

Conservation of Endangered Cattle Breeds Native to Norway

The Norwegian Genetic Resource Centre is responsible for the conservation and sustainable management of Norway's national livestock breeds, but is dependent on close cooperation with a broad range of stakeholders. The Centre is specifically responsible for following up rare breeds native to Norway. In the following, we would like to present those livestock species of which there only are very few native breeds, but which nevertheless are worth conserving for the future.

A JOINT EFFORT

All those who keep Norwegian livestock breeds at risk make an important contribution to conserving and generating interest in these breeds. These animals can be found on commercial or hobby farms, or at agricultural schools and museums, where they demonstrate old animal husbandry practice and illustrate the place of livestock in Norway's agricultural heritage. Most breeding societies and associations cooperate with the Norwegian Genetic Resource Centre on various measures to safeguard these breeds, most of which have not been used commercially for several decades.

SUBSIDIES

Some county governments have introduced regional subsidies for selected national livestock breeds.

Norwegian Geese

There are two native goose breeds in Norway, the Smaalen goose and the Norwegian white goose.

Smaalen goose is considered to be the original Norwegian landrace goose. Earlier names were *Norwegian spotted and Norwegian landrace goose*. The breed standard was established in the county of Østfold (which used to be called *Smaalenene*) in the early 1900s. It is assumed that the breed is based on Swedish stock imported by the farmers of Østfold, which lies right on the Swedish border.



Photo: Anna Rehnberg

Norwegian white goose has been around since the mid-1920s. It is a heavier and larger goose than the landrace varieties. The breed's origin is not known, but it is assumed that it stems from crosses of several breeds. Norwegian white was bred to get a large, fine-boned goose that is easy to fatten. The geese should be hardy, with good brooding and mothering instincts.

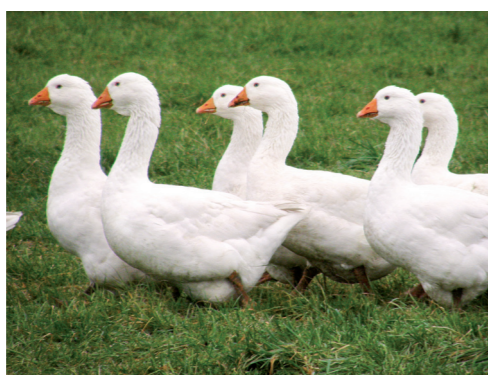


Photo: Anna Rehnberg

Throughout the 1990s, the numbers of geese and goose farmers increased steadily. However, following the bird flu outbreak in the mid-2000s, restrictions on keeping poultry outdoors led to a dramatic fall in the numbers of geese and goose farmers. Now, once again, there is an upward trend, but seemingly much more cautious than in the 1990s. Both breeds are rare and classified as critical.

Norwegian Genetic Resource Centre

The Norwegian Genetic Resource Centre initiates and coordinates activities regarding the conservation, characterisation, monitoring and utilisation of genetic resources. The Centre shall contribute to the effective and sustainable management of genetic resources in farm animals, crops and forest trees, and also acts as an advisory body to the Norwegian Ministry of Food and Agriculture. Furthermore, the Genetic Resource Centre provides information about the importance of genetic resources for agriculture and their potential for local business development.

The Norwegian Genetic Resource Centre is part of an extensive network of institutions, organisations and committed individuals, all of which contribute significantly to securing the sustainable management of genetic resources in Norwegian agriculture. The Centre is also involved in various international activities.

Genetic Resources

Genetic resources are biological material containing genetic variation that could be of importance for both evolutionary development and specific breeding goals.

Genetic resources in farm animals, crops and forest trees are the living foundation on which both today's agriculture and future developments are based. These resources must be managed through conservation and sustainable use to maintain biodiversity and ensure food security, and to secure the quality of life and welfare of future generations.

Farm Animals

It is important to secure the genetic diversity of our farm animals – both our older, native breeds, and the more modern ones.

The old livestock breeds were recognised as distinct breeds more than 100 years ago. There are still farmers who keep old breeds, which are an important part of our cultural heritage. At the same time, these breeds are also a genetic alternative to the more modern animal breeds.

The Norwegian Genetic Resource Centre promotes the sustainable breeding of the national livestock breeds. Sustainable breeding means selecting for both production traits (milk yield and growth rate) and functional traits (health and fertility), while at the same time keeping the inbreeding rate under control. The sustainable breeding programmes of Norway's three large breeding associations; Geno (dairy cattle), Norsvin (pigs) and Norsk sau og geit (sheep and dairy goats) attract international attention.

For old breeds with extremely small populations, sustainable breeding means keeping a strong focus on the inbreeding rate. Other important breeding goals include the maintenance of traditional breed characteristics, such as colour and horn shape, in order to secure the breed's phenotypical distinctiveness.



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Native Endangered Farm Animals

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Coastal Goat

The Coastal goat is a unique Norwegian goat population that was kept for meat production, and was isolated from the common Norwegian dairy goat.

Written evidence of coastal goat husbandry dates back to the 1700s. Today, there are remnants of this population in some parts of the western fjord region. Here, these goats were kept for meat, since they are well adapted to the rough terrain and harsh climate of the coastal landscape. Nowadays, the goats on the islands Skorpa and Sandsøya in Møre &

Romsdal County are feral, as the islands were abandoned decades ago. Since then, the goats have survived on their own. Domestic Coastal goats are kept outdoors most of the year, but are brought indoors in late winter for kidding. This protects the kids from birds of prey, and keeps the goats tame. The Coastal goat resembles the Norwegian dairy goat, but gives less milk and is meatier. The goats are nimble and strong-legged and have a dense outer coat. They have good mothering traits and families of 2-3 generations often stick together.



Photo: Brit Hareid

Trønder Rabbit

The Trønder rabbit originated in the Trøndelag region in central Norway, and dates back to the first attempts of systematic breeding in 1916-1918 on what presumably was a crossbreed to begin with. The Trønder is classified as a large, dual-purpose breed – selected for meat and fur production.

Throughout the 20th century, a wide variety of breeds were used in Norwegian rabbit husbandry, and the Trønder did not have any dominating role. During WW II, rabbit meat was in demand, and Trønder was often crossbred with larger breeds, such as the Belgian hare. The offspring were large, fast-growing meat rabbits.

After about 1980, interest in the Trønder dwindled, and the breed nearly disappeared. Thanks to a few loyal breeders, it was possible to establish conservation flocks in cooperation with private breeders and farming schools. However, the Trønder is still a very rare breed and is classified as critically endangered.

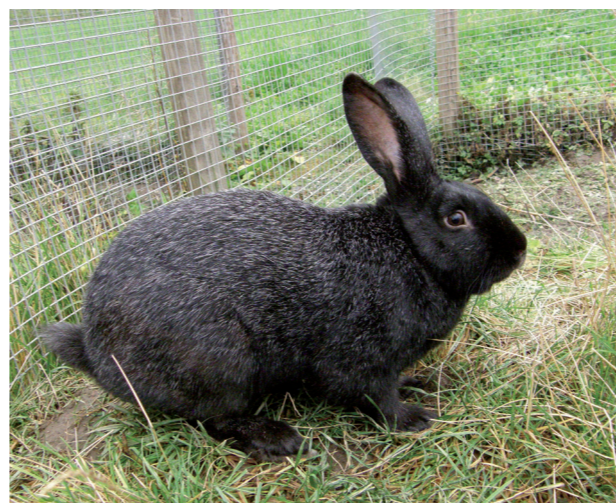


Photo: Anna Rehnberg

Horses

Norway has four native horse breeds; the Døla horse, the Nordland pony, the Fjord horse and the Coldblooded Trotter.

Human history is unimaginable without horses. They have been essential in the development of agriculture and forestry. However, when tractors and other machinery took over the stage, Norway's horse population declined drastically within a very short period of time. Horses went from being draft power to becoming an important part of recreational and sports activities. Although a few horses are still used as traditional draft animals, most horses in Norway are now used for harness racing, riding and driving.

The Norwegian Equine Centre is responsible for making breeding plans for all horse breeds that are systematically bred in Norway, and for keeping studbooks. The Centre has specific responsibility for managing the native Døle, Nordland and Fjord breeds. The Norwegian Trotting Association is responsible for breeding plans and keeping studbooks for the Coldblooded Trotter.



Photo: Anna Rehnberg

Dogs

Norway has seven native dog breeds; four spitz-type dogs and three hare hounds.

Three of the spitz-type breeds have been used as hunting dogs; the Grey Elkhound, the Black Elkhound and the Lundehund. The Norwegian Buhund has been used for hunting, herding and as a watchdog. The Halden hound, the Hygen hound and the Norwegian hound are primarily hare-hunting dogs. Except for the Grey Elkhound, the Norwegian dog breeds are so rare that they are classified as at risk.

A canine semen bank has been established for the Norwegian dog breeds. The semen bank was jointly developed by the various breed clubs, the Norwegian Kennel Club and the Norwegian Genetic Resource Centre. The bank aims to deposit semen from ten dogs of each of the seven native Norwegian breeds. Preferably, the semen shall be stored for ten years and can be used in case of a sudden crisis within a specific breed or if there is a need for "old" genetic material in breeding.

For more information about the various breeds and the Norwegian Kennel Club, see www.nkk.no



Photo: Magnus Enger

Jær Hen

The Jær hen descends from the original Norwegian landrace chicken. This was originally a very diverse group with a wide range of colours. Landrace fowl were nearly extinct when the first attempts to revive and standardise these populations began in the Jæren area (south-western Norway) in 1916. The breed can be traced back to a single set of parents, and thus has a high degree of inbreeding. In spite of this, the Jær hen shows good vitality and production. The breed is known for laying big eggs in proportion to its low body weight and its eggs have good shell quality. Hens are active, but can be a bit shy. They are good flyers and can thus be difficult to fence in.

The Jær hen was systematically bred until 1973, when the breeding station was closed down. The breed was then no longer commercially viable, compared to the modern production stock. Now, the Jær hen is conserved at the poultry gene bank at the Hvam farming school, together with other historic poultry breeds and strains.



Photo: Anna Rehnberg

Nordic Brown Bee

The history of Nordic bees ranges from forest beekeeping to their use as a defence against the Vikings. The Nordic brown bee is regarded as a sub-race of the old European bee. Its origins are not known, but it began developing differently than other honey bees about 0.5 – 1 million years ago. Originally, the brown bee occurred from the Urals to Ireland, and from Spain to Norway. Initially, bees were kept in hollow trees. With the advance of farming, forestland was cleared for fields and pastures. Grazing livestock also gave rise to expansive heathlands. Thus, the use of natural bee colonies declined and gradually man-made beehives were introduced.

The Nordic brown bee starts brooding later in spring than competing bee races. In areas with monocultures and short-term, intensive blooms, brown bees often do not utilise the honey flow as efficiently as other races. However, in typical heathlands and areas with a low density of forage plants, the brown bee will often outdo other races. A pure-breed area has been established in south-western Norway to contribute to the conservation of the Nordic brown bee.



Photo: Norsk birøkerlag