



Exploiting mares to increase animal production

Equine Chorionic Gonadotropin (eCG) production,
import and use in the EU

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Equine Chorionic Gonadotropin (eCG) production, import and use in the EU

Summary

Equine Chorionic Gonadotropin (eCG), also called Pregnant Mare Serum Gonadotropin (PMSG), is a hormone extracted from the blood of pregnant mares (female horses). It is used to increase and manage fertility in farmed animals such as pigs, sheep, goats and cattle. Mares are kept on premises, called blood farms, where their blood is collected. eCG is produced in the EU, but the vast majority is imported from non-EU countries and used in animal agriculture throughout the EU.

eCG production and use is in breach of EU law and entails serious welfare concerns. As one species of domesticated animal is used to exploit another, eCG perfectly illustrates the vicious circle of animal abuse. Acknowledging these issues, the EU must take the opportunity of the implementation of the new regulation on veterinary medicinal products, and the revision of the EU animal welfare legislation, to end eCG production, use and imports in the EU.

Trade flows investigated

eCG is a hormone produced by mares during a short period of their pregnancy, between the 40th and 130th day, with a peak from day 55 to day 70 of gestation. It should be noted that the pregnancy of horses lasts close to 12 months, meaning that mares can usually foal only once a year.

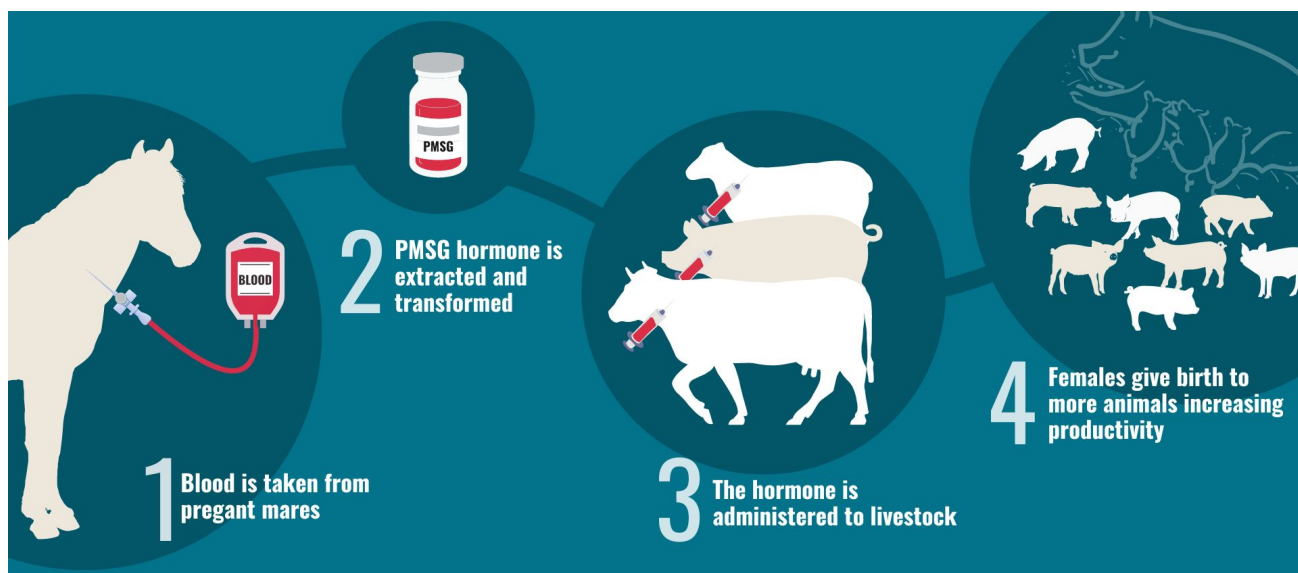


A semi-wild mare in Iceland, in a restraint box with a cannula in the jugular vein to collect blood

eCG is extracted from the blood of mares. During the hormone production period, the blood is collected regularly, once or several times a week, through a cannula placed in their jugular vein. During this procedure, horses are placed in a restraint box. Another procedure that can also be used for eCG production is plasmapheresis: the collection technique is identical but red blood cells are returned after blood collection. However, the procedure can still affect the calcium/phosphorus balance in the blood, essential to the good health of the mare. In addition, frequent sessions can affect the vital components of the blood, such as the coagulation factors.

Once the eCG hormone has been extracted from the mares' blood in a laboratory, it is bought and processed by pharmaceutical companies. Several of these companies are European manufacturers such as Merck/MSD Animal Health (Germany), Ceva Santé Animale (France) and Laboratorios Hipra (Spain). The final veterinary medicinal product is sold as a powder with a solvent to make an injectable solution.

This eCG solution is then used in animal agriculture to induce and synchronise the oestrus of females (mainly sows), resulting in increased productivity through higher insemination rates, shorter periods between pregnancies and more offspring.



Where does eCG used in the EU come from?

Most of the eCG used in the EU is imported from third countries. The primary exporter of eCG to the EU is Iceland where we count [119 blood farms exploiting more than 5000 mares](#).¹ As a member of the European Economic Area (EEA), Iceland must comply with a number of relevant EU regulations. The second largest sources of eCG used in the EU are South American countries and more specifically [Argentina and Uruguay, where we count more than 10,000 mares](#). In addition to these imports, it was recently revealed that some **blood mares are also exploited in the EU**, on a German stud farm, in the small town of Meura. The farm has been collecting blood for the production of eCG without an authorisation from the competent authority in Thuringia for more than 30 years. The activity has only recently been officially approved, on the basis of animal experimentation. While there is no evidence that eCG is also obtained in other EU countries, this cannot be excluded.

Animal welfare concerns in eCG production

[Animal Welfare Foundation](#) (AWF) has conducted several investigations in [Icelandic](#) and South American blood farms ([2015](#), [2017](#) and [2018](#)) witnessing animal abuse in all instan-

¹ Iceland bill proposing amendments to the Animal Welfare Act, no. 55/2013 (prohibition of eCG production). Available at: <https://www.althingi.is/altext/152/s/0015.html>.

ces. These conclusions have recently been confirmed in a [2022 investigation](#).

While there are no internationally agreed guidelines on the volume of blood that can be safely extracted from pregnant horses, the [National Centre](#) for the Replacement, Refinement and Reduction of Animals in Research recommends extracting a maximum of 1 % of the total blood volume every 24 hours, or 10 % every 3 to 4 weeks from non-pregnant horses. In every country investigated, blood collection volumes exceeded these recommendations. In Iceland, between 15 and 20 % of the mares' total blood volume is extracted once a week and the situation is even worse in South American countries, as up to 25 % is collected once or twice a week. On the German blood farm, a total of 16 litres, corresponding to roughly 40 % of the total blood volume, is extracted every week, highly above recommended volumes, while red cells are returned to the horses 24 hours after each collection. Because of this delay, the procedure cannot be considered a "real" plasmapheresis, which would be a closed circuit and reinfuse the red blood cells immediately. These abusive manipulations of mares can cause them to suffer from anaemia, weakened immune system and systemic infections. Excessive blood loss can also result in hypovolemic shock, when the heart cannot pump enough blood, which may lead to the death of the mare.



Frightened mares in Iceland getting beaten and chased by dogs.

In Iceland

While South American countries have in the past been the main provider of eCG, recent animal welfare scandals have led European pharmaceutical companies to turn to other countries sourcing eCG, in particular Iceland. Animal abuse and mistreatment are also common on those farms. In the case of Iceland, the **mares are semi-wild horses that are often beaten to get them to the restraint boxes** and remain tethered throughout the procedure. Another concern arises as foals are usually sold for slaughter.



A mare violently beaten in blood farm Syntex in Argentina, whose product Fixplan is used in the EU

In South America

A large quantity of eCG is still imported from South American countries, especially from Uruguay and Argentina. In these countries, mares are repeatedly impregnated to produce the hormone. As eCG is only produced during the mares' early pregnancy, **foals are an unwanted by-product** and there is no economic interest in maintaining the pregnancy to

term. In South America, fetuses are therefore **systematically aborted** to improve productivity by impregnating mares twice a year instead of only once. According to veterinary experts, abortions around day 110 of pregnancy are painful and hold a high risk of complications, which can be fatal. Mares are fearful of workers, injuries are left untreated and handling is violent and cruel. Blood is taken forcefully and painfully, regardless of the mares' health condition. Whereas horses can naturally live up to 30 years, in South America, blood mares only live around 6 years. If they do not die on the farm out of exhaustion or of untreated diseases or wounds, they will be sent to EU-approved slaughterhouses.

Animal welfare concerns in eCG use

Besides mares used for production, eCG also entails welfare concerns for farm animals on which it is used, such as sows, cows, goats and ewes. eCG is commonly used in European meat and dairy farms to increase productivity. In Germany alone, more than two million doses are administered per year to breeding sows (female pigs). eCG induces unnatural reproductive rates, which can lead to severe health issues and early slaughter as a consequence. It can also lead to larger litters in pigs. Often, there are too many piglets for one sow to feed and some piglets are born very weak, increasing the piglets' mortality rate.

It is important to stress that achieving good reproductive results in farm animal management is also possible with informed management techniques, as it is the case in organic farming where the systematic use of fertility hormones is not allowed. Such zotechnical methods encompass exercise, optimal nutrition and lighting, contact with males or with other females in oestrus. An animal-friendly husbandry system is however precondition for the success of these alternative methods. Voluntary phase out by the industry proves that animal breeding without hormones is possible. For instance, [the Swiss farmers' association representing almost 50,000 farmers decided to stop using eCG from September 2022](#).

eCG production in breach of the EU legal framework

eCG production in the EU falls under Directive 2010/63/EU on the protection of animals used for scientific purposes as this legislation covers procedures for the manufacture of drugs. The Directive is based on the principle of the 3 Rs: replacement, reduction and refinement. This means that the use of animals for scientific purposes is only acceptable when there is no alternative available. However, methods for the production of eCG produced in vitro (called reCG), have proved viable. Most importantly, several synthetic alternatives to eCG are already available on the EU market, besides zotechnical measures described above, making eCG use **totally dispensable** and its production in the EU and EEA in breach of Directive 2010/63/EU.

Acknowledging this, the European Parliament called on the European Commission and EU Member States to stop the import and domestic production of eCG in the [Resolution](#)

[on a Farm to Fork Strategy](#) published in 2021 (point 130). The text highlights that “animal experiments that are not indispensable should have no place in the food chain” as prescribed by Directive 2010/63/EU. The European Parliament reiterated this message in a [Motion for Resolution on a coordinated Union-level Action Plan to facilitate the transition to innovation without the use of animals in research, regulatory testing and education](#).

Besides production and imports, the use of eCG itself is also in breach of EU legislation. Indeed, Directive 98/58/EC on the protection of animals kept for farming purposes states that “*natural or artificial breeding or breeding procedures which cause or are likely to cause suffering or injury to any of the animals concerned must not be practised*”.

Opportunities to act

The European Commission should officially acknowledge and recognise that eCG production and use are not aligned with EU legislation and, building on several upcoming regulatory opportunities, it should explicitly ban the production, use and import of eCG in the EU.

Firstly, as the European Commission will, by the end of 2023, revise the animal welfare legislation to incorporate the latest scientific evidence, it is essential that it includes provisions explicitly prohibiting the production, use and import of eCG. Such provisions could be included in any proposals relating to animals kept for commercial purposes, as the fitness check of the EU Animal Welfare legislation highlights the lack of species-specific rules addressing precise welfare concerns such as eCG production.²

Furthermore, manufacturers of medicines intended for the EU market must comply with EU-defined Good Manufacturing Practice (GMP). [Regulation 2019/6 on veterinary medicinal products](#) adopted in 2019 indicates that animal welfare should be included in the revised GMP. As the European Commission defines the standards for the revised GMP, it should promote high animal welfare requirements to ensure no more cruelly obtained eCG enters the EU market. The standards must then be adopted by the Standing Committee on veterinary medicinal products composed of Member States.

Finally, the European Pharmacopoeia Commission, the warrantor of medicines' quality standards in Europe, has decided to suspend the eCG monograph from July 2022. It is essential that this moratorium becomes permanent for the industry to actively acknowledge and consider issues raised by this active substance.³

² Commission staff working document fitness check of the EU animal welfare legislation, 4 October 2022, SWD(2022) 328 final.

³ Monographs describe quality, safety and efficacy standards for classes of active substances used in medicines. If the monograph is suspended, the industry will not be able to refer to a specific monograph from the European Pharmacopoeia in marketing authorisation applications at EU level and must therefore refer to other monographs (e.g. in Member States pharmacopoeia) or develop their own. The industry must prove the suitability of these references (Regulation (EU) 2019/6).

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Our calls

Eurogroup for Animals therefore calls on the European Commission to:

- Clarify in official communication that eCG production and use in the EU is in breach of EU legislation, in particular Directives 2010/63/EU and 98/58/EC;
- Explicitly prohibit eCG production, use and imports in the EU in the upcoming animal welfare legislation and in particular the Regulation on animals kept for commercial purposes;
- Introduce high animal welfare standards in the revised GMP;
- Press for a definitive cancellation of the eCG monograph from the European Pharmacopoeia.

Production	Use	Imports
In breach of Directive 2010/63/EU as several alternatives are available.	In breach of Directive 98/58/EC banning breeding procedures causing suffering.	Current GMP does not provide for animal welfare standards or requirements.
European Commission to acknowledge these practices are in breach of EU law.		Revised GMP to provide for high animal welfare standards.
Revised EU animal welfare legislation for animals kept for commercial purposes to explicitly ban eCG production, imports and use.		

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