Heritage sheep breeds

Agri Gen Res 870/2004 Heritage Sheep

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WP4 Cryopreservation of semen

Practical work

- Objective 1 Identification of breeds for ex situ conservation (in combination with WP1)
- Objective 2 Construction of optimal method (result of WP3)
- Objective 3 Collection, freezing and storage of semen

Each partner

WP4 Timeline

Deliverables and Milestones

- D13 List of breeds each partner
- D14 Description of optimal strategy for each country
- M16 Tele conference to discuss the optimal strategy
- D24 Report with results of different breeds
- M24 Collection, freezing and storage of semen completed

Epididymal ram semen

- We developed method for semi-quantitative collection from the caudae epididymidis of slaughtered rams.
- Motility of epididymal semen was good
- Freezability seemed to be better than that of ejaculated semen.

Epididymal ram semen

Veluwe Heath sheep

- **19 rams**
  - Collection end 2007
  - CGN bought 14 rams and collected from 5 rams testicles at abattoir
  - Rams born in spring 2007!
- **Bluetongue (BTV)**
  - 10 rams serological + PCR positive
  - 7 rams serological positive + PCR negative
  - 2 rams no blood
- **Scrapie genotype**
  - 13 rams ARR/ARR + 6 rams genotype unknown
- **Semen**
  - 28 - 104 doses per ram
  - Between 20 - 60 % viable cells after freezing
  - 27 – 100 x10^6 cells per doses

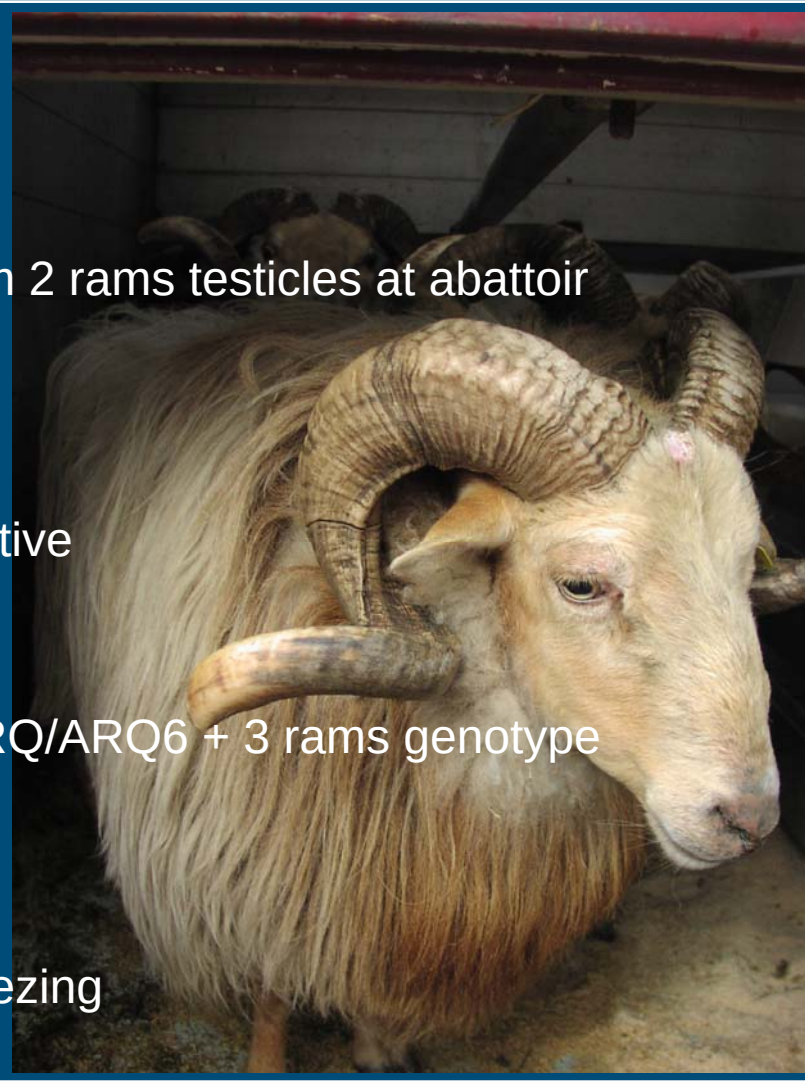
Epididymal ram semen

Schoonebeeker

Epididymal ram semen

Drenthe Heath sheep

- **13 rams**
  - Collection spring 2008
  - CGN bought 11 rams and collected from 2 rams testicles at abattoir
  - Rams born in 1999-2005
- **Bluetongue (BTV)**
  - 5 rams serological + PCR positive
  - 6 rams serological positive + PCR negative
  - 2 negative
- **Scrapie genotype**
  - 7 rams ARR/ARR + 1 ARR/ARQ + 2 ARQ/ARQ6 + 3 rams genotype unknown
- **Semen**
  - 48 - 110 doses per ram
  - Between 20 - 60 % viable cells after freezing
  - 95 – 200 x10^6 cells per doses



Optimal Strategy

CGN\SZH Conservation Planner

Breed data

Breed name	Kerry cattle	Species	Cattle

Population data

Population size (optional)	200
Number of males	20
Number of females per male (optional)	
Estimated effective size	72.0
Required effective size	60.0
Max. effective size	76.0

General conservation

Required purity (backcross)	0.99
Maximum number of rounds	1

Calculations

Predifined succes rate	0.95

Fertility

General

Litter size	1
Life production	3
Survival until fertile age	0.80

Semen

Pregnancy rate	0.70

Embryos

% viable after thawing	0.80
Embryo pregnancy rate	0.50
Number of embryos/implant	1
Embryos are sexed	yes

http://www.cgn.wur.nl/NL/CGN+Dierlijke+Genetische+Bronnen/Tools

Freezing ram semen

20 rams of 2 breeds 100 doses per ram

We hope we can learn from (other partners in) this project.

Comparison of methods:

- Is it possible to compare 2 or 3 freezing methods in 1 lab?
- Visiting labs?