



Finnish AnGR conservation programme: What and how?

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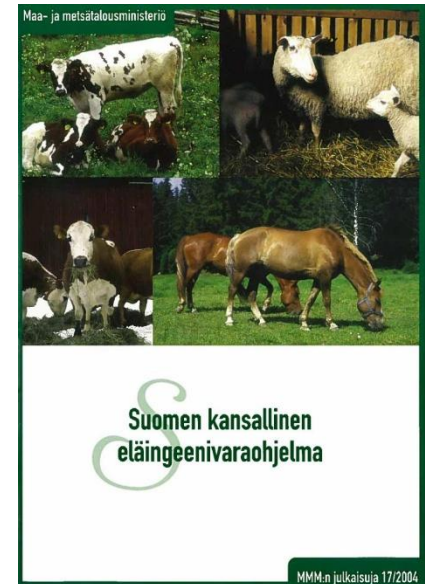
National Coordinator

MTT Agrifood Research Finland



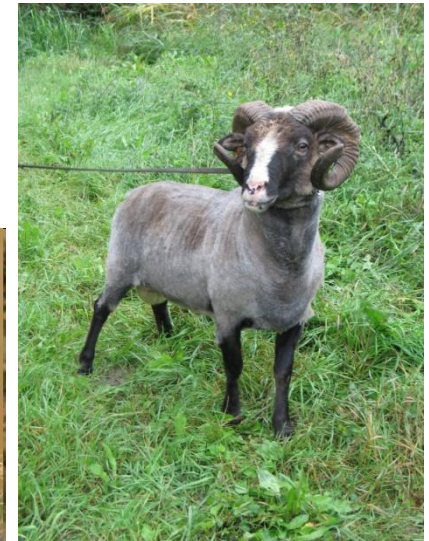
National Action Plan

- CBD signed in 1992
 - Ministry of Agriculture and Forestry nominated a working group for animal genetic resources in 1998
 - Task to prepare Country Report to FAO in 2004
 - work extended to writing the National Action Plan
 - published in 2004
- Coordinated by MTT
- Based on
 - 1) Animals raised on-farm
 - 2) Cryo-conservation of semen and embryos
- Progress is monitored by the Advisory Board on genetic resources under Ministry of Agriculture and Forestry



Native breeds

- 3 cattle breeds (Eastern, Western and Northern Finncattle)
- 3 sheep breeds (Finnsheep, Åland sheep and Kainuu grey sheep)
- A dozen chicken breeds (different strains of Finnish Landrace chicken)
- 1 goat breed (Finngoat)
- 1 horse breed (Finnhorse)
- 5 dog breeds (Finnish Spitz, Karelian Bear dog, Finnish Hound, Finnish Lapphund, Lapponian Herder)
- 1 bee breed (Nordic brown bee)
- Reindeer
- Imported breeds settled in Finland (Finnish Ayrshire)



Breeding and AI organisations are vital collaborators

- Registers, mating planning (EVA), semen and embryo collection and storage

	<i>No. breeding females</i>	Breeding organisation	In situ programme	Semen cryobanked	Embryos cryobanked
Eastern Finncattle	> 800	Faba/VikingGenetics	V	V	V
Northern Finncattle	> 600	Faba/VikingGenetics	V	V	
Western Finncattle	> 1200	Faba/VikingGenetics	V	V	V
Finnsheep		ProAgria			
white	10000		V	V	
black	3000		V	V	
brown	2000		V	V	
Kainuu grey sheep	< 3000	ProAgria	V	V	
Åland sheep	>1800	ProAgria		V	
Finngoat	6000	ProAgria			
Finnhorse	2000	Hippos		V	
Landrace chicken	<2400	MTT	V		

Challenges in collaboration

- Scope of responsibilities and funding is unclear
- Sometimes difficult to get information from breeding organisations and AI center
- Case Finngoat
 - Register now only in Finnish Food Safety Authority Evira
 - No reliable pedigree data
 - No clear understanding on population structure of Finngoat
 - Breeding organisation is not willing to finance the construction of register with pedigree data
 - Who should do and what?



Conservation work

1) Animals raised on-farm

- Subsidies
- "Live genebanks" in prison and school farms
- Networks of breeders



2) Cryo-conservation

- Semen
- Embryos



Subsidy policy

	€/Animal unit
Eastern and Northern Finncattle	500
Western Finncattle	270
Finnsheep, Kainuu Grey and Åland Sheep	270
- <i>should belong to performance recording scheme</i>	
Finngoat	270
Finnhorse	270
Landrace chicken (6 months -)	€/farm
-20-39 animals	100
-40-59 animals	150
-60- animals	250
<i>Species</i>	<i>Animal unit</i>
• <i>Bull, cow or other over 2 years old bovine</i>	1,0
• <i>Bovine (1 – 2 year)</i>	0,6
• <i>Horse</i>	1,0
• <i>Sheep and goat (over 1 year)</i>	0,15

Gene bank herds

- Contracts with MTT on keeping the number of animals
- Conserving genetic variation as much as possible
 - EVA programme is used in breeding schemes
- Animals can be used for embryo flushing and semen collection
- **Ahlman vocational college at Tampere**
 - Eastern and Western Finncattle
- **Kainuu vocational college at Kajaani**
 - Eastern Finncattle
- **Pelso prison farm at Vaala**
 - Northern Finncattle
 - All colours of Finnsheep and Kainuu Grey sheep



Landrace chicken conservation scheme

- = Network of keepers for different strains of the Landrace chicken
- Started in 1998
 - Now over 200 Landrace Chicken keepers



LINE	proportion (%)
Alho	20.9
Hornio	18.6
Häme	4.0
litti	7.2
Ilmajoki	1.9
Jalaszjärvi	0.1
Jussila	0.7
Kiuruvesi	5.6
Lindellin	0.9
Luumäki	2.2
Piikkiö	0.9
Savitaipale	20.2
Tyrnävä	2.0

Cryopreservation

Breed	Semen doses	Males	Embryos	Males	Females
Eastern Fincattle	77 500	48	162	16	24
Northern Fincattle	60 500	35			
Western Fincattle	> 260 000	159	19	2	2
Finnsheep white	> 600	12			
black	< 100	1			
brown	< 200	3			
Kainuu grey sheep	< 250	4			
Åland sheep	> 450	6			



Thank you!



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