

EJACULATION INDUCTION WITH PROSTAGLANDINS

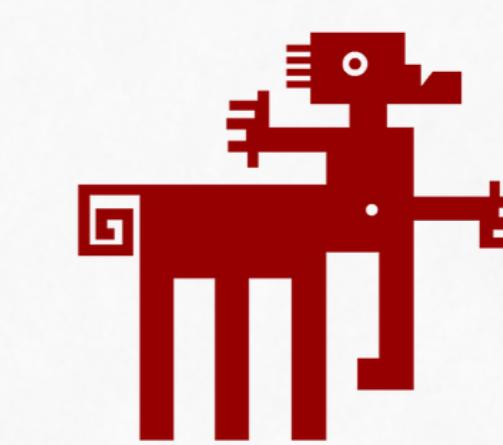


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IN THE DONKEY

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Introduction

Donkeys are territorial animals who don't have herding behavior and whose semen extraction is better with a jenny and peace^{1,2,3}. This extraction can take from 6 to 32 minutes, or even more⁴.

Different methods of chemical induction of ejaculation have not been successful^{2,5}. Prostaglandins have been reported to cause a facilitatory effect on erectile function and ejaculatory behavior⁶.

There's been an increasing demand of products coming from the donkey which makes the improvement of its production a good research inversion.

Results

Table 1. Mean, standard deviation and one-sided t-paired test results

Data	Mean \pm Standard deviation		p-value
	CTRL	PGF	
Nº of mounts	4.125 \pm 1.099	1.437 \pm 0.669	6.047e-13
Inoc-erection Int	16.593 \pm 3.201	6.593 \pm 1.499	< 2.2e-16
FC-erection Int	15.187 \pm 3.276	4.906 \pm 1.653	< 2.2e-16
Nº of erections	1.250 \pm 0.439	1.062 \pm 0.245	0.01577
Inoc-ejaculation Int	18.812 \pm 4.169	8.966 \pm 2.281	1.746e-14
FC-ejaculation Int	17.468 \pm 3.818	7.633 \pm 2.296	4.694e-14
Pre-filtration SV	63 \pm 22.253	51.333 \pm 21.868	0.00000008545
Post-filtration SV	60.875 \pm 21.940	49.766 \pm 22.375	0.00000003081

CTRL: control group / PGF: prostaglandins group / Inoc: inoculation / Int: interval / FC: female contact/ SV: semen volume

- To observe the effect produced by the injection of prostaglandins (PGF_{2α}) to extract semen.
- To compare the data obtained to normal extraction.
- To determine if its application is useful to improve semen extraction.

Material and methods

Sixteen male donkeys of the Catalan, Balearic and Amiata breeds were used for the study. Semen collection was performed 4 times in every donkey: 2 normal extractions and 2 with previous PGF_{2α} injection (1 mL IM of Cloprostenol). Data of the time of inoculation, the start of interaction with the jenny, the first mount without erection and erection, ejaculation and number of mounts with and without copula was taken.

Discussion

The inoculation of prostaglandins is effective in the study, all the parameters are reduced when this is done. The alternative hypothesis can be accepted because the p-value is significant.

The volume of semen decreases but the spermatozoa concentration increases. This can happen because when PGF_{2α} is inoculated, the time of ejaculation is reduced, and the accessory glands can't secrete the normal amount of seminal plasma. Another option is that with less time there's not enough sexual stimulation, and therefore less prolactin and other factors participating in the process, so the volume of semen decreases^{7,8}. The concentration of spermatozoa may increase because of a contraction of the epididymis tail when injecting prostaglandins or because if seminal plasma decreases, it can't produce its detrimental effect on sperm and then there's better conservation⁹.

No side effects such as sweating were observed contrary to other studies¹⁰.

Conclusions

- Injecting prostaglandins seems to be a good method to reduce the time of ejaculation in the donkey.
- This could mean an improvement in the production of semen and proof to be very useful nowadays that the demand of donkey derivate products has increased.

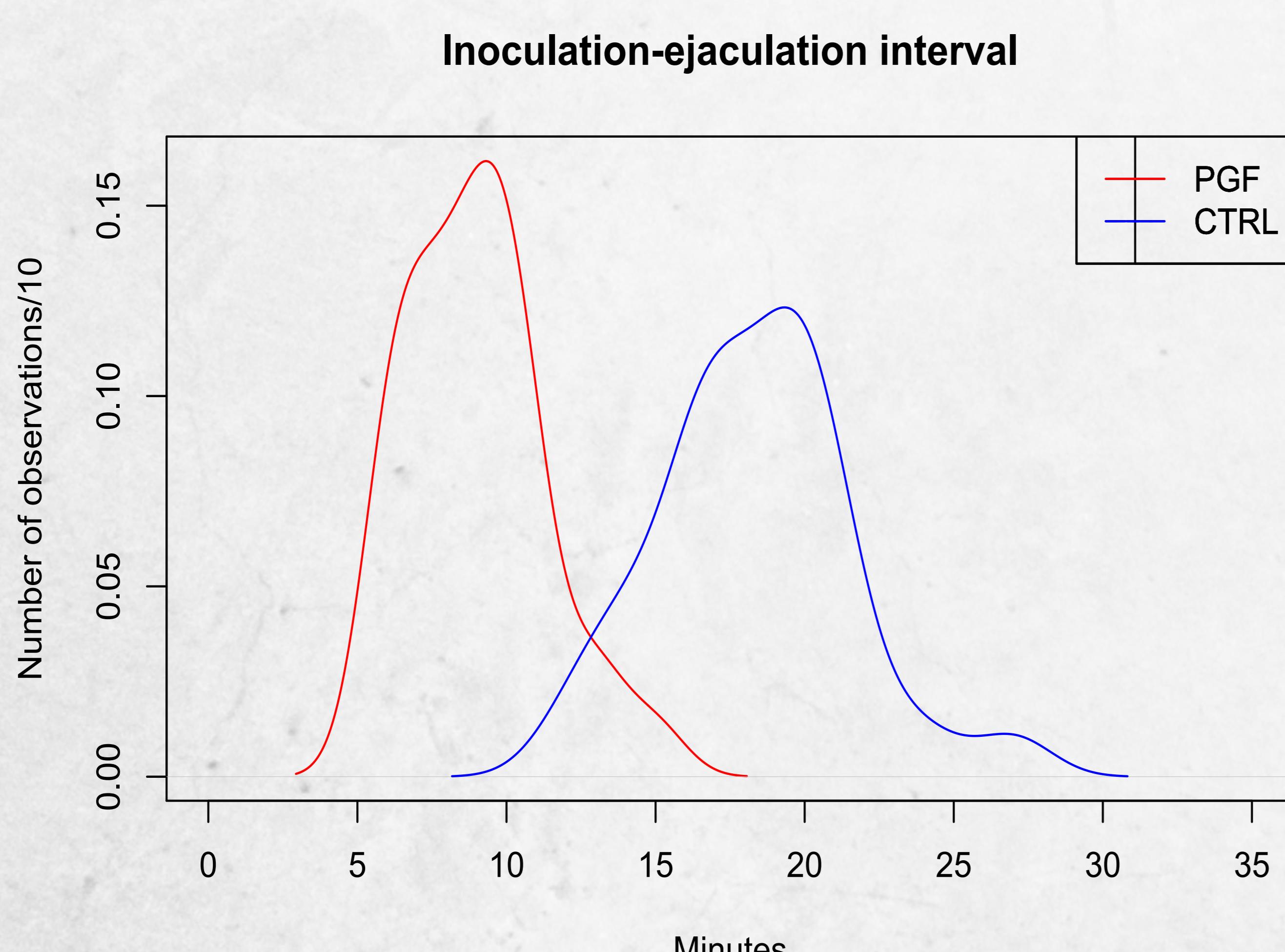


Figure 1. Comparison of density graphs for the variable inoculation-ejaculation interval. Control group (blue) and group treated with PGF (red). (PGF: prostaglandins / CTRL: control)

References

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