



Dourine (*T. equiperdum*) and surra (*T. evansi*) serologic surveillance in Argentina during 2019, 2020, 2021 and 2022

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Clinica Equina´s lab work and its relationship with the horse exportation

- ▶ It is a private laboratory, authorized to issue officially valid certificates for dourine, surra, glanders, E.I.A. and piroplasmosis.
- ▶ Arround 3.000 argentinian horses are exported every year, and most of them are processed in our laboratory.

Countries that import argentinian horses that require CF negative tests to dourine

- ▶ USA
- ▶ EU countries
- ▶ United Kingdom
- ▶ Canada
- ▶ United Arab Emirates
- ▶ Singapur
- ▶ India
- ▶ Thailandia
- ▶ Pakistan
- ▶ República Dominicana
- ▶ Colombia



Epidemiological status of dourine in Argentina

Argentina is officially free of dourine, and none of these reactors showed clinical symptoms



Dourine CF tests performed pre-exportation on 2019, 2020, 2021, until march 2022

Year	NEGATIVE	Suspicious : 1+ - 2+ -3+	POSITIVE 4+	AC	Total samples
2019	3.276	7	0	2	3.285
2020	2.105	2	0	0	2.107
2021	3.047	1	1	2	3.051
October -22	3.558	2	0	0	3.560
Totals	11.986	12 (0,11 %)	1 (0,01%)	4	12.003

Dourine surveillance in Argentina



- ▶ Dourine is an exotic disease in Argentina.
- ▶ It has never been documented a dourine clinical case, which may include: local oedema of the genitalia and mammary glands , incoordination and unilateral facial and lip paralysis, progressive weight loss and emaciation, weakness, paraplegia, raised, oedematous or cutaneous urticarial skin plaques ("silver dollar plaques"), 5–8 cm in diameter and 1 cm thick o plaques usually appear over the ribs.
- ▶ It has never been documented a dourine case in an exported argentinian horse in the last 38 years.

Dourine surveillance in Argentina



- ▶ All the serology control is done in horses to be exported.
- ▶ 85 % of them are Polo Pony Horses.
- ▶ The rest are Thoroughbred, Endurance, Arabian and Jump horses
- ▶ The reagents for the dourine CF test are obtained from the National Veterinary Services Laboratories – USDA.



Surra surveillance (*T. evansi*) in Argentina

- ▶ Surra is not present in the Pampa Húmeda área, where most of the Thoroughbred, Polo Pony, Arabian and other expensive races are breed.
- ▶ Nevertheless, the disease is highly endemic in the North of the country, above the parallel 30.



Geographic distribution of surra in Argentina



Surra is just endemic in the North and North East of the country

Transmission vectors of surra in Argentina



Tabanus



Stomoxys



Desmodus rotundus

Wild hosts and reservoirs of the *Trypanosma evansi* (Surra or Mal de Caderas)



Carpincho or capibara



Coati



Ciervo de los pantanos



Howler Monkey

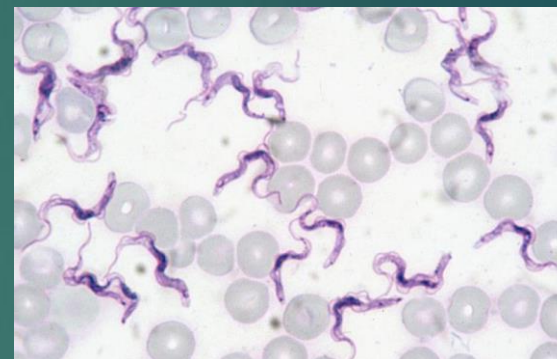
Horses with clinical signs of surra, in El Chaco Province

“Serological evidence of equine infectious anaemia, West Nile fever, surra and equine piroplasmosis in a herd of horses in northern Argentina “, Hebert L. et al 2021



Surra (*T. evansi*) surveillance in Argentina: countries that import argentinian horses and require negative serologic tests to surra

- ▶ Singapur
- ▶ Thailandia



Serology test used: VSG-ELISA with Ro Tat 1.2 antigen from the
Institute of Tropical Medicine - Belgium



Comparative properties of the ELISA test and the CATT/T for surra (based on the literature review)

Properties	ELISA enzyme-linked immunosorbent assay	CATT/T (agglutination test)
Antigen (ITM, Belgium)	Ro Tat 1.2 VSG	Ro Tat 1.2 VSG
Sensitivity	+++	++
Specificity	+++	++
Simplicity and cost	++	+++
Clinical case confirmation	+++	+++
To detect a population free from infection	+++	++
To detect an individual animal free of infection	+++	++
Prevalence determination	+++	++
Negative/Positive Predictive value	+++ / ++	++ / +++



Epidemiological status of surra in Argentina: ELISA tests of horses to be exported (2018 to 2022), from a surra free area (Buenos Aires Province)

Surra ELISA tests performed on 2019, 2020, 2021, until September 2022				
Year	NEGATIVE	Suspicious	POSITIVE	Total samples
2018	134	0	0	134
2019	94	0	1	96
2020	167	0	1	168
2021	122	0	2	124
2022 (27/9)	160	3	2	165
Totals	677	3 (0,4 %)	8 (1,1%)	688



Epidemiological status of surra in Argentina:

ELISA tests of normal Thoroughbred mares and Polo Pony horses (2022), from a surra free area (Buenos Aires Province. This is part of a big surveillance project of 700 horses to be completed in 2023)

Year	NEGATIVE	Suspicious	POSITIVE	Total samples
2022	199	0	1 (0,5 %)	200



Epidemiological status of surra in Argentina: ELISA tests of horses from endemic areas, North of Argentina

Surra ELISA tests performed in horses from endemic areas						
Year	Province	Test	NEGATIVE	Suspicious	POSITIVE	Total samples
2019	Chaco	Trypanolisis	9	0	10	19
2019	Chaco	ELISA	8	3	40	51
2021	Corrientes	ELISA	3	0	9	12
Totals	-----	-----	20	3 (0,4 %)	59 (71,9%)	82



Conclusions

- Dourine is an exotic disease in Argentina: it has never been documented a clinical case. Since 1989, it's been detected just a very low % of CFT reactors (0,01 to 0,1 %), which surely are inespecific reactions.
- Surra is not present in the Pampa Humeda área, although we usually detect between 0,4 to 1,1 % of ELISA reactors (most of them with an OD close to the cut off).
- Surra is highly endemic in the North and North West of the country, where it is very common to find horses with clinical signs of the disease: anaemia, parasitaemia, edema plaques, nervous signs, and paresia of the hind limbs.
- Additionally, the seropositivity could be very high (more than 50 %).