

Animal Genetic Resources and Intellectual Property Rights



SOCIETY AWARDS INTELLECTUAL PROPERTY RIGHTS (IPRs) to individuals or organizations for things they have created. IPRs give the creator the right to prevent others from making unauthorized use of their property for a limited period.

There are various types of IPRs. Only some are relevant to the livestock sector. These include **patents, trademarks, trade secrets** and **geographical indications**. Each of these forms of IPR has different requirements and grants different legal status.

Patents

Patents grant an exclusive right to prohibit others from using an invention for commercial purposes. Patents are given if an invention fulfils the criteria of:

- being new compared with what was previously known (prior art),
- involving an inventive or non-obvious step, and
- being capable of industrial application.

Patents can be granted on products and on processes. Patents are “territorial rights” and only granted and effective in the countries that they have been applied for. So if a patent has been granted in Australia, then the invention is patent-protected only in that country and not elsewhere. Basically, each country has its own national patent law in which it defines what can be patented and what not. However, in Europe there is only one institution dealing with patent applications, the European Patent Office (EPO) in Munich.

The **World Intellectual Property Organization** (WIPO) accepts applications for patents that it then forwards to all other countries. WIPO is also seeking to harmonize patent law worldwide by establishing a substantive patent treaty that will be globally effective.

All member countries of the **World Trade Organization** (WTO) have to comply with the **TRIPS** (Trade Related Intellectual Property Rights) **Agreement**, which sets certain minimum standards for intellectual property protection.

In the livestock sector, patents have been granted for gene sequences in connection with genetic markers. A New Zealand company, **Agmark**, has claimed a patent on the “Booroola” gene, which regulates the ovulation rate in sheep. The patent covers animals that are produced in a breeding programme in which the DNA test has been used, but not those animals that carry the gene naturally. The open question is whether the patent also covers the offspring of the animals that have been tested for the presence of the gene. Another notable patent application is



Who owns and controls the genes in livestock – firms, or farmers?

one by **Monsanto** for a series of twelve patents on pig breeding. It is currently pending at WIPO.

The rationale of patents is that they should provide incentives for innovation, research and development. But it is doubtful whether they would really fulfil this purpose in the animal breeding sector, and there is worry that they would in fact **inhibit use** of animal genetic resources by researchers, breeders, and farmers.

In addition, it is rather questionable whether much of the kind of research that is patentable, such as cloning and genetic engineering, is actually supportive of the **sustainable management** of animal genetic resources, and in line with **animal welfare** requirements. The German Veterinary Council has rejected patents on livestock out of concern for animal welfare.

Trademarks

Trademarks are distinctive signs, such as symbols, letter, shapes or names that identify the producer of a product and protect its associated reputation. Well known examples include the **Coca-Cola** lettering, **McDonald’s** “golden arches”, and “**Kentucky Fried Chicken**”.

Genetic material itself cannot be trademarked, but a specific type of product from a specific breed can be. For instance there is a registered trademark for certified **Angus beef**. Organic producer associations also have obtained registered trademarks for their goods, such as **Demeter, Bioland, Naturland**, etc.



Livestock keepers have developed local breeds to suit specific ecosystems – and these breeds depend on these conditions to survive

Trade Secrets

Trade secrets consist of commercially valuable information that is kept secret from competitors. As long as they remain secret, trade secrets are protected by laws which prevent acquisition by commercially unfair means and unauthorized disclosure.

Trade secrets do not establish an exclusive right over a genetic resource, but have been used with great success by genetics companies in the poultry sector and in hybrid pig breeding. These companies go to great length to keep their nucleus stock and information about pedigrees out of reach of competitors. They also make use of **biological locks** to enforce their trade secrets, for instance by releasing one-day old chicks only of the same sex to prevent others from using them for breeding.

Geographical Indications

Geographical Indications identify the specific area of origin of a product, and the associated qualities, production process, reputation, and other characteristics. They do not protect the genetic resource, but can add value to products of a particular breed in a particular region.

Examples from Europe include **Parmigiano-Reggiano cheese**, **Feta cheese**, **Bresaola of Valtellino**, and **Prosciutto di Parma ham**. **Roquefort cheese** can be made only from the milk of the Lacaune sheep breed. Examples from developing countries are **Karoo lamb** (South Africa) and **Chos Malal goat meat** (Argentina).

There is strong evidence from both developed and developing countries that origin-based marketing in which control over production processes remains with the livestock keepers can empower them versus corporate interests and provide greater earning power.

Sui Generis System

The term **sui generis** is used in the TRIPS Agreement in connection with the protection of plant varieties. It means that an IPR law **of its own kind** – adapted to the specific needs of the crop sector – can be developed as alternative to patenting.

There have also been efforts to develop a sui generis system for **traditional knowledge** by WIPO. The possibility of crafting a sui generis system for the protection of **animal genetic resources**, tailored to the requirements of the livestock sector has also been discussed.

On one hand, such a sui generis system could provide the context for establishing Livestock Keepers' Rights (see below); on the other hand, there seems to be a basic incompatibility between traditional knowledge and IPRs.

Livestock Keepers' Rights

The concept of Livestock Keepers' Rights has been developed over a period of almost seven years in a series of livestock keepers' and pastoralists' meetings on three continents. The cornerstones of this concept include:

- Recognition of livestock keepers as **creators of breeds** and custodians of animal genetic resources.
- Recognition of the dependency of the sustainable use of traditional breeds on the conservation of their **ecosystems**.
- Recognition of traditional breeds as **collective property**, products of indigenous knowledge and cultural expression.
- The right of the livestock keepers to make **breeding decisions**.
- Right of livestock keepers to participate in **policy making processes** on issues relating to animal genetic resources.
- Support for training and **capacity building** of livestock keepers in the provision of services along the food chain.

Some governments, including India and African countries, support the concept of Livestock Keepers' Rights, but other governments regard them as unexplored legal or political ideas. Some experts believe that Livestock Keepers' Rights could conflict with patents on genes.

Conclusion

The effects of IPRs on animal genetic resources on genetic diversity, genetic improvement and the livelihoods of livestock keepers have scarcely been analysed, but are in urgent need of exploration. The customary right of livestock keepers to breed their animals, which has been the driver of livestock biodiversity, may be under threat – unless specific national and international legal frameworks are developed.

Sources

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