

## **Patents on livestock – a threat to breeding and agriculture in Europe**

### **Companies follow several different patent strategies**

**European patent laws prohibit patents on animal varieties and conventional breeding. Nevertheless, in order to circumvent these prohibitions, companies often, amongst others, file patents claiming feed for cows, pigs, poultry or fish as their ‘invention’. Other patent applications target, e.g. the selection of animals or the biological material needed for further breeding. Such patent monopolies can also cover food products such as meat and milk derived from the animals.**

### **Companies are claiming “seeds” and “schnitzel”**

Monsanto already applied some years ago for several patents on feed for poultry, pigs and fish. The patents as applied also covered, amongst others, produce such as eggs, meat and fish fingers (WO 2010/107422; WO 2010/027788; WO2009/097403; WO2009/102558). It became apparent that these patent applications all follow a similar pattern: starting with the feed, they claim all food products derived from the animals as an invention. For example, Monsanto patent application WO 2009097403 includes: “a pork product for human consumption ...” (Claim 1), “(...) consisting of bacon, ham, pork loin, pork ribs, pork steak (Claim 18)”. These patent applications were brought to the public attention by NGOs and triggered so many protests that most of them never reached the EPO examination stage.

A statement made by the EPO media spokesperson, Mr. Rainer Osterwalder, highlights the highly questionable nature of these patents. He has been quoted by the German public broadcaster, ZDF, as saying that: “Nobody will be served a patented schnitzel on their plate.” At the same time, it was maintained that conventionally bred animals were hardly ever patented.<sup>1</sup> It appears that in March 2019, even the EPO media spokesperson still considered it to be highly unlikely that such patents would ever be granted. However, a “patent on schnitzel” had in fact already been granted in October 2018; it was a patent on fish (EP1965658). The patent granted to the Australian-based Commonwealth Scientific and Industrial Research Organisation (CSIRO) claimed salmon and trout as their invention. The fish are supposedly fed with selected plants to increase the content of Omega 3 fatty acids in their tissue. This patent is, therefore, nothing less than a “patented schnitzel”: if fish derived from conventional breeding are fed with selected plants, then the fish, the fish fillets and also the fish oil derived thereof, are considered to be a patented invention.

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<sup>1</sup> <https://www.zdf.de/nachrichten/heute/faq-streit-um-patente-auf-zuechtung-von-pflanzen-und-tieren-100.html>

However, there is no way in which this can be seen as a real technical invention. It has been known for decades that the composition of fish body tissues, as well as other animals such as poultry, cattle and pigs (also eggs and milk), is influenced by their feed. This is especially true for fatty acids. Such effects are used in dairy cows: for example, milk from pasture fed cows is different to that of milk from cows fed with soybeans. It has, furthermore, been known for many years that the fatty acid composition of fish is highly dependent on the diet they are fed. These known interactions between the constituents of the diet and the composition of muscles or milk are purely biological, not technical. If conventionally bred animals are turned into technical inventions based on the way they are fed with selected plants, then pigs, cows or fish can all be deemed technical inventions. This would completely contradict European patent law which prohibits patents on “essentially biological processes”.

### **Further patents on livestock**

The patent on fish is by no means the first one of its kind granted in Europe that covers conventionally-bred livestock. It is widely known that Monsanto filed and was granted a patent (EP1651777) covering pig breeding in 2008. The patent described the selection of pigs for breeding animals with leaner meat. Both the pigs derived from the process and their offspring were covered by the patent. A broad coalition of farmers, environmental organisations and individuals filed an opposition against the patent and it was revoked in 2010.

In addition, patents have also already been granted covering animal feed intended to enhance the fattening process: the EPO granted one of these patents (EP1208203) to US company, Dupont, in 2010. This patent covers genetically engineered plants with changed fatty acids composition. The seeds, plants and harvest of the plants as well as the animal feed were all patented, even including feeding the plants to the animals.

Several patent applications following a similar strategy have been filed at the World Patent Institute (WIPO) in recent years: starting with seed and feed, all further food products derived from the farm animals are claimed as an invention. For example, Syngenta not only claims genetically engineered maize as its ‘invention’ but also its use as feed to produce milk and meat. In patent WO2018204245 “a harvested cattle carcass” is part of the invention; patent WO2019075028 claims a “method of increasing the amount of milk produced by a dairy animal”. Farmers using the patented feed will need permission from the company to sell products such as milk and meat. And, furthermore, every one of these patents that are granted will lead to other companies claiming similar food monopolies in the future.

### **Stop the abuse of European patent law!**

The examples above show how companies can escape the current prohibitions on granting patents covering conventional animal breeding. Other strategies are also being used: for example, methods of selecting animals according to specific genotypes (randomly

occurring genetic variations) can be used to claim animals for agricultural purposes (see WO2018176124 or WO2019075577). This approach is very similar to the one observed in plant breeding, where claims on 'randomly' mutated genes can turn a conventionally bred plant into an 'invention'.

These loopholes can only be closed if patents are no longer granted on specific steps in conventional breeding, such as the selection of plants or animals based on specific genes. Furthermore, all animals derived from conventional breeding and all their usages in breeding and food production have to be excluded. 'Fake inventions' such as using plants to produce meat or milk should no longer be rewarded with a European patent.

In addition, patents on CRISPR/Cas gene-scissors are rapidly becoming an urgent problem for animal breeders. Claims in patent applications, such as those on hornless cattle (WO2014110552, WO2017040695) or fish bred to produce infertile offspring (WO2020033940), make no differentiation between genetic engineering and random mutations. If such patents are granted, they can also cover animals with the patented characteristics, even though they are derived from conventional breeding.

In order to close these loopholes and implement current prohibitions more effectively, *No Patents on Seeds!* is demanding a change in the rules for the interpretation of patent law. The patents must be clearly restricted to methods of genetic engineering. However, if a change in the interpretation of current law does not provide sufficient legal certainty and clarity, the European patent law itself needs to be changed accordingly.