



## **The Trade with Horse Blood and Pregnant Mare Serum Gonadotropin (PMSG) in the United States, Argentina and Uruguay**

### **Introduction:**

The trade of horse blood as well as Pregnant Mare Serum Gonadotropin (PMSG) is a multi-billion dollar industry. The horse serum is used for biological research and diagnostic manufacturing, while the PMSG is an ingredient for several veterinary drugs. Regular horse serum is usually extracted from draft horse geldings, while the PMSG production needs large herds of pregnant mares.

The investigation's goal was to determine where these "donor herds" are maintained and how the living conditions for these animals are.

### **A) Regular Horse Serum**

While there are many US companies selling horse serum, only very few admitted that the blood was actually extracted from donor herds maintained within the United States.

#### **US Companies selling blood from US horses:**

##### **Pel-Freez Arkansas**

219 N. Arkansas Street  
Rogers, AR 72756  
[www.pelfreez-bio.com](http://www.pelfreez-bio.com)

Pel-Freez is currently the largest rabbit meat processor in the United States and is also producing serum from rabbits, chicken, goats, bovine, pigs and horses. **Their donor horse serum is of US origin.** According to their website, the blood is aseptically collected from the donor herd horses using a closed system method in a designated bleeding lab. The blood is refrigerated within 8 hours of collection and processed within 48 hours prior to storage at -20C.

##### **Rocky Mountain Biologicals (RMBI)**

6015 Greg's Way  
Missoula, Montana 59808  
[www.rmbio.com](http://www.rmbio.com)

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PO Box 1056 Westminster, MD 21158 P: 443.821.3343 F: 443.821.3349

[www.animalsangels.org](http://www.animalsangels.org)





According to their website, their donor horse serum is derived from “**US-origin, veterinary-inspected and controlled herds**”. The equine serum is used as cell culture medium and in veterinary biologics. All sera are collected from “healthy animals and screened donors under well-documented sterile conditions before being shipped to our state-of-the-art facility”.

### **Central Biomedica**

9900 Pflumm Rd, Unit 61

Lexana, KS 66215

<http://centralbiomedica.com/>

According to their website, Central Biomedica, Inc. maintains the largest donor horse serum herd in the United States at their facility in Irwin, MO. The horses are kept on a dry lot and fed a controlled diet as well as monitored by an on staff veterinarian.

The donor herd consists of all gelding draft horses, weighing 1700 lbs. or greater, who “were preferably 3-7 years old at the time of purchase. The serum processing facility consists of 7500 square feet, and includes an enclosed bleeding area, two walk-in coolers and a walk-in freezer, a controlled environment with laminar air flow for serum processing, and equipment wash areas. Serum can be traced back to the specific animal from which it was collected, along with the day the animal was bled, the staff member who collected the blood, and the day and time that it was processed into serum. They get a stellar diet, top-notch health care, and plenty of fresh air, and in exchange they only have to do about **15 minutes of work each week.**”

### **Observations:**

The facility with the buildings is consistent with what is described on Central Biomedica’s website.



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There were approx. 200 horses in several different dry lots; all of them were draft horse geldings. The horses appeared to be segregated by age. Each of the dry lots had long feed troughs. These were kept full during our observations of the site, and the horses were constantly eating. All horses had their manes cut short, likely to make the bleeding process easier.



Investigators estimated the average body condition score (BCS) to be between 7-8, as they were all very heavy animals. Large piles of manure were visible in each of the dry lots. Some of the horses had large red numbers painted all over their faces. None of the horses appeared to be used to human contact; they shied away when approached.



*Gelding with red numbers painted on his face*

On the day of the observation it had rained heavily, and the dry lots were very muddy, especially in areas where the horses congregated, such as the food troughs. Investigators observed that the horses were struggling to walk through the mud, sinking into it well over their ankles. No dry shelter was observed. (It could be in back of the premises and not visible.)



*Horses standing in deep mud*

There was no bleeding taking place during the time of observation, but our investigators saw one part of a pen area narrowing down to an alley and then a chute, leading into the bleeding barn. No injuries were observed. The majority of the horses were in good condition. However, a few horses observed were thin and their ribs were clearly showing.



*Thin horse*

### **General Information about Blood Extraction**

The blood is always drawn from the jugular vein, using a large-bore needle (14 gauge or larger bore). A needle with as large a bore size as possible should be used to ensure efficient blood withdrawal without collapsing the vein, without causing hematoma formation, and without causing blood pressure to drop too rapidly.<sup>1</sup>

Immediately after removal of blood, all animals must have unrestricted access to water.

**For adult animals, not more than 15% of the estimated circulating blood volume should be removed in any 4-week period, i.e. 1.1% body weight in horses.** Circulating blood volume (litres) can be estimated from body weight (kg) using a conversion factor of 0.075 for horses. As a guide, 1% of body weight is the weight of 13% of the circulating blood volume in horses.<sup>2</sup>

#### **Adverse Effects:**

If too much blood is drawn too quickly or too frequently without replacement, animals may develop **hypovolemic shock (Life-threatening drop in blood pressure). In the longer term the removal of too much blood causes anaemia, muscle weakness, increased susceptibility to cold and reduced exercise tolerance.**<sup>3</sup>

However, these are just guidelines and there are no regulations or laws in place to restrict how much blood legally can be taken from a horse each month – **leaving it completely up to the company to decide if they are following these recommendations or not.**

Additionally, USDA is not required to carry out annual inspections at blood farms, since the Animal Welfare Act does not apply to this kind of activity. The Act requires that minimum standards of care and treatment be provided for certain animals bred for commercial sale, used in research, transported commercially, or exhibited to the public. However, the extraction of blood and the sale of the blood to pharmaceutical companies do not fall within this definition.

Without the protection of the Animal Welfare Act, the only laws available to protect these horses are state cruelty laws.

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<sup>1</sup> Thiel College Institutional Animal Care and Utilization Committee

<sup>2</sup> Thiel College Institutional Animal Care and Utilization Committee

<sup>3</sup> Thiel College Institutional Animal Care and Utilization Committee

## B) Pregnant Mare Serum Gonadotropin (PMSG)

Equine chorionic gonadotropin (eCG) is a gonadotropic hormone produced in the chorion of pregnant mares. Most commonly called pregnant mare's serum gonadotropin (**PMSG**), the hormone is commonly used to **induce ovulation in livestock prior to artificial insemination**. Pregnant mares secrete the hormone from their endometrial cups between 40 and 130 days into their gestation, and once collected, it has been used to artificially induce *estrus* in female sheep, goats, cattle, and swine.<sup>4</sup>

The PMSG is collected via blood extraction from pregnant mares, kept at large farms in the United States, Uruguay, Argentina and South Korea. Since the PMSG can only be collected during pregnancy, the mares have to be pregnant as often as possible. **The foals are an unwanted by-product of the industry and usually are either aborted or sold immediately**. The mares are kept until they can no longer become pregnant. Once they are no longer useful, **they are often sold to local kill buyers and shipped to slaughter**.

### US Companies selling PMSG products:

#### **Sigma Aldrich**

St. Louis, MO

<http://www.sigmaaldrich.com/catalog/product/sigma/g4877?lang=en&region=US>

According to their customer service, the PMSG for their product G4527 - Gonadotropin is **biologically sourced from the USA** and manufactured in the **Netherlands**. The location of the donor mare herds in the US supplying the PMSG is currently unknown.

#### **EMD Millipore**

**Billerica, MA**

EMD Millipore is the life science business of Merck KGaA, Germany. The country of origin for the PMSG is the **Netherlands; the product is manufactured in the US**.

#### **Product:**

367222 | Gonadotropin, Pregnant Mare Serum

Manufactured by EMD Biosciences, Inc.

San Diego, CA 92121

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<sup>4</sup> Wikipedia



### **Prospect Bio**

East Brunswick, NJ 08816

<http://www.prospecbio.com>

Product: HOR272 PMSG

The country of origin for the PMSG is South Korea.

### **Aspen API**

Des Plaines, IL 60018

The Aspen Group purchased the Active Pharmaceutical Ingredient (API) manufacturing operations from MSD in the US in 2013. Public records show that Aspen API imports PMSG from the Netherlands and that the PMSG was obtained from horses in Uruguay.

### **Intervet Inc. d/b/a Merck Animal Health**

Summit, NJ 07901

Omaha, NE

Millsboro, DE

<http://www.merck-animal-health-usa.com/>

<http://www.msd-animal-health.com/>

The company is known as MSD Animal Health outside the U.S. and Canada and is the global animal health business unit of Merck. **Intervet Inc. imports the PG 600 from MSD in Germany and Holland.**

Product: **PG600**

[http://www.merck-animal-health-usa.com/products/130-120700/productdetails\\_130\\_121217.aspx](http://www.merck-animal-health-usa.com/products/130-120700/productdetails_130_121217.aspx)

Manufactured by: INTERVET INTERNATIONAL GmbH, Unterschleissheim, Germany & Intervet Boxmeer, Holland

In 2013, MSD Animal Health admitted in a Dutch newspaper article that, starting in 2015, all PMSG needed for their PG600 production will be imported from **Chile and Uruguay**.

<http://www.volkskrant.nl/dossier-archieff/de-spuit-erin-want-elke-dag-kost-varkenshouder-geld~a3447571/>

Public documents show that Intervet Inc. has an import permit for P.G.600 from Germany and that the PMSG for the products was taken from horses in Uruguay.

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## C) Production of PMSG in Argentina

Argentina is one of the main exporters of PMSG. The production is dominated by a company called Syntex S.A., one of the biggest PMSG producers worldwide.

### **Background information on Syntex:**

The company provides active ingredients from biological and semi-synthetic sources for the pharmaceutical industry. Syntex exports their products to more than 25 countries on five continents, among them several countries in the European Union. The company's headquarter is in Buenos Aires, but they also have a subsidiary in Uruguay named Syntex Uruguay S.A.

### **Statements on Syntex's Homepage:**

"Description of eCG/PMSG<sup>5</sup>: A glycoprotein with predominant follicle-stimulating (FSH) activity, obtained from mares of Syntex livestock, carefully selected and sanitary controlled. PMSG causes a follicular growth in female animals, stimulates the secretion of oestrogens with the consequent presence of estrus and ovulation."<sup>6</sup>

"This process is certified by INTA ("Instituto Nacional de Tecnología Agropecuaria" Rural Technology National Institute). This way traceability control, compliance of biological safety and highest quality standards in the whole production chain is amply assured."<sup>7</sup>

**"We attained approval by the European Union with its highly demanding standards."<sup>8</sup>**

Animals' Angels partner organization Tierschutzbund Zuerich conducted an undercover investigation in Argentina and Uruguay and visited several of the blood farms operated by Syntex to assess conditions for the horses kept there and check if the company is in compliance with EU standards.

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<sup>5</sup> Equine chorionic gonadotropin (eCG) is another name for pregnant mare serum gonadotropin (PMSG)

<sup>6</sup> [http://www.syntexar.com/en/principios\\_activos/equine\\_chorionic\\_gonadotrophin\\_ecg\\_o\\_pmsg](http://www.syntexar.com/en/principios_activos/equine_chorionic_gonadotrophin_ecg_o_pmsg)

<sup>7</sup> [http://www.syntexar.com/en/nuestros\\_productos.php](http://www.syntexar.com/en/nuestros_productos.php)

<sup>8</sup> <http://www.syntexar.com/en/distribuidores.php>



## Observations:

### Location:

Syntex farm near Ayacucho

The blood farm is located in a very remote area. Hundreds of horses were observed grazing in barbwire fenced fields. The mares grazing closest to the road seemed to be in good condition. However, a thin grey mare appeared to be quite weak. While all the horses around her were grazing, she was lying down and not moving. The tails of the mares in this group were cut short, indicating that they were currently used for blood extraction. No foals were visible. **According to eyewitness reports, the foals are routinely aborted on PMSG farms.**



*Hundreds of mares grazing in open fields*



*Thin mare lying down*

The Syntex farm consists of five buildings and an **enclosed pen area, where the blood extraction takes place**. A white, well secured building potentially houses the laboratory.



*Premises of Syntex*



*Building used for blood extraction*

The covered pen area, where the blood is taken from the mares, had **approx. 14 individual, wooden stalls and alleys leading up to them.**



*Individual stalls*

Between the stalls and the office/laboratory building, there were a **stainless steel container and a big white plastic container**, which were likely used for the blood extraction process.



*Steel container beside stalls*

The undercover video footage obtained revealed that the **blood is taken for approx. 10 minutes**. Once the horses are inside the individual stall, the workers put a halter on them and tied them very tightly. Some mares already had a shaved area on the neck, where the vein is located; others were being shaved before the cannula was inserted. Once the extraction was completed, the workers **forcefully** removed the drain tube.

**The handling by the workers was violent; the horses** were being hit with sticks, whips and wooden boards, also across their heads. The workers sometimes hit the mares up to 15 times in a row to force them to enter the stall. **Electric prods were used frequently** and applied multiple times on the same horses. The mares were very afraid of the workers and many **showed signs of complete panic**. Several horses tried to turn around in the alley leading towards the stall and one mare even tried to jump over the sidewall of the stall. **Some horses fell down** as their trembling legs gave in.

A mare collapsed when she walked out of the stall after the blood extraction. She got back up immediately and walked back to the alley to rest her head on a railing, still trembling. A worker climbed the railing and **kicked her three times in the face with his foot, which made her collapse again**. Afterwards, the worker walked away. **Nobody seemed to care about her**. In addition to the blatant abuse, the undercover footage also shows **several mares that were very thin** as well as a mare with a **bleeding face injury**.



*Worker hitting mare with wooden board*



Mare trying to jump out of stall



Worker using electric prod

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## D) Production of PMSG in Uruguay

The production of PMSG is a multi-million dollar industry in Uruguay. One of the most important exporters is Syntex Uruguay S.A., which in 2015 so far shipped PMSG worth over 30 Million Dollars to the EU.

### **Observations:**

#### **Estancia “El Yatay”, Syntex Uruguay SA**

Near Valentines

Departamento Treinta y Tres

Investigators arrived at the property line marked with the sign “Establecimiento YATAY”. According to the sign, the land where Syntex keeps the blood farm mares is property of the forestry company Taurion SA, a company of BTG Pactual (BTGP) based in Atlanta, GA. According to the BTGP general goals, management objectives in Uruguay include the optimal use of forestlands by combining timber and livestock production<sup>9</sup>.



*Land rented to Syntex belongs to Taurion SA, BTG Pactual*

Shortly thereafter, investigators saw a **farmhouse with the inscription “EL YATAY”** and some holding pens with loading ramp next to it. There were only three horses visible in these pens. All the other horses were in the surrounding pastures and in the eucalyptus plantations.

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<sup>9</sup> [https://www.btgpactual.com/home\\_en/Content/arquivos/AM-MB-Timberland/BTGP%20Management%20Plan%20Uruguay%20-%20English%20-%20For%20FSC%20Certification%20August%202013.pdf](https://www.btgpactual.com/home_en/Content/arquivos/AM-MB-Timberland/BTGP%20Management%20Plan%20Uruguay%20-%20English%20-%20For%20FSC%20Certification%20August%202013.pdf)



*Estancia "EL YATAY"*

Investigators noticed a group of mares without foals in the eucalyptus forest, some of them were **thin and their ribs were clearly visible**. In a different area, a **group of pregnant mares with foals** by their side was observed. One of the foals had a **quite large wound on his right hind leg, which appeared untreated**. In the same pasture, several bones and a skull were visible.

It should be noted that it is **difficult if not impossible to monitor the welfare of the horses inside these vast eucalyptus plantations**, despite the fact that monitoring of blood farm mares is crucial since many are **weak or might even suffer from anaemia**.



*Thin mare and her foal*



*Foal with wound on his leg*



*(Pregnant) mares and foals inside eucalyptus forest*



*Thin mares without foals, their ribs clearly showing*

**Mr Acuña, the custodian of the farm**, approached the investigators on horseback. When being asked about the PMSG production, he stated all the blood was being taken at a different location, at the **estancia “Loma Azul” in Florida**. **The mares are sent in groups from this farm to “Loma Azul”, where they stay for 5 months** (note: pregnant mares produce PMSG between 40 and 130 days into their gestation<sup>10</sup>). Afterwards, the mares are brought back to the farm and another group is shipped. The transport to “Loma Azul” takes about 3 ½ hours. He explained that they were **breeding their own horses at this farm, but in addition also were buying foals for the PMSG production**. The property holds about **800 horses**. **“Loma Azul” keeps approx. 2200 horses**.

<sup>10</sup> [http://en.wikipedia.org/wiki/Equine\\_chorionic\\_gonadotropin](http://en.wikipedia.org/wiki/Equine_chorionic_gonadotropin)



**Estancia “Loma Azul” of Syntex Uruguay SA**

**Address:**

Departemento Florida, Uruguay

**Owner of Syntex Uruguay SA (also known as Agrosyntex SA):** Federico Rubio  
**Veterinarian / Manager:** Dr. Reynaldo Bonino

**Observations:**

The property is secured with multiple gates and **“no trespassing” signs. Some horses were visible in the surrounding pastures. Investigators contacted** the farm’s veterinarian Reynaldo Bonino, who told them the farm could not be visited and referred them to Mr. **Alejo Menchaca** at the main office in Montevideo.



*Closed gate with sign “No Pasar” (no trespassing)*

Investigators made multiple attempts to contact Alejo Menchaca, however, he never returned there calls.

**Background info:**

A reliable, confidential source shared the information that **Syntex/Agrosyntex is one of largest suppliers of the Clay horse slaughter plant and shipped 795 horses to Clay in 2014.**

**Office of Syntex:**

Syntex Uruguay S.A.  
Zabala 1542 Esc. 45. 11000- Montevideo - Uruguay  
Tel. (+598) 291 60160

**In November 2014, an investigator of For the Animals (FTA) visited the estancia “Loma Azul”** and both gates were open at that time. He first **spoke to Reynaldo Bonino**, veterinarian and manager of the farm, who **that all the foals are born and no abortions take place**. He further said that they keep the female foals and sell the male ones. He added that the mares are worth a lot of money and they would not let them die. Dr. Bonino confirmed that they extract PMSG from the blood of pregnant mares, which is used for livestock breeding. He further said that they only take blood during the early stages of pregnancy to not harm the foals.

However, an **employee of Syntex**, who later took the investigator back to the road in the car, **said that the foals are aborted very early when they have not yet reached the stage of a foetus**.<sup>11</sup> If the unborn foal is already too big, it would not be aborted and the mare would be sent to a pasture until ready to give birth.

### **Estancia “La Paloma” of Roberto Mailhos**

#### **Address:**

Near Capurro  
Departemento San José, Uruguay

#### **Observations:**

Investigators arrived at the gate with the inscription “La Paloma”, which was open. Near the gate, there was a loading ramp and some empty holding pens. There were large pastures with horses on the left and right of the access road and **several mares seemed to be pregnant**. The estancia was located at the end of the road, approx. 2 Miles from the gate. The farm consists of several buildings and barns.



*Entrance gate of the estancia “La Paloma”*

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<sup>11</sup> The conversation was recorded.



*Vast pastures with horses used for PMSG production*

The **custodian of “La Paloma”** informed investigators that he was **not authorised to give any information** and referred them to the owner Roberto Mailhos. He claimed that they would **take only a very little amount of blood at this location to send it to the laboratory in Montevideo for analysis in order to determine if it contains the hormone**. He further stated that the estancia covers **1'300 ha** and that there were only 80 to 90 horses. However, this number seemed very unrealistic since investigators already saw at least 200 horses since passing the gate.

A reliable, confidential source shared the information that the **estancia “La Paloma” sold 332 horses to kill buyer Ruben Bardanca in 2014. Bardanca sold 50% of these horses to Clay and the rest to the other two slaughter plants.**

#### **Interview with Dr. Homero Cabanas, President of the National Animal Welfare Committee**

Investigators conducted an interview with Dr. Cabanas, the President of the **national animal welfare committee CONAHOBA (Comisión Nacional Honoraria de Bienestar Animal)**<sup>12</sup> to inquire about animal welfare in the areas of horsemeat production and PMSG industry.

Dr. Cabanas stated that the welfare of farm animals, including the mares used for PMSG production, is actually not the responsibility of the CONAHOBA, but of the Ministry of Livestock, Agriculture and Fisheries (MGAP). Regarding the production of PMSG, he thought that there is a legal grey area. **In his opinion, the foreign pharmaceutical companies take advantage of the fact that in some developing countries there are no laws regulating the production of PMSG and consequently no controls.**

<sup>12</sup> <http://www.mec.gub.uy/innovaportal/v/55767/2/mecweb/acerca-de?3colid=55686&breadid=55680>

Dr. Cabanas explained that there is no law that protects the mares used for PMSG production, but that there are international guidelines that prescribe how much blood can be taken from a mare and how long the periods between the blood taking sessions have to be so that her life or that of the future foal is not compromised. However, he didn't know the specific provisions of these guidelines or if they applied to Uruguay.

Speaking as a veterinarian, Dr. Cabanas said that **if too much blood is taken from a mare and too often, it could happen that the mare becomes anaemic or suffers a miscarriage.** Moreover, taking a lot of blood over a long period of time could result in a **weakened immune system.**

Dr. Cabanas assumed that the mares were used for PMSG production as long as they were getting pregnant, and that they were **most probably sent to slaughter when they are not fertile anymore.**



### **Interview with Enrique Quintans, owner of the estancia "Don Ramon"**

**Address:**

Ruta 8  
Cda. Solis  
Departamento Lavalleja, Uruguay

Investigators also conducted an interview with **Enrique Quintans, who rented a stable to the veterinarians Fernando Perdigón and Gabriel Maruri for 14 years for the production of PMSG.** He admitted it was a very good business for him, as he was **paid 2'500 USD per month.**

The mares were not kept at Quintans' farm, but on land that the veterinarians rented in a forest nearby, and were brought to the farm only for the blood collection. Their blood was taken and centrifuged in Quintans' stable and the plasma was exported to Europe.

In December of 2014, the veterinarians moved their business to another location. Quintans explained that always a group of approx. 60 mares were brought to the farm and their blood was taken for approx. one month. During that time, they became very thin and weak, which is when the veterinarians exchanged the mares for another group of 60 mares.

They kept 300 to 400 mares on the rented land in the forest and approx. 60 at the estancia “Don Ramon”. They also had 12 stallions. The mares were kept with the stallions until they got pregnant, then they were brought to the farm for the blood collection and the foals were aborted. It happened sometimes that a foal was born, but only on rare occasions.

He further explained that the veterinarians **took so much blood from the mares that some of them collapsed and died after coming out of the stable**. He said that people saw this, because the estancia is located on a main road, and complained to the local authorities. When the forest owners saw the dead mares on their property, they terminated the lease contract because they wanted to have nothing to do with it. As the veterinarians could no longer rent the forest, they moved their business to another area, where they continue taking blood and sending it to Europe. Their establishment is approved by the Ministry to produce PMSG and export it to Europe. They were not prohibited to operate. Quintans stated that this was a **very profitable business**.

He explained that the veterinarians used the mares for the production of PMSG as long as it was possible. **The mares endured pregnancy after pregnancy and the foals were aborted. The mares were very thin and in a bad condition.** In between pregnancies, they were sent to different pastures so they could regenerate. **When the mares did not get pregnant anymore, they sold them to the slaughterhouses, one of them being the Clay horse slaughter plant.** Quintans said that Clay slaughters a lot of mares coming from this industry.



*Interview with Enrique Quintans at the estancia “Don Ramon”*

Quintans showed investigators the loading ramp and the holding pens where the mares were kept before and after the blood collection. He had to repair the gate and parts of the fence, because mares had tried to jump over and broke it. **There were two chutes along the walls where the blood was taken**, each of them with space for five mares. This means that they could take blood from ten mares at the same time. Quintans said that he was now repairing the walls because the **mares used to kick a lot and damage the walls**. He even had to change the tin roof because a mare had jumped up and made a bump.



*Damaged wall being repaired*



*Chute where blood was taken*

**Blood was taken twice a week and always during the night.** Quintans was told that it was colder at night and the blood remained in a better condition. A small truck picked up the plasma and brought it to the cold store of a slaughterhouse in Montevideo.

Quintans said that the **company run by Perdigón and Maruri was called “Las Marquesas”<sup>13</sup>**. He also was familiar with Roberto Mailhos and stated that Mailhos is the biggest producer of PMSG in Uruguay and has approx. 3000 mares.

The Uruguayan welfare organisation **For the Animals (FTA)** visited the stable when it was still being used. Their footage shows that there were five individual stalls in each chute, separated by wooden dividers, so **ten horses could be processed at the same time**. In each stall, there was a halter to restrain the horses. **Drain tubes and empty blood bags of 7 litres** were kept next to the chutes.

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<sup>13</sup> This is an EU approved facility for the collection or handling of animal by-products, see [https://webgate.ec.europa.eu/sanco/traces/output/UY/ABP-COL\\_UY\\_en.pdf](https://webgate.ec.europa.eu/sanco/traces/output/UY/ABP-COL_UY_en.pdf)



*Chute with wooden dividers and halters to restrain the horses (FTA, 2014)*



*Drain tubes and 7 litres blood bags (FTA, 2014)*

After the interview with Enrique Quintans, investigators drove to the area that Perdigón and Maruri had been renting before they had to leave because the lease contract was terminated. The area consists of large forests and fields. **For the Animals (FTA) had found a dead mare** there in 2014. Scavengers had already eaten parts of the carcass, but it appeared as if the mare had suffered a miscarriage. She had to be down struggling for quite some time judging by the trenches in the ground, which confirms that **mares used for PMSG production die in the pastures without human intervention.**

When the investigators visited the area, **there were still several horse skulls and numerous horse bones** visible. The bones of the dead mare have been removed by scavengers and were found scattered all over the place.



*Mare that was left to die (FTA, September 2014)*



*Bones*

**Estancia “Las Marquesas” of Fernando Perdigón**

**Address:**

Near Ruta 60  
Departamento Maldonado, Uruguay

**Observations:**

The farm is located in a very remote area. Several horses were visible inside the forests and on large fields. The estancia consists of approx. five buildings; three of them are residential homes. One **building without windows was under video surveillance**, likely the stable where the blood is taken. Behind the buildings, there were a **loading ramp and holding pens visible**, which were empty.

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*Estancia "Las Marquesas"*



*Loading ramp and pens*

Enrique Riveron, the custodian of the estancia, informed the investigators that he is not authorised to answer any questions and referred them to the owner of the estancia, Fernando Perdigón. He claimed that there were 200 horses on the farm.

Since the owner was no available, investigators left the farm and checked the condition of the mares in the surrounding fields. **Many of them were very thin, some even emaciated. They moved very slowly and appeared weak. Two mares are lying flat on the ground, without moving.** Vultures were spotted above the fields and the forests. Several mares were pregnant. No foals were visible.



*Horses grazing at the edge of the forest*



*Exhausted mare lying down without moving*



*Mare that seems to be pregnant and emaciated mare*



*Thin mares with bones clearly showing*

Two mares with a red spot on their necks close to the jugular vein were visible, likely a **result from the blood collection.**

A few mares have **tags with numbers around their neck.** Other mares have **large numbers branded on their left hindquarters.** However, there were a lot of mares without the mandatory brand mark.



*Possible spots from blood extraction*



*Mare with tag around her neck*

*Mare with number on her left hindquarters*

**In September of 2014, For the Animals (FTA) talked to Fernando Perdigón, who is a veterinarian and university professor<sup>14</sup>. They received the following information:**

- The hormone that is extracted from the blood of pregnant mares is used to improve livestock breeding.
- The production is regulated by the Ministry of Livestock, Agriculture and Fisheries (MGAP)
- This industry has been carried out **in Uruguay for 30 years**.
- In Uruguay, **thousands or even ten thousands of mares** are involved in this industry.

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<sup>14</sup> The conversation was recorded.

- **The process of the PMSG production is a trade secret**, which he is not willing to reveal. In short, mares are impregnated and then their blood is taken, the plasma extracted, deep-frozen and exported to Europe.
- The period in which blood can be taken is very limited.
- **Their mares have to be pregnant, otherwise they are worthless.**
- At the farms, every death is a loss. The producers are therefore interested that the animals survive the process.
- In the stable, there are separate areas for blood extraction, blood processing and deep freezing of the plasma.



*Interview with Fernando Perdigón (FTA, September 2014)*

### **Interview with Dr. Sienna and Dr. Armstrong, Ministry of Livestock, Agriculture and Fisheries**

Dr. Med. Vet. Ricardo Sienna is the Director of the Technical Group for Animal Welfare of the MGAP (Ministry of Livestock, Agriculture and Fisheries), and his colleague Dr. Jorge Armstrong is the deputy director of the Animal Industry Division of the MGAP. The investigators conducted an interview to inquire about animal welfare in the PMSG industry.

Dr. Sienna and Dr. Armstrong did not know the exact number of establishments or companies involved in the production of PMSG, but they guessed that there were not more than six. They stated that all the blood serum is exported, mainly to the EU, but they could not name any countries. The monitoring of this activity would be the responsibility of the Animal Health Division of the MGAP; however, there are no specific regulations **to protect the mares used for PMSG production**. Uruguay has an animal welfare law, but it just addresses general concerns and does not include any provisions for such a specific subject.

Dr. Armstrong explained that Uruguay is regularly audited by the FVO regarding animal welfare during slaughter but never regarding the extraction of blood from pregnant mares. Moreover, **Uruguay has never been asked any questions about animal welfare when exporting PMSG to the EU.**

Dr. Sienna admitted that there were **no regular inspections of the establishments producing PMSG** because there had been no reason so far. There had never been a complaint about animal abuse, which would have led to an official inspection.



*Interview with Dr. Sienna (l.) and Dr. Armstrong (r.)*

### **Estancia “Sarandí” of Roberto Mailhos**

#### **Observations:**

The Estancia “Sarandí” in the Departamento Lavalleja consists of several buildings, a loading ramp, and extensive pastures. The pens were empty during the time of the observations, but horse manure was visible. In the distance, a group of horses was grazing in one of the large fields.

The custodian informed investigators that the farm belonged to Roberto Mailhos, but that no blood was taken there. The laboratory of Mailhos would be at the estancia “La Paloma”. The mares would be kept at this location strictly for breeding purposes and were being sent to “La Paloma” for the blood collection.

He stated that they were also breeding Criollos (Uruguay’s native horse) at the farm and that they had approx. 90 breeding mares. The Criollos are exported to Germany by plane. It is likely that Criollos mares which cannot be sold as riding, working or breeding horses end up in the PMSG production.



*Estancia "Sarandí" of Roberto Mailhos*

This establishment is registered as "Estancia Sarandí Sociedad Civil", which is part of the company "Sociedad Roberto Mailhos y Ignacio Moixe". According to a reliable, confidential source **Mailhos keeps 924 horses at this estancia, of which 601 are adult mares.**

#### **Interview with a former employee of the estancia "La Paloma" of Roberto Mailhos**

For the Animals (FTA) interviewed Mr Gularte, who **worked for 15 years on the estancia "La Paloma" and is now retired.**<sup>15</sup> He was responsible for maintaining the fencing, but also had to carry out other tasks, including blood collection.

According to Mr Gularte, the company starts taking **blood from a mare during the 42nd or 43rd day of her pregnancy.** At first, a small amount of blood is taken and analysed in the laboratory in order to verify if it is suitable. If the analysis produces a positive result, **blood is taken every five days.** Mr Gularte explained that the amount of blood taken from a mare depends on her physical condition and how much she can bear. The **maximal amount taken in one session is 10-12 litres.** He stated that the mares used have on average a total blood volume of 40 litres.

Mr. Gularte said that **100-150 mares were processed each day.** The blood was taken at night or in the early morning due to cooler temperatures. After the blood was collected, it was centrifuged by a machine separating the white from the red cells. The red cells were discarded. Every day, a truck picked up the plasma after the blood collection and brought it to a refrigeration plant, where it was deep-frozen. When a container was full, **it was shipped to Holland.** According to Mr. Gularte, the containers were from Holland.

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<sup>15</sup> The conversation was recorded.

Some **foals were aborted, while other mares carried them to full term**. Roberto Mailhos, had pastures throughout the country, where the mares were being sent to give birth. The company **kept the female foals and sold the stallions**, which are of no use.

Mr Gularte explained that if a mare became too weak during the blood extraction period, a miscarriage was induced and she was sent to a pasture for recovery. **The abortion was carried out by destroying the amniotic sac that surrounds the embryo with bare hands**. After a short while, the mare aborted the foetus. **Sometimes the shape of a horse was already recognizable**.

Mr Gularte did not know how many foals were aborted, but he said that it happens frequently, since **3,000 mares were kept at the estancia "La Paloma"**. According to Mr Gularte, the blood was taken **from October until June**.

## **Conclusion:**

The investigation in the United States, Argentina and Uruguay revealed several areas of concern:

- There are no regulations or animal protection laws in place specifically dealing with horses being kept for the sole purpose of blood extraction. Additionally, there are no laws in place regulating the amount of blood that can legally be taken from a horse to ensure that the animal will not suffer significant health risks during the process.
- There are no regular inspections conducted by governmental entities to check the conditions for these animals at the blood farms.
- In Argentina, undercover footage obtained at the Syntex blood farm, showed the violent & cruel handling of mares during the blood extraction. The mares were beaten with wooden boards and sticks and workers used the electric prods excessively. A mare struggling after the blood extraction did not receive any help or care.
- Mares that are currently not in the extraction cycle are left to their own devices in vast fields and eucalyptus forests. Miscarriages, diseases and injuries are often not detected and the mares die without human intervention.
- Eyewitnesses report that the foals are often aborted and that some mares die as a result of the blood extraction. The surviving mares, both in Argentina and Uruguay, end up at EU certified slaughter plants and their meat is exported to the European Union for human consumption.