

Reproductive Methods in Low Input Animal Breeding

J.Ratky¹, I.Egerszegi¹, P.Sarlós¹, K-
P.Brüssow², K.Kikuchi³, and B.Berger⁴

*1. Research Institute for Animal Breeding and Nutrition, Herceghalom,
Hungary*

*2. Leibniz Research Institute for the Biology of Farm Animals, Dummerstorf,
Germany*

3. National Institute for Agrobiological Sciences, Tsukuba, Japan

*4. Institute of Organic Farming and Biodiversity of Farm Animals, Thalheim
bei Wels, Austria*

*Workshop on Low Input Breeding 15-16. March
Wageningen*



Background

- Ethics – the conclusion of some principals and social rules directing human behavior.
- Animal breeding – historical traditions, emotions of country people.
- Media - “artificial” explanation.



Ethical aspects of reproductive methods in LIB - Human factors



- rural local and regional healthy food supply
- rural development i.e. reducing unemployment
- maintaining agriculture traditions
- support rural tourism
- environment protection.



Ethical aspects of reproductive methods in LIB - Animal factors



- gene conservation
- animal welfare
- actual demands



- Low Input Breeding \neq Low Input of Knowledge
- Indigenous knowledge + Updated science
- Modest behavior of scientists



Minimal Preconditions

- animal health conditions
- individual registration of animals
- exact documentation of mating or artificial insemination (AI)



Hungary



- Our experiences on reproductive techniques in LIB
- Special importance in Hungary
- International research projects
- Animal breeds in LIB are mostly indigenous and sometimes endangered
- Adapted to the climate of Carpathian Basin very well during recent centuries.

Country specific factors



- traditional breeds
- national value
- rural development
- rural tourism
- unique processed products i.e. Hungarian winter salami, sausage, bacon

Hungarian specific situation

- Hungarian Grey cattle (6000)
- Mangalica pig (7000)
- Racka sheep (6450)



Mangalica pig

- Blond,
- Red and
- Swallow Belly Mangalica



Utilization



Small and large scale farms in the past and it is the same in the present.



SME, „family farms” & Large Units



- Large companies integrated small farmers, organized the breeding and trading.
- Mangalica Breeding Association – a guidance for members, supply boars or semen



Reproductive management 1



- Natural mating and AI – small and large farms. In some blood strains the low number of animals evidently needs natural mating for in vivo gene preservation. In some production units AI is a daily practice.



Reproductive management 2



- AI in any production units!!
- Less costly than minimally 5 times more boars
- Dedicated work AI much different, more complicated in native breeds
- In male as well as female reproductive physiology.

Reproductive management 3



- Semen freezing (involved farmers and companies and research units)
- Boar semen cryopreservation is not clearly solved
- In Mangalica (average 50% post-thaw motility).



Special cases



- National parks demonstrate agriculture traditions and
- Indigenous domestic breeds e.g. Mangalica – pure bred population, old, typical LIB circumstances. Low productivity!!
- Organic farming e.g. Austria



Racka sheep



- two color types i.e. White and Black Racka
- national parks
- enthusiastic sheep breeders
- village hotels

Utilization perspectives 1



- lower meat yield % (in (S)EUROPE classification)
- excellent for LIB in continental climate
- rural development programs in remote areas



www.teagasc.ie

Utilization perspectives 2



- Priority of reproductive management (Hungarian Sheep Breeders' Association) preservation!!
- Natural mating by selected rams.



R & D in Racka reproduction, ATK



- in vitro preservation
- To train Racka rams for semen collection – hard job
- 75 ewes and 20 rams
- 16 rams for semen collection
- more than 50 % post-thaw motility



Conclusion



- LIB has a special significance in modern animal breeding
- Rural tourism and rural development
- Larger production amount - adaptation of modern and more effective system
- Innovation
- Reproductive methods in LIB – not closed eyes and ears – opened for new results, farmers improve their dedicated work

Thank you very much for your kind attention!

