

# *In situ* and *ex situ* conservation of animal genetic resources – Hungarian regulations

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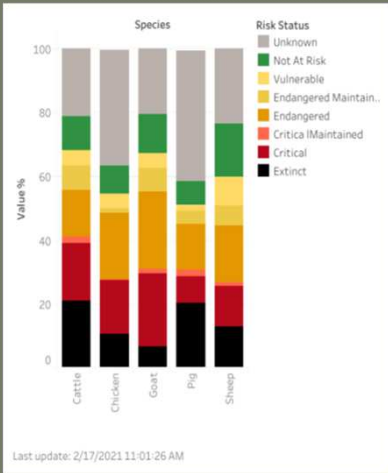
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## Protection of farm animal genetic resources

- 1992 Convention on Biological Diversity
  - UN Conference on Environment and Development, Rio de Janeiro
  - Our country promulgated it in Act LXXXI of 1995 but has applied it since 25 May 1994



Classification of European livestock species as being at risk (FAO, 2021)

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## Protection of farm animal genetic resources

- 2010 FAO Global Plan of Action on farm animal genetic resources (AnGR)
- 2014 Ratification of the Nagoya Protocol
- National Biodiversity Strategy – from 2015
  - Currently the 3rd National Biodiversity Strategy up to 2030
- 2019 Foundation of National Centre of Biodiversity and Gene Conservation
  - dedicated centre for farm animal and plant gene conservation
- financial co-financing of gene banks within the Common Agricultural Policy (CAP)
  - Supporting gene bank strategies
- 2022 European Commission approved Hungary's new CAP Strategic Plan.



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## Hungarian regulations

- Act LVI of 2019:**
  - This Act provides the legal framework for regulating livestock breeding in Hungary.
  - It authorises the establishment of detailed implementing rules through Government or Ministerial Decrees.
  - The Act highlights the state's responsibility to conserve animal genetic resources, with special attention to protected indigenous and endangered agricultural breeds.
  - It prohibits the creation of genetically modified animal breeds for agricultural use and the cloning of animals.
  - Furthermore, it requires notification if breeding sites of indigenous and endangered breeds are being ceased for non-epidemiological reasons.
- Government Decree 188/2019 (30.VII.):**
  - This Decree sets out detailed provisions on animal breeding, including the conservation and protection of genetic resources, the recognition of breeding organisations, and the approval of breeding programmes.
  - It also regulates the declaration of protected indigenous and endangered breeds, the import and export of breeding animals and reproductive material, performance testing, breeding value evaluation, and the management of state-owned sire and germinal products.
- Ministerial Decree 45/2019 (IX. 25.):**
  - Issued by the Ministry of Agriculture, this Decree specifies further rules on animal breeding.
  - It includes provisions for maintaining protected indigenous and endangered agricultural breeds, as well as the genetic preservation of native Hungarian dog breeds.
  - It also establishes the framework for gene banks dedicated to the long-term *in vitro* conservation of reproductive material and genetic samples.

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## Compliance with European legislation

- Act LVI of 2019 and the related Government Decree 188/2019 (30 July 2019) were drafted in accordance with European Union legislation on animal breeding. Their aim is to support the conservation of genetic resources while ensuring the smooth functioning of the internal market. Specifically, they reflect the following EU legal instruments:
  - Regulation (EU) 2016/1012:** This regulation sets out the zootechnical and genealogical requirements for the production, trade, and import into the EU of purebred breeding animals, hybrid breeding pigs, and their reproductive material. Section 11(1) of Act LVI of 2019 explicitly refers to this regulation and provides the legal basis for its implementation at national level.
  - Directive 2006/123/EC:** Known as the Services Directive, it aims to facilitate the free movement of services within the EU. Section 11(2) of Act LVI of 2019 states that the Act serves the purpose of compliance with the directive.



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## Main differences in gene conservation between native and intensive breeds

Aspect	Native breeds	Intensive genotypes
Legal focus	Gene conservation, maintenance, public subsidies	Performance testing, breeding programmes
In situ conservation	Traditional farming environment, natural selection	industrial environments
Ex situ conservation	Gene banks, reserves, reproductive material storage	Germinal product banks, artificial insemination
Supports	State and EU subsidies available	Market-based management (production related subsidies available)

Overall, the conservation of native breeds *in situ* and *ex situ* is given priority in terms of legislation and support, while for intensive breeds the focus of regulation is more on breeding and production aspects.

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## Protection categories

- Protected indigenous breeds:** these are traditional Hungarian farm animal breeds with a long history and significant cultural and genetic value. Their protection aims at preserving genetic diversity and maintaining national heritage.
- Endangered breeds:** These are breeds that are significantly depleted and in danger of extinction. The degree of endangerment is determined by the size of the population and the loss of genetic diversity.

Protection classifications depend not only on the size of the population, but also take into account the genetic diversity, the cultural and historical importance of the species, and its economic and ecological role. Protected and endangered status is therefore a complex process based on the consideration of several factors.

**Level of threat:** critical; to be protected; to be preserved – determined by the size of the population



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## Regulations of the breeding book

- The **Ministry of Agriculture** is responsible for the recognition of breed societies and breeding operations and the approval of the breeding programmes.
- The list of recognised breeds, breed societies and breeding operations is maintained and published by the **National Food Chain Safety Office** (NEBIH) on its website.
  - The breeder must be a member of a breed society or breeding operation.
  - The breeding animal must be entered or registered and eligible for entry in the main section of a breeding book.
- The **Unified Registration and Identification Systems** (ENAR) ((BIR, FELIR)) of individual agricultural livestock species, serve not only support purposes but also the satisfaction of breeding, animal health and agricultural regulation needs. The systems have been developed for each animal species in accordance with their different characteristics. In the case of cattle, pigs, sheep and goats, the computer system is operated by NEBIH, both in terms of farms, individuals and animal movements.
- Breeding supports:
  - The **Hungarian State Treasury, as the Hungarian Paying Agency** keeps the records of the Beneficiary Registration System (KNYR), in wich all breeders and breed societies must be registered, who wants to apply for support.

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## KAP-RD25-1-24 Support for the conservation *in situ* of animal genetic resources

- The aim of the support is to use the female stock of protected indigenous and endangered agricultural animal breeds with low numbers, as well as of agricultural animal breeds undergoing breed reconstruction, under the traditional housing and feeding conditions of the breeds (*in situ* conditions) and to maintain a viable population in breeding, within the framework of the legislation on the conservation of the genetic stock and breeding programs ensuring the survival of the given animal breeds.
- This intervention is based on Article 70 of Regulation (EU) 2021/2115, which sets out the rules for support under the Common Agricultural Policy, including the establishment of strategic plans by Member States, funded by the European Agricultural Guarantee Fund (EAGF) and the European Agricultural Fund for Rural Development (EAFRD).
- It covers 5-year framework periods.



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## KAP-RD24-RD26-1-24 Support for the *ex situ* and *in vitro* conservation of animal genetic resources and the implementation of professional support activities

- The aim is to support the conservation of agriculturally valuable animal breeds that represent high genetic value and are threatened with extinction or genetic erosion. Based on the call, natural and legal persons or organizations without legal personality engaged in gene conservation who contribute to the conservation of protected native, endangered agricultural and breed reconstruction agricultural animal breeds, undertake to implement and fulfill the obligations in accordance with the conditions specified in the call on a voluntary basis, and fulfill them. The support promotes the conservation and maintenance of protected native, endangered agricultural and breed reconstruction agricultural animal breeds.
- Activities related to the conservation of protected indigenous, endangered and reconstructed agricultural animal breeds, under three target areas:
  - target area 1: *Ex situ* gene conservation,
  - target area 2: Professional support activities,
  - target area 3: *In vitro* gene conservation activities.
- The call is co-financed by the European Agricultural Fund for Rural Development and the budget of Hungary.
- It covers for 5-year periods.



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