

European Commission Council Regulation (EC) No 870/2004 AGRI GEN RES 2006 HERITAGE SHEEP

Partner countries: France, Greece, Netherlands, Slovenia, UK.

A international programme funded by the European Commission to conserve the genetic resources of Heritage Sheep Breeds.






Heritage Sheep Breeds (HSBs) are defined as genetically distinct, geographically concentrated and adapted to their environments. Typically, these sheep breeds are “local” breeds, traditionally farmed for commercial use and play an important role in the culture and rural economy of the regions in which they are managed.

HERITAGE SHEEP is establishing a European-wide conservation programme of HSB genetic resources for the diversification of production in livestock agriculture and for their central importance in the long-term sustainability of medium to low input farming systems. Achievement of this aim will have considerable benefits for the European Union. These include: (1) improving the quality of the environment through reducing the negative impact of intensive agricultural practices; (2) using natural resources in a sustainable way to manufacture products for the benefit of regional communities; (3) developing strategies to enhance the profitability of local breeds as a means of supporting the growth and competitiveness of rural economies.

Through a European Regional Focal Point (ERFP) scoping study undertaken by The Sheep Trust during 2005, it has become apparent that all Member States across the European Union (EU) can identify sheep breeds that are potentially defined as HSBs. In each case, the breeds were localised in specific regions in the Member States, and through their adaptation to local environmental conditions, are used successfully in extensive, medium to low-input farming systems. Despite the value of these breeds and their genetic resources for both environmental and economic sustainability of local communities throughout the EU, they are only beginning to be recognised as “breeds at risk” within National Action Plans of Farm Animal Genetic Resources (FAnGR).

Despite the considerable significance of these sheep breeds and their future potential for diversification of production in agriculture, sustainable management and improved quality of the environment, prior to the current programme, there was no coordinated activity in Europe aimed at genetic resources of HSBs. Thus, the GENRES Project is playing a crucially important role to characterise, evaluate, conserve and utilise these resources across Europe.

The Breeds studied in the GENRES Project include:

| France  | UK  | NL  | Greece  | Slovenia  |
|--|--|--|--|--|
| Basco Béarnaise | Brecknock Hill Cheviot | Black Blazed | Boutsiko (Orino) | Bela Krajina Pramenka |
| Bizet | Cheviot (South Country Cheviot) | Blue Texel | Frizarta | Bovec Sheep |
| Causses du Lot | Clun Forest | Drenth Heath | Kefallinias | Istrian Pramenka |
| Corse | Dalesbred | Flevolander | Sfakia | Jezerko – Solcava |
| Grivette | Derbyshire Gritstone | Mergelland | Katsika | |
| Limousine | Devon Closewool | North Holland | | |
| Manech Tête Noire | Exmoor Horn | Schoonebeek | | |
| Manech Tête Rousse | Herdwick | Swifter | | |
| Mourerous | Lonk | Texel | | |
| Rava | Romney | Zeeland Milkssheep | | |
| | Rough Fell | Kempen Heath | | |
| | Shetland | | | |
| | South Welsh Mountain | | | |
| | Southdown | | | |
| | Welsh Hill Speckled Face | | | |

A key objective of the GENRES Project was to gather information on the Heritage Sheep Breeds.

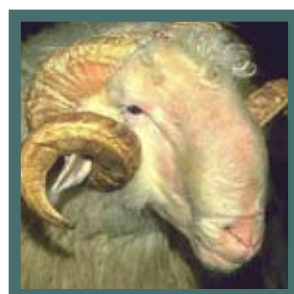
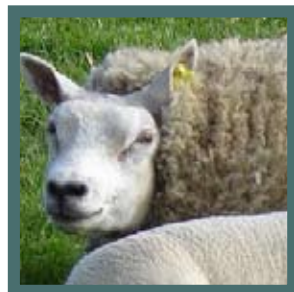
A questionnaire was developed and sent to breed societies to ask their help in collecting data under the following headings:

- **Origin and History** – information relating to the breed, its description, origin and historical development, the type and extent of records kept by breed societies, as well as current *in situ* and *ex situ* conservation activities...
- **Numbers and Trends** – estimation of number of sheep flock numbers and sizes, number of breeding females etc. % of sheep in the region associated mainly with the breed; increasing or decreasing population trends; estimation of number of breeders aged over 60...
- **Threats** – Social, Political, Disease, Climate change...

- **Values** – the importance of the breed to its region through adaptation and contribution to the local environment, adaptation to and ability to thrive in extensive farming systems, contribution to the local community, such as through social cohesion and tourism, contribution to the local economy such as through high demand for regional products...
- **Current Situation and Future Trends** – promotional activities, marketing initiatives, programmes to increase productivity, improved health plans and conservation activities...

The information gathered in the questionnaire was entered into a database and is accessible at www.hertigesheep.eu.

| Social | Political | Disease | Climate |
|-------------------------------|---|-----------------------------------|---------------------------------------|
| Farms ceasing to farm animals | Removal of Headage payments | Sheep Scab (Barbers Pole worm) | Reduced availability of water |
| Urbanisation | Environmental schemes | Ticks | Reduced availability of grazing |
| Ageing population of farmers | Need to increase farm productivity | Tick born diseases | Reduced availability of winter fodder |
| Lack of skilled Labour | Need to make management easier | Scrapie | Increased requirement for housing |
| Inability to hand on skills | Decreasing area of farmed land | Blue tongue | Reduced availability of bedding |
| Environmental changes | Increasing use of inputs | Worm resistance | Change in average rainfall |
| Lack of training facilities | Going organic | | |
| | Diversification to non farming activities | | |
| | Ceasing farming altogether | | |



Many concerns were expressed by breed societies of Heritage Sheep Breeds located in the different member states.

Factors the societies felt contributed most to reducing sheep numbers included:

- Decrease in public funding
- Lack of political will to support rural communities
- Policies and legislation, including environmental schemes
- Disease
- Predators
- Urbanisation
- Poor return on product, competition from other livestock
- Ageing population of farmers
- Lack of marketing support
- Inbreeding
- Loss of skills

To gain insights into the important threats facing the HSBs perceived by the breed societies, each was asked to score their responses with a value of one as least important and five as most important. These values are given in tables presented on the website.

All of the data gained in the survey are those provided by breed societies. They provide important sociological insights and not necessarily a robust quantitative evidence base to underpin policy and priorities for future conservation programmes.

The project has highlighted the urgent need for standardisation across breed societies both nationally and internationally in terms of gathering, collating and maintaining data about such parameters as breed numbers and population sizes. Standardisation of methodology is essential to ensure that policy making in the member states and European Union is based on accurate information.



The GENRES project has collected new information on existing *ex situ* resources available for conservation strategies and is developing new cooperations with breed societies to coordinate animals for future collections of semen during the project.

The GENRES Project is also exploring opportunities for *in situ* conservation strategies and is using best practice case studies on breeds that are benefiting from positive marketing initiatives and management programmes to help underpin their future commercial success and sustainability.

Interestingly from the breed society estimates in the GENRES Project, 19 out of 46 breeds across the partner countries are thought to have 95% or more of breed numbers actively farmed in the geographical region associated with the breed. This geographical isolation - endemism - presents a major risk to the genetic resources of Heritage Sheep Breeds. Recent data gained by the Sheep Trust for UK Heritage Sheep Breeds is providing detailed numerical data to support endemism and endangerment through their geographical isolation.



Work Packages of the GENRES Project

The Work Plan consists of six Work Packages. WPs 1 to 5 concern activities to achieve scientific and technical objectives, while WP6 concerns management of the consortium activities.

The five WPs serve to meet the objectives of the GENRES Project and are co-ordinated to ensure resources are utilised in a cost-effective and efficient way. The aim of this project is to assess for the first time the HSBs across the Community, define the justification for preservation of the breeds, identify best practice procedures for *in situ* and *ex situ* conservation of their genetic resources and significantly, undertake the first steps to gene banking prioritised breeds in each partner country.

The work plan complements knowledge and activities already existing in Member States, build on and contribute to complementary international actions and lead to the development of pan-European understanding and procedures to safeguard the genetic resources of HSBs into the future for the benefit of local communities, their economies and environments.



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