

Italy - Institutional and legal framework for ex situ conservation of AnGR

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Overview of gene-bank development in Italy

Artificial Insemination centers and Breeder Associations own and manage cryo-material to be used for routine insemination, under the supervision of the Ministry for Agricultural and Forestry Policy.

This note provide information on the genetic material cryo-conserved exclusively as genetic reserve. A National Cryo-bank has not yet been created in Italy; there are many cryo-collections, whose coordination is under development. In particular considering the major collections:

-) for eighteen local cattle breeds some semen is stored as genetic reserve by the respective Breeder Associations;
-) for some transboundary breeds material of old type animals is stored by the respective Breeder Associations or at AI centres;
-) three research Centers (IBBA of the National Research Council (IBBA-CNR), ConSDABI and DAFNAE-Padova) have collections of local cattle semen;
-) semen of local pig breeds is stored at IBBA-CNR;
-) Lombardia Region, in coordination with IBBA-CNR, is building the cryo-bank of cattle, sheep and goat breeds farmed in the region;
-) DAFNAE stores semen of four sheep local breeds.

Lack of a national cryo-bank for AnGR conservation also means poor coordination among the above mentioned collections; in some cases semen of a given breed is stored in two or more cryo-centers.

A project for promoting coordination among collection is in progress, led by IBBA-CNR and the University of Milan, with the participation of the Italian National Focal Point. This project is developing the use of the Cryoweb software to create a web gene bank for material stored as genetic reserve. Cryo-collections are partners of the network, named the Network of Italian Animal Genetic Resources Cryobanks (www.generescryonet.unimi.it).

Objectives of cryopreservation programmes

Whenever the material is stored as genetic reserve, the general objective is to preserve genetic material of conservation interest to be used: a) in breeding programmes in case genetic problems will occur; b) to reconstruct the breed in case of extinction or loss of a substantial percentage of

animals, c) to create new lines, d) to quickly modify or reorient selection of the breed; d) for research purposes.

Major actors in cryoconservation activities

- The Ministry for Agricultural and Forestry Policy (MiPAF), responsible of management and conservation of farm animal genetic resources.
- The Ministry of Health, Veterinary services.
- Regions with their activities and responsibilities in agriculture.
- National Breeders Associations which among other activities, manage Herdbooks and genetic improvement.
- The Italian Breeders Association (AIA), which among other activities, manages performance recording and local breeds Herdbooks.
- The EC-approved AI and embryo production centers.
- Research institutions, in particular the National Research Council (IBBA-CNR), ConSDABI (BN) and some Universities.

State of the art of collections

Table 1 reports the information on the semen cryoconserved in Italy as genetic reserves in the different centers. Both epididymal and ejaculated sperm is stored. Collection programs are under development.

Table 1: genetic reserves in Italy (December 2011)

Species	n. breeds	Total number of donors	Total number of doses
Cattle	18	1,114	265,285
Goat	3	21	862
Sheep	5	43	3426
Pig	4	52	27,372

Sanitary arrangements

Semen, whenever possible, is collected in EU-certified AI centers. However semen is frequently collected on farms, following a specific derogation for local breeds (DL 172/94, Law n. 30/1991). More specifically, sixty-six percent of bulls are collected on farms, but if we consider only the breeds with less than 1000 cows, almost all the bulls are collected on farms. In case of farm collection, animals are health tested as required by the law.

Legal issues

Each collection has developed its own rules in terms of ownership and access to the stored material. Ownership belongs to the Breeder Association or to the cryo-center or to local government agencies. No cases of farmers owing the semen stored in the cryo-centers are recorded.

Future plans

Major desirable actions include:

- Enlargement of the storage of some local breeds, in terms of number of donors and doses;
- Enlargement of the Network of Italian Animal Genetic Resources Cryobanks;
- Coordination among collections and programmes (possibly through the creation of a National cryo-bank).