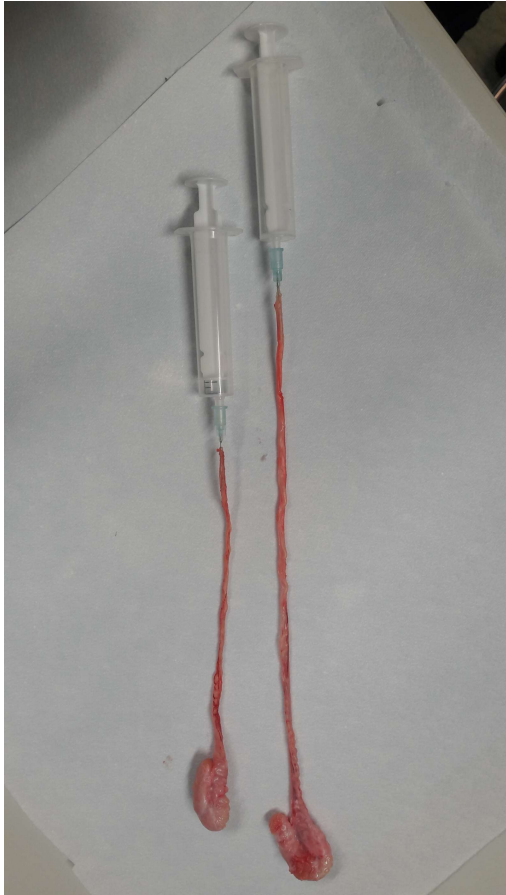


Wild forest reindeer male



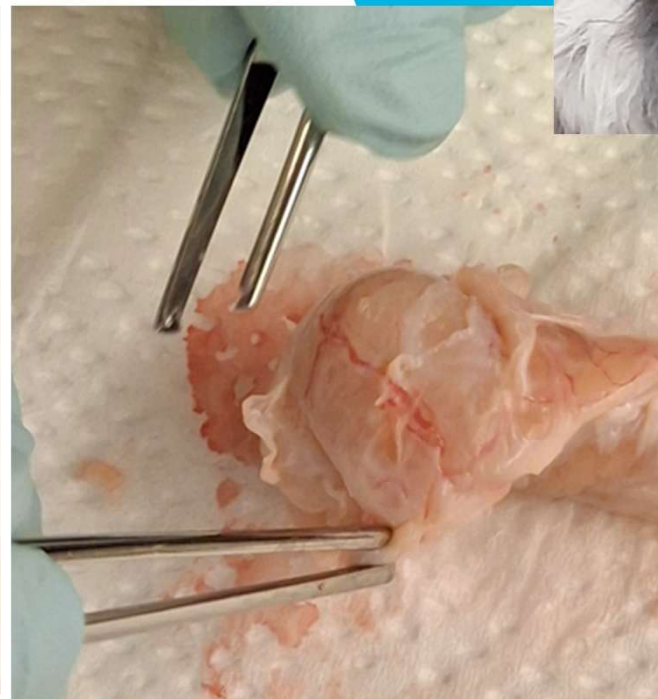
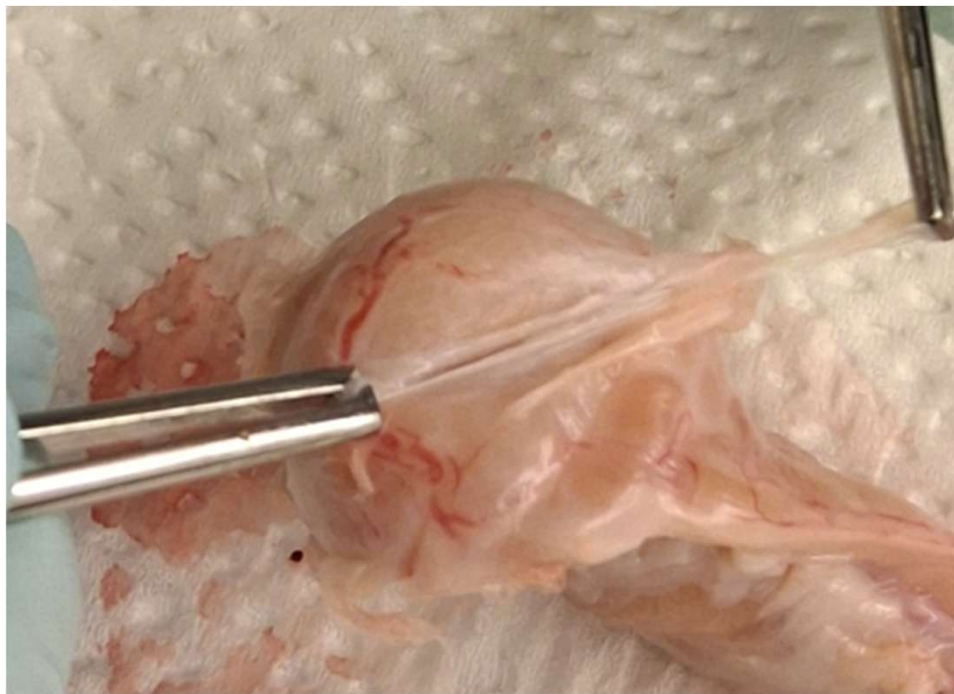
Buck

Collection by cutting the end of cauda = "Before"



Bull

Collection method improved by removing the membranes covering the cauda



Buck



Collection by removing/tearing the membranes covering the cauda

= "Now"



Buck



Bull

Ram

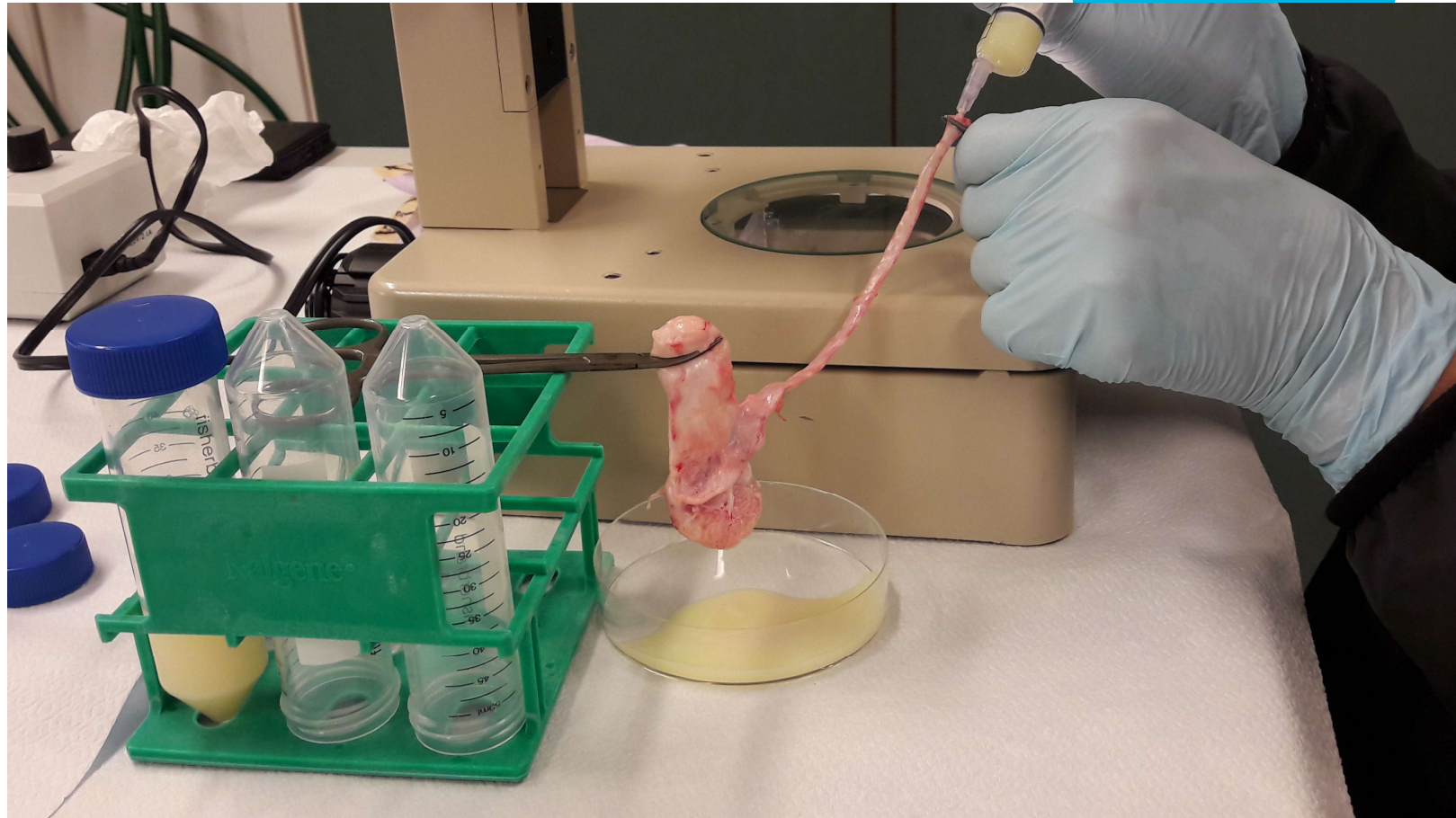
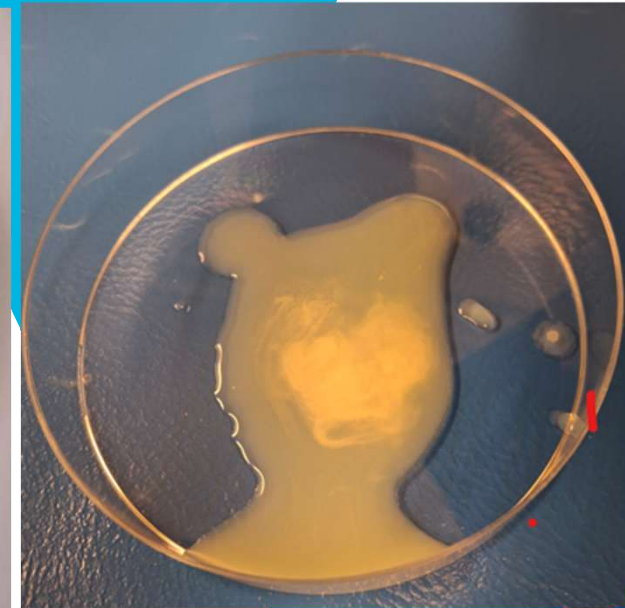
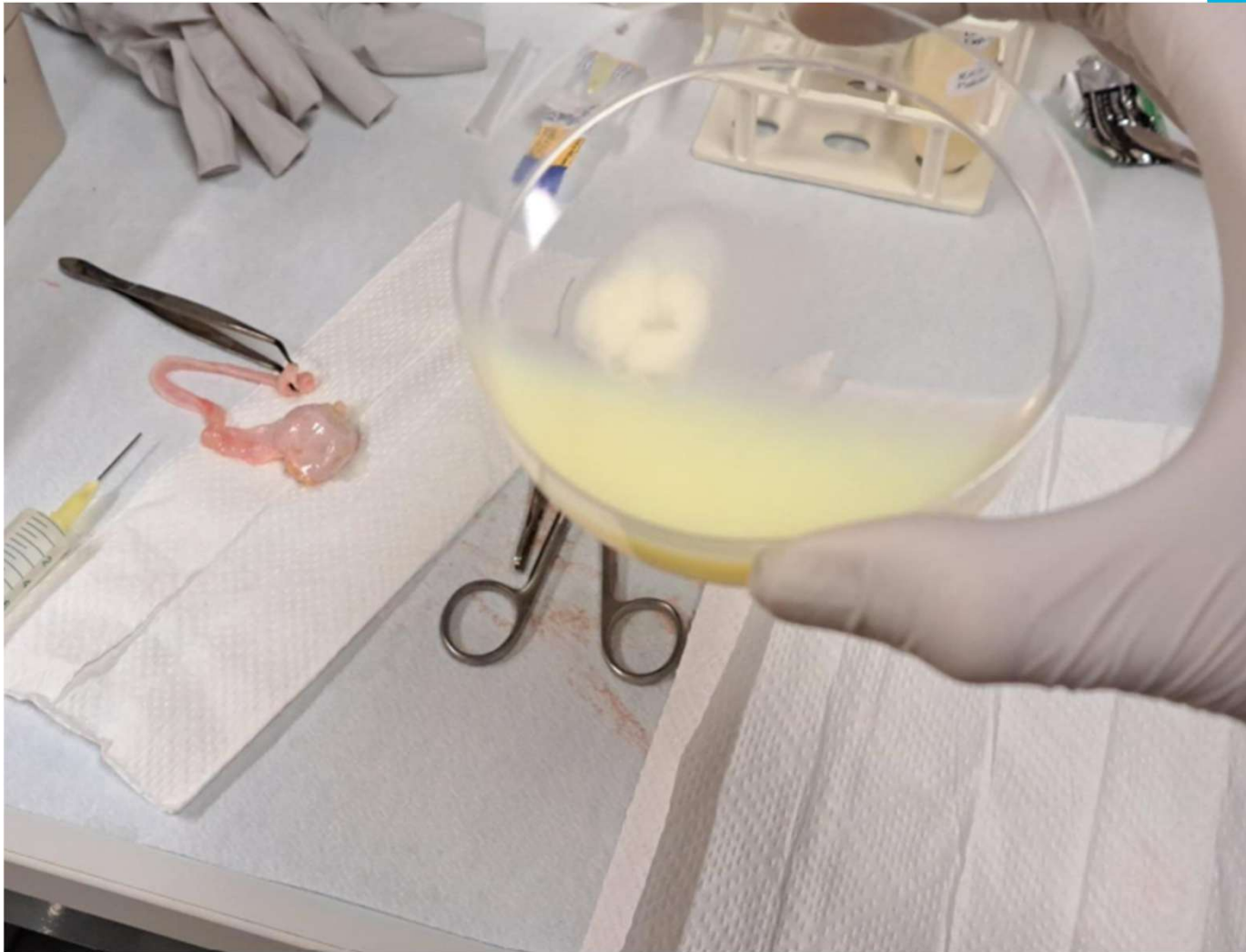


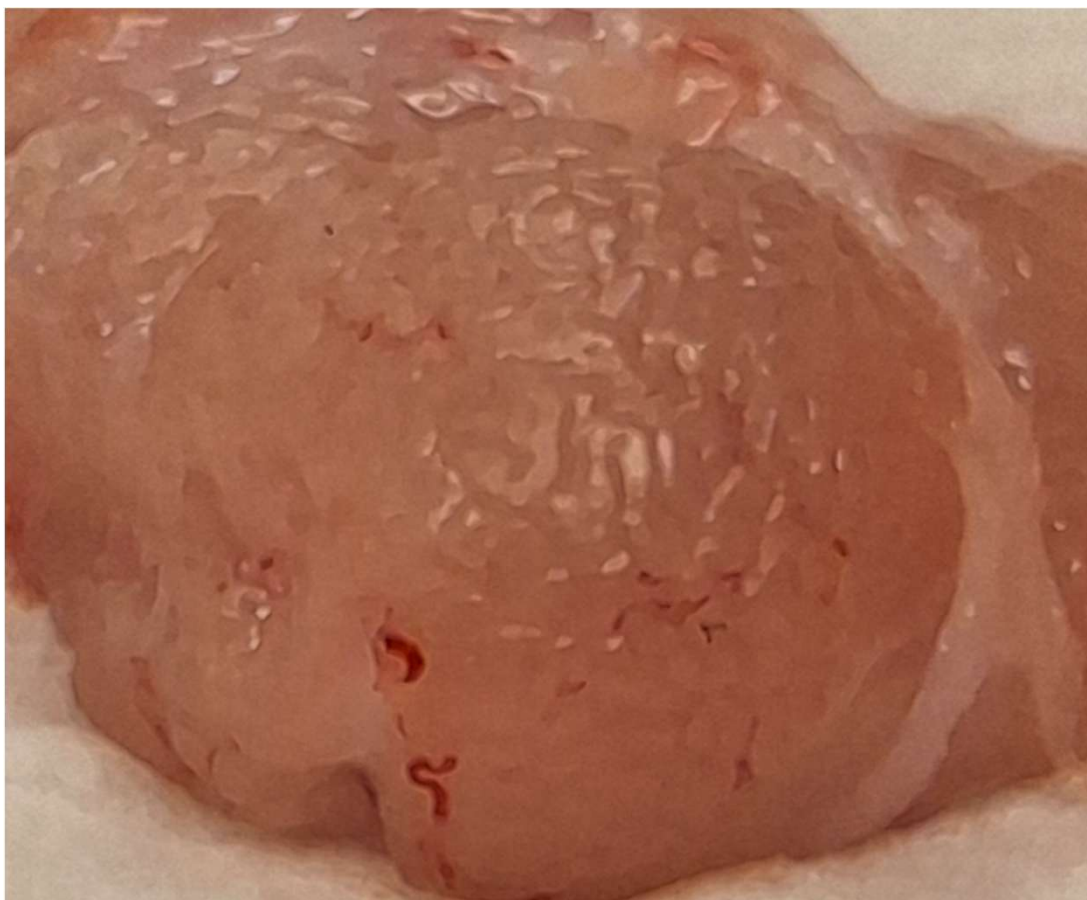
Photo Tuula-Marjatta Hamama



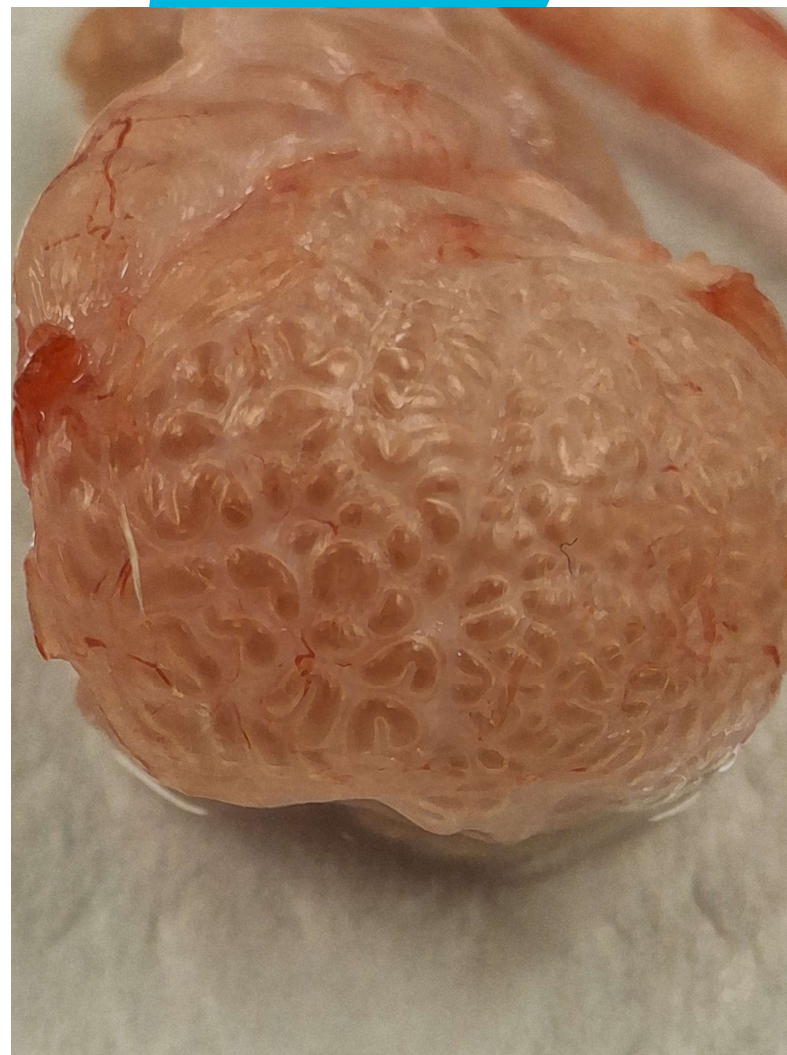
Buck



Tubules after collection



Wild forest reindeer male



Buck

Assessment of spermatozoa

Phase contrast microscope

Sperm total motility

Bürker chamber

Sperm concentration (millions/ml)

Total number of spermatozoa

With the new devices

Sperm viability post-thaw

So far, everything has been done manually,
In 2026, we received a SCA CASA System and
an Apogee flow cytometer (Szabolcs Nagy)



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Heli Lindeberg



Kuva Jaana Peippo

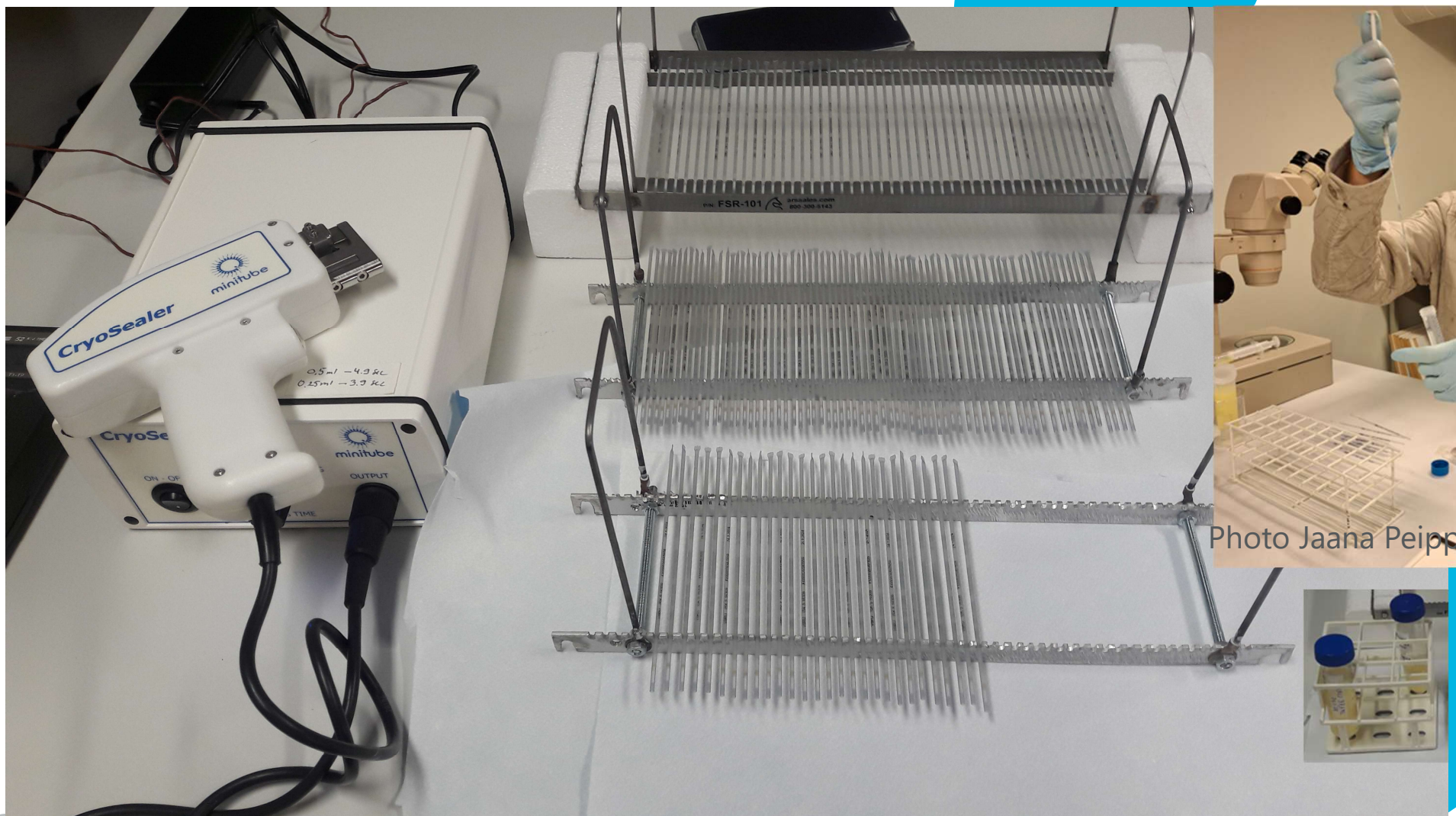


Photo Jaana Peippo

Equilibration

Further steps are carried out in a cold room, the straws on racks are left in $+4-5^{\circ}\text{C}$ for a time appropriate to the species (20 min horse, 2 h ruminants)

During this time we have a break and eat and sometimes if it is very late try to take a nap

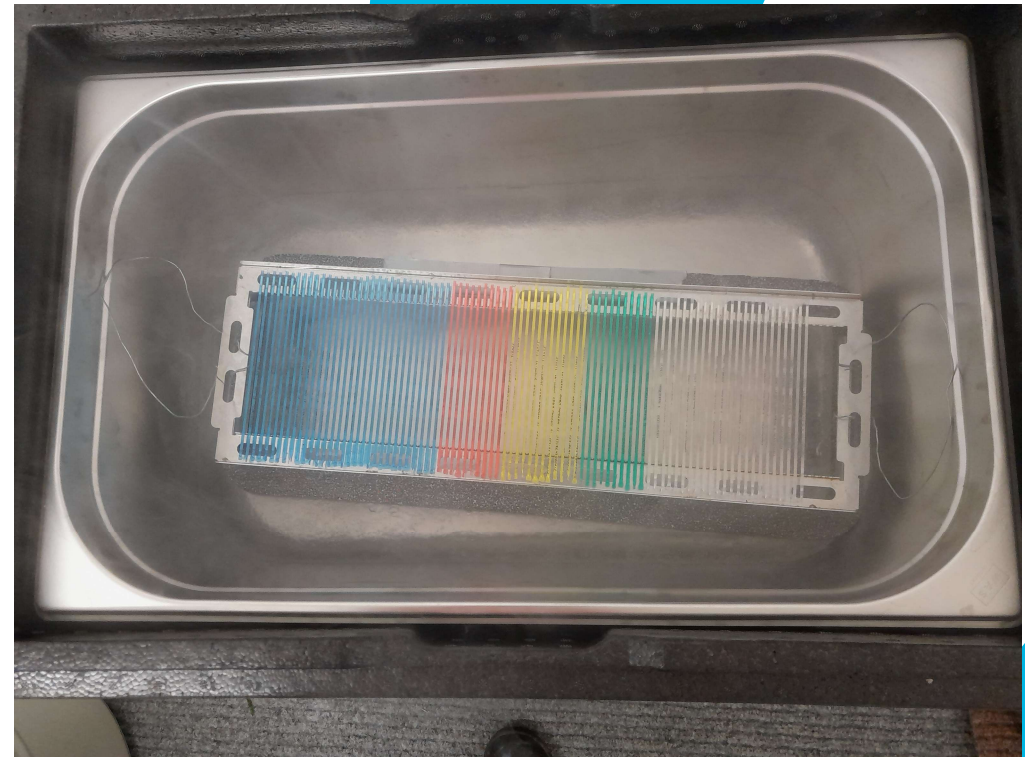
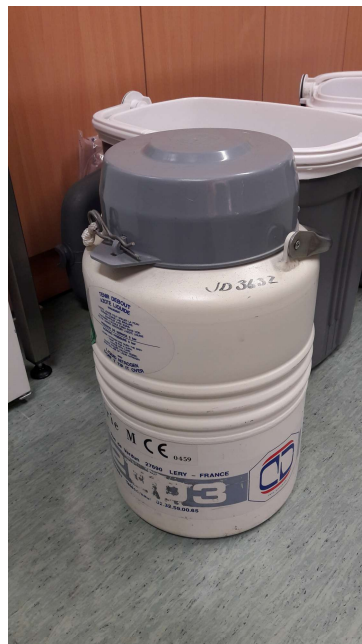


Photo Jaana Peippo

Into the liquid nitrogen

Straws on a rack 4 cm above nitrogen vapor for 15-20 min (ruminants 15 min, stallion 20 min)

Transfer to a liquid nitrogen tank -196 °C



Straws in quarantine for 6 months in Luke
➔ Transfer to Viking Genetics, Hollola, if no disease outbreaks on the farm during the 6 mo quarantine period

Personnel at Luke

Juha Kantanen, Professor,
coordinator of the Animal Gene Bank
actions

Jaana Peippo, Principal researcher, head
of embryo laboratory

Heli Lindeberg, Senior researcher,
SUOMI-E1 collection station veterinarian

Petra Tuunainen, Researcher, PhD student

Mervi Mutikainen, embryo laboratory
specialist

Tuula-Marjatta Hamama, embryo
laboratory expert

Juha Widen, embryo laboratory assistant



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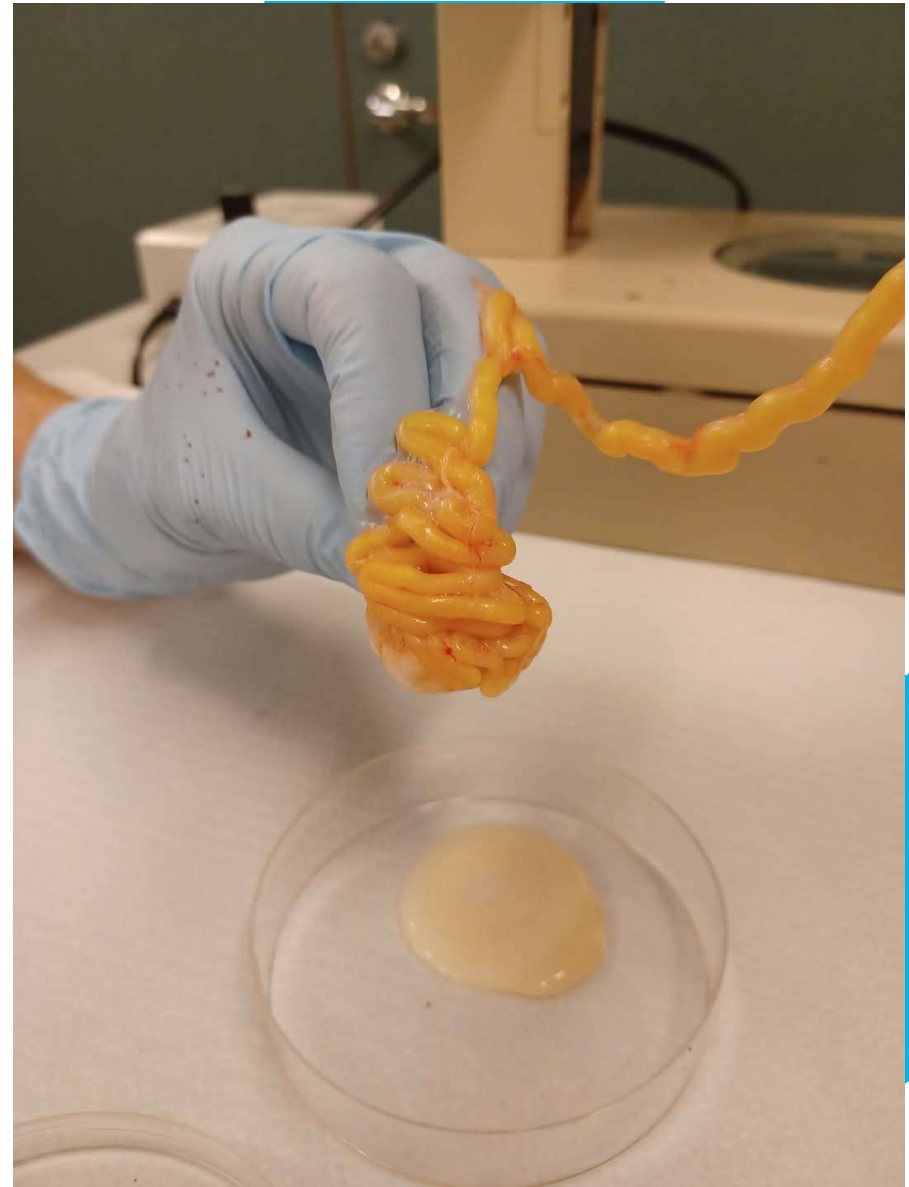


Photo Juha Kantanen

