

Blood collection from pregnant mares

Statement by AWF | TSB providing facts about PMSG production in Iceland

Sabrina Gurtner writes on 11 January 2022

After the publication of the [documentary “Iceland - Land of the 5,000 Blood Mares”](#), the Animal Welfare Foundation (AWF) and Tierschutzbund Zürich (TSB) would like to comment on the articles and argumentation of the pharma company Isteka published on Vísir (19th and 29th December and 3rd January) and on social media.

PMSG mainly used in industrial farming

Isteka states that the fertility hormone PMSG serves, inter alia, the protection of wild animals and proves successful in breeding endangered species, such as rhinos and tigers. While there may be some cases where PMSG (also called eCG) is used in the breeding of endangered species for conservation purposes, the hormone is predominantly used in industrial animal breeding to increase both fertility and profits. The PMSG products of Isteka’s customers, MSD Animal Health and Ceva Santé Animale, are authorised for use in pigs, cattle and/or sheep, some may also be used in goats, rabbits or mink. None of the product descriptions mention wild animals as target animal species, at least not those products registered in Europe. Apart from this, there are studies that advise against the [use of PMSG in felidae](#) or that show [inefficacy in rhinos](#).

Official figures from Germany confirm that the hormone is used systematically in piglet production. In 2019, there were [1.8 million breeding sows](#) in Germany. About [6.4 million single doses of PMSG](#) were administered to sows over a timespan of three years (2016 - 2019), which makes 2.1 million doses per year. This high number shows that PMSG is not only used to treat individual animals in case of anoestrus but is rather used systematically in whole groups. Furthermore, PMSG is not only used in sows for the induction and synchronisation of oestrus, but also for superovulation and the induction of puberty.

According to [Regulation \(EU\) 2018/848](#) that relates to the production and labelling of organic products, the systematic use of fertility hormones is not allowed in organic farming. The regulation states: “With regard to the breeding of organic animals: reproduction shall not be induced or impeded by treatment with hormones or other substances with a similar effect, except as a form of veterinary therapeutic treatment in the case of an individual animal” (Annex II, Part II, 1.3.2.).

Impact of PMSG use on pig welfare

Isteka states that PMSG improves the welfare and health of pigs, by allowing farmers to maintain homogeneous breeding groups. However, synchronising oestrus and birth is also possible with zootechnical methods such as boar contact. Significant improvements in husbandry conditions and pig welfare can be achieved without the use of hormones. Methods to achieve this include converting stables and redesigning housing facilities in a way that provides large enough areas for pigs to lie down and feed freely as well as engage in other activities that allow them to display natural behaviours.

The production of the hormone not only raises serious welfare concerns with regard to horses, its use also has a negative impact on the welfare of sows and piglets. PMSG promotes unnatural rates of reproduction and

gives the sows no time to recover in between pregnancies. PMSG also induces superovulation which results in larger litter sizes. Surplus piglets often die or are killed when a sow does not have enough teats to feed them all. Increased litter size is evidently associated with increased [piglet mortality](#). Furthermore, PMSG can be used for induction of puberty in young sows, but pregnancy at an early age shortens pubertal development and usually leads to early infertility and slaughter.

There is no medical indication for the frequent application of PMSG in farmed animals. The practice only serves economic interests by stimulating and accelerating physiological processes in animals, which is not a viable reason for the use of drugs. Furthermore, PMSG is used to treat fertility problems which are caused by the system, namely by poor husbandry conditions in intensive farming. Hence, PMSG is one of the driving forces behind industrial farming.

Impact of industrial farming on the environment

Isteka claims that the use of PMSG has a positive effect on the carbon footprint in agriculture due to increased fertility and a reduction in the number of breeding animals. These arguments are very far-fetched, and it is common knowledge that industrial animal farming has many negative impacts on the environment and uses a lot of resources. According to the UN's [Food and Agricultural Organization \(FAO\)](#), meat and dairy production accounts for around 14.5% of global greenhouse gas emissions.

Isteka is of the opinion that animal products are important for a healthy nutrition, which is an outdated view. In May 2020, the European Commission released its [Farm to Fork Strategy](#), the flagship initiative under the new European Green Deal. In its communication, the EU Commission stated that “moving to a more plant-based diet with less red and processed meat and with more fruits and vegetables will reduce not only risks of life-threatening diseases, but also the environmental impact of the food system”.

Image damage for Icelandic farmers

According to Isteka, the blood business represents a considerable income for Icelandic farmers and strengthens their livelihoods. It is important to note that only a small percentage of horse farmers in Iceland profit from PMSG production, most horse breeders do not participate in this business and have another way of making a living from the horses (tourism, breeding, competition, export, etc.). These farmers suffer from the image damage caused by the blood business. Furthermore, the development of a “blood breed” is not at all in their interest. Their goal is to breed excellent riding horses with a suitable temperament, and not horses with a high level of PMSG where other characteristics are irrelevant. Isteka, however, claims that blood mares are an important genetic resource for the Icelandic horse breed.

Blood volume and frequency exceeding international recommendations

Isteka states that a pregnant mare in the first trimester of pregnancy weighs over 400 kg and the proportion of the blood volume collected is about 1.2% of the body weight, which according to studies poses no health risks. Indeed, five litres of blood can be taken once without risking the mare's health, but this extraction must be repeated not earlier than after 30 days. In Iceland, this volume is extracted every week. This frequency exceeds any existing guidelines and recommendations for blood collection. Some guidelines recommend that no more than [10 % of a horse's total blood volume](#) should be extracted every 3 to 4 weeks, others recommend

a maximum of [15 % every 4 weeks](#). It is further not recommended to remove more than 15 % of the blood volume due to risk of hypovolemic shock. Icelandic horses are smaller than other breeds and have an average body weight of 380 kg. Horses have a total blood volume of 75 ml per kilogram body weight, which makes about 28.5 litres for an Icelandic horse. Thus, according to different recommendations, no more than 2.85 litres (10 %) should be extracted every 3 to 4 weeks, or a maximum volume of 4.275 litres (15 %) once per month. In Iceland, between 15 and 20 % of the mares' total blood volume is removed once a week. The implementation of the recommended standards would drastically reduce the production volume by approx. 75 %. Such a significant reduction would go against the interests of Isteka, especially since the company is planning to more than triple the production in the coming years.

According to [German guidelines for the collection of blood in the veterinary field](#), a maximum of 15 ml blood per kilogram body weight may be extracted every 30 days, which in the case of Icelandic horses would make 5.7 litres once per month. However, these guidelines additionally prohibit taking blood from pregnant or lactating mares. In Iceland, the mares are both pregnant and lactating, which must be also taken into account. According to Prof. Stephanie Krämer from the university Giessen, the expert shown in the documentary, the mares have to provide energy for the production of milk and also for the development of the foetus. In addition, they have to provide energy for the regeneration of lost blood components, which means a triple burden for the mares.

Three important points that Isteka does not mention in the public communication are the following:

1. Alternatives to PMSG available

According to veterinary experts, the induction and synchronisation of oestrus is also possible with zootechnical methods such as exercise, optimal nutrition and lighting, contact with sows in oestrus and boar contact. Such measures are, for instance, used in organic farming. Furthermore, there are numerous synthetic alternatives available to breeders for the induction and synchronisation of oestrus in farmed animals – [36 products in Germany alone](#) – and their efficacy is very similar to PMSG according to different studies. As an example, in Germany there is a [training project for farmers and veterinarians](#) which transfers knowledge about alternatives to PMSG in pig breeding.

2. Blood collection classified as animal experiment

According to MAST, the three pieces of legislation that apply to the blood collection for PMSG production are the Icelandic animal welfare law no. 55/2013, regulation no. 910/2014 on the welfare of horses and regulation no. 460/2017 on the protection of animals used for scientific purposes, which is based on the [EU Directive no. 2010/63 that has EEA relevance](#). The license of Isteka to produce PMSG is based on regulation no. 460/2017. Thus, as in the EU, blood collections for the manufacture of drugs are classified as animal experiments. However, the EU and Icelandic legislation on animal testing is based on the principle of the 3 Rs: replacement, reduction and refinement. According to this principle, animals may only be used in animal experiments if there are no alternative methods available. Since there are numerous synthetic drugs available that fulfil the same purpose as PMSG, and since good fertility in farmed animals can also be achieved with zootechnical methods, the indispensability requirement for animal experiments is not fulfilled. Therefore, the commercially conducted blood collections from pregnant mares are unlawful and should not be approved by the authorities.

3. Systematic breaches of Icelandic legislation

In addition to the non-compliance with the principle of the 3 Rs, the blood collection for PMSG production violates applicable welfare requirements. The goal of the animal welfare law no. 55/2013 is that animals are free from discomfort, fear, suffering, pain and injury, inter alia, in the light that animals are sentient beings. Ill-treatment of animals is prohibited. However, it is not possible to take blood from semi-wild horses without using force or causing stress and fear. The coercive restraint in the extraction boxes poses many risks of injury to the mares. It is unrealistic and not economically viable to tame and train 5,300 mares so that their blood could be extracted without creating unnecessary stress and fear. Taming and training would be very time-consuming and expensive and thus make the business far less profitable.

Isteka claims that the blood extraction of a mare takes about ten minutes and the total time is, on average, about one hour per year. While the mares do indeed spend around ten minutes inside the restraint boxes, the whole procedure – which lasts two to three hours – is stressful for them (round-up with cars and dogs, separation from the foals, beatings in the raceways, etc.). With eight to ten blood collections per year (not counting the blood sampling), this amounts to between 16 and 30 hours of stressful and frightening situations.

According to the horse welfare regulation no. 910/2014, performing procedures on horses for no medical reason is prohibited, which is clearly the case here. Even the use of PMSG in farmed animals does not serve medical purposes but purely economic ones.

Blood business is not controllable

On 19 December, Isteka presented an improvement plan, which includes camera surveillance. However, a supervision by video monitoring is unrealistic since thousands of hours of recorded blood collection would have to be analysed. Due to the large number of blood farms, the character of the horses (semi-wild), and the number of horses involved, an effective supervision of the process is not possible.

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