

Conservation of AnGR in Hungary

Central Agricultural Office, Dr. Radnóczy László

I. The short history of conservation of AnGR in Hungary

- There were actions for saving endangered animals also in the 19th century in Hungary (1879 Szalontai pig)
- The government protected conservation started in the 1960th years.
- The „meat program” from 1968-1972 meant a big danger for indigenous breeds because of the extension of large-scale farming and intensive modern breeds.
- The State has been providing for protection of old indigenous breeds in gene-reserve herds since to day. This protection program is being continuous.

II. Officially accepted principles of genetic conservation

- Indigenous and endangered breeds should be considered as parts of national heritage, agricultural gene bank, nature preservation and as resources of protection of monuments.
- They represent national value, so their keeping and maintenance should be brought under state regulation independently of their ownership.
- Considering that this work will recover in the long run for the whole society the state should take a prominent part in this activity.

III. Organizations take part in genetic conservation

- Ministry of Agriculture and Rural Development
- Ministry of Environmental Protection
- Central Agricultural Office
- Hungarian Gray Cattle Breeders' Association
- Hungarian Buffalo Breeders' Association
- Hungarian Donkey Breeders' Association
- Hungarian Sheep Breeders' Association
- National Association of Mangalica Breeders
- Association of Hungarian Small Animal Breeders for Gene Conservation
- Seven associations for traditional horse breeds

IV. Role of the organizations in genetic conservation

- Ministry of Agriculture and Rural Development and Ministry of Environmental Protection are responsible for realization of international agreements and laws about genetic conservation.
- Central Agricultural Office (CAO) is responsible for the acceptance and execution of professional requirements of breeding indigenous and endangered farm animals. CAO controls execution of breeding programs and rules of genetic conservation. CAO has possibility for intervention if it is necessary.
- An advisory board (Committee for Conservation of Indigenous Farm Animal Genetic Resources) helps the authority's work with defining professional requirements. Members of the board are well known experts.

V. Breeding goal

- preservation of external and internal characteristics of traditional breeds
- maintenance of the original type which has been developed approx. 100 years ago
- preservation of breeds' adaptability to natural farming conditions
- achievement of good productivity (growth, reproduction)
- preservation of breeds' natural temperament and behaviour which are necessary for traditional keeping methods

VI. Principles for preparation of breeding program

- Breeding program must be such a regulation which can assure the maintenance of a breed with avoidance of close inbreeding and preservation of original features.
 - a) in situ: maintenance among the original keeping and feeding conditions, production and selection methods
 - b) ex situ: if in situ conservation is not possible. It means preservation out of the original and traditional circumstances (also contains in vitro conservation).

VII. Content of Breeding program

- detailed description of the breed
- identification and certification method of a breeding animal
- principles of nucleus herds' definition (minimal number of animals needed for maintenance of the breed; 1000 dams fit for breeding + needed sires)
- definition of semen and genetic samples should be kept in gene bank
- order of classification method in herd-book
- method of breeding animals' qualification, foundation of genealogical lines (families), principles for preparation of mating plan
- rules of sires' selection
- method of finding out breeds' genetic resources and admission of founder animals into conservation program
- method and order of data admission into central database
- rules of breeding animal commerce, export-import
- described principles of in situ conservation; accepted conditions of ex situ conservation (for good cause only!)
- certification method of slaughtering animals which are true to variety
- procedure of winding up a stock-farm

VIII. Problems of in situ conservation

- keepers of indigenous breeds turn away from original keeping conditions because of economic considerations
- intensive keeping, feeding and performance oriented selection are dangerous for genetic resources (only selection is less dangerous than change of keeping and feeding conditions)
- If animals are kept under intensive technological circumstances with intensive feeding their important traits will change. It is not possible to preserve the original type of the breed.
- There's no problem with pastured breeds. Hungarian Grey Cattle or Racka Sheep are browsing in the fields today as well. Their original characteristics are not endangered.
- Concentrate consumers, like pig and poultry breeds are in real danger. Production parameters and income are better under intensive circumstances.
- Subsidies have to cover the costs of traditional keeping methods and state control is needed to supervise the principles of in situ keeping. Without subsidies, keepers will choose intensive technology.

IX. International relationship

- Maintenance of indigenous breeds is not only one country's work. Transboundary collaboration is necessary.
- It is especially true in case of that breeds spreaded in the whole territory of the historical Hungary and now they are living in some countries. All of these countries consider them as their own breeds. (see figure 1.)
- In this case international cooperation is very important in research and in practice.
- Genetic conservation has same aspects in the countries of Carpathian basin because of same ecological circumstances and common history.
- There are some breeds which can't be maintained by any country alone, their preservation needs effective international collaboration.
- The goal is to preserve the same breeds by harmonized principles and not in different ways.
- DAGENE, International Association for the Conservation of Animal Breeds in the Danubian Region.

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Figure 1.

The dimensions of Mangalica population in the Carpathian basin (bottle neck effect)

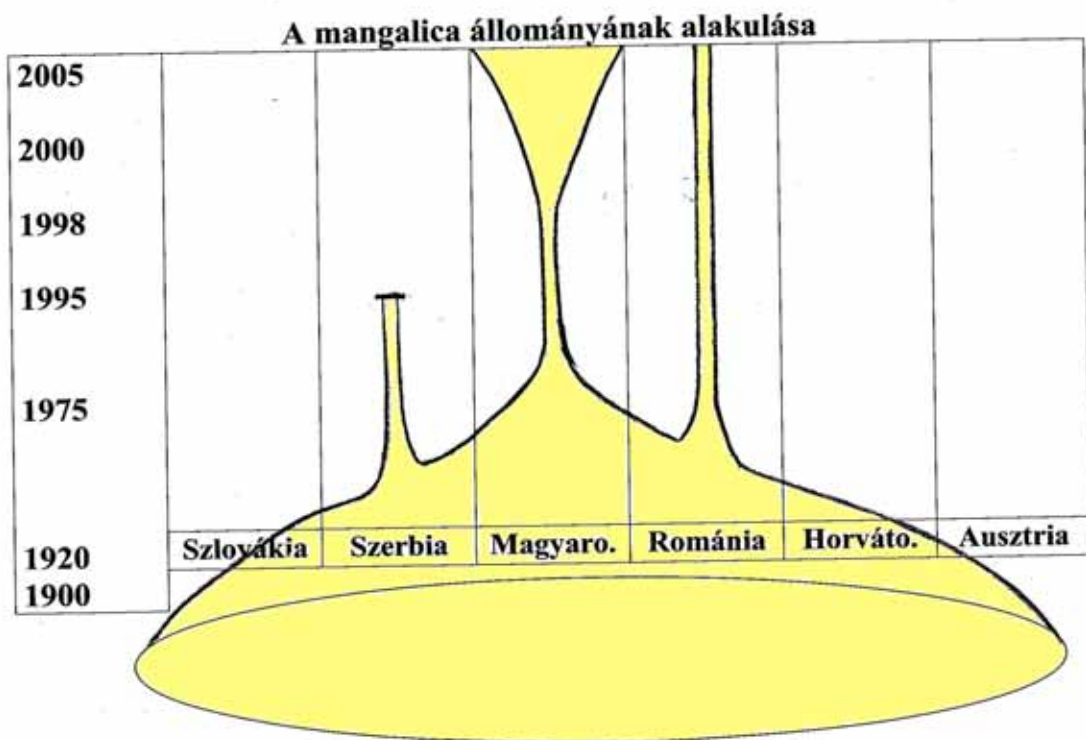


Table 1.

Number of indigenous farm animales in Hungary

Species / Breeds	Number (females)
Cattle Hungarian grey	6862
Hungarian buffalo	404
Hors (7 breeds)	3707
Donkey	128
Mangalica pigs	
Blonde	6549
Swallow-bellied	895
Red	1576
Sheeps	
White racka	2991
Black racka	1740
Gyimes racka	1542
Cigája (Tsigai)	2182
Cikta	196
Gallinae (6 breeds)	5200
Turkey (2 breeds, bronze and copper)	600
Water Fowls (Hungarian frizzled goose, Hungarian duck)	800