



# Effect of GnRH seven days before presynchronization with simultaneous PGF<sub>2</sub> $\alpha$ and GnRH on reproductive outcomes in Holstein dairy cows

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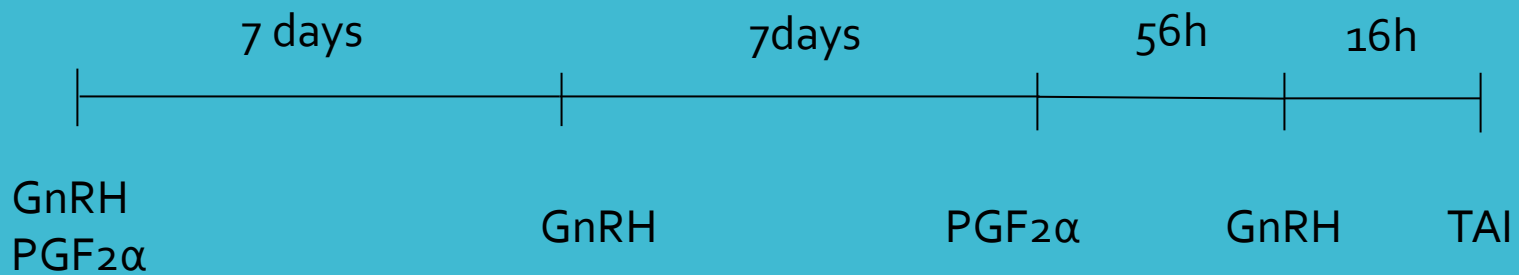
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1. While GnRH seven days before presynchronization with simultaneous PGF<sub>2</sub> $\alpha$  did not increase pregnancies per AI, it did effect ovarian dynamics in this study
2. Future directions based on this study may indicate that a method to reduce the percentage of cows with a functional CL at the time of simultaneous PGF<sub>2</sub> $\alpha$  and GnRH may improve reproductive outcomes

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## Introduction

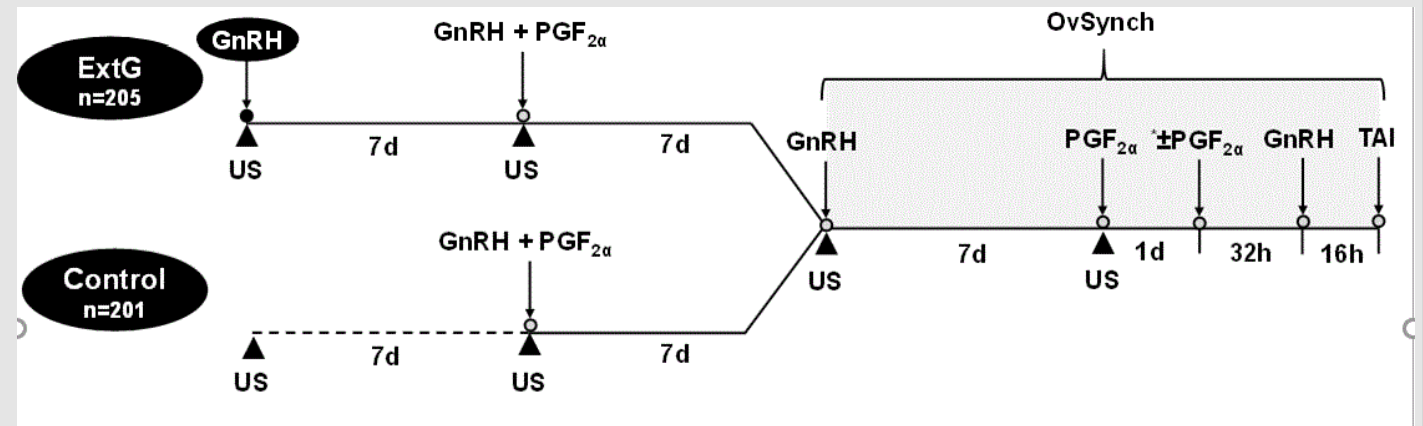
Despite improvements to reproductive outcomes in lactating dairy cattle over the last decade, efficient reproductive performance remains a challenge on many farms. Many recent reproductive protocols require a large labor input and may make some farms reluctant to adopt these practices. Less labor intensive protocols may be beneficial for certain farms.



Martins et al. Journal of Dairy Science, 2017  
Yousef et al. Theriogenology, 2016

## Objective

The objective of this study was to evaluate if an injection of GnRH seven days before simultaneous injections of GnRH and PGF<sub>2α</sub> would improve responsiveness to the GnRH of the simultaneous injections and improve P/AI.



A photograph of a dairy farm with a teal overlay containing text. The background shows a concrete and metal structure, likely a milking parlor, with a cow visible in the distance.

## Materials and Methods

### Animals and Housing

400 cow dairy in Northern Illinois

Enrollment from August 2018 to November 2019

13,400 kg RHA

Freestall Housing

### Ovarian Ultrasound

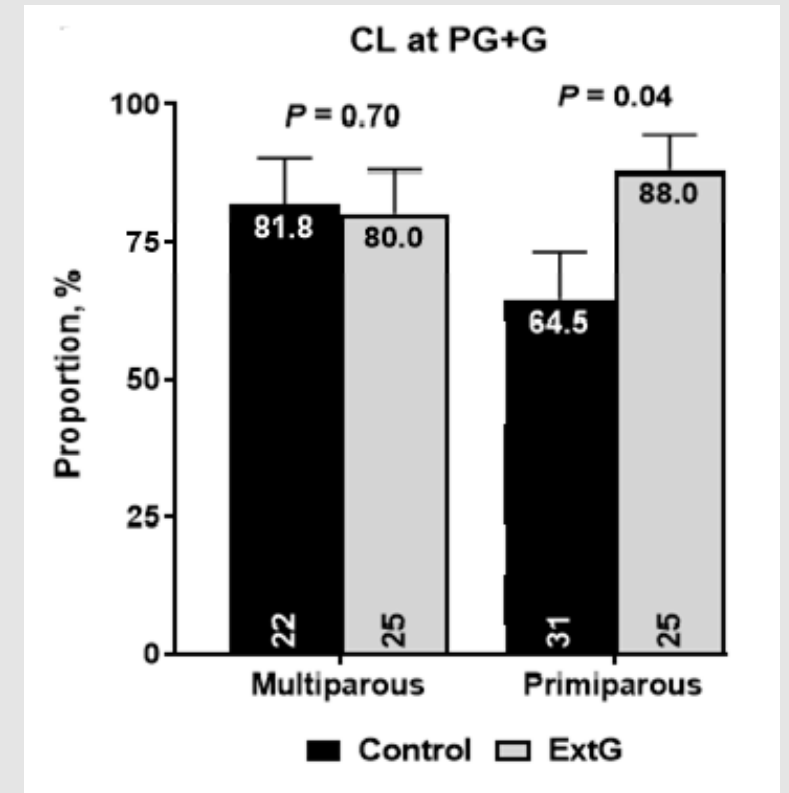
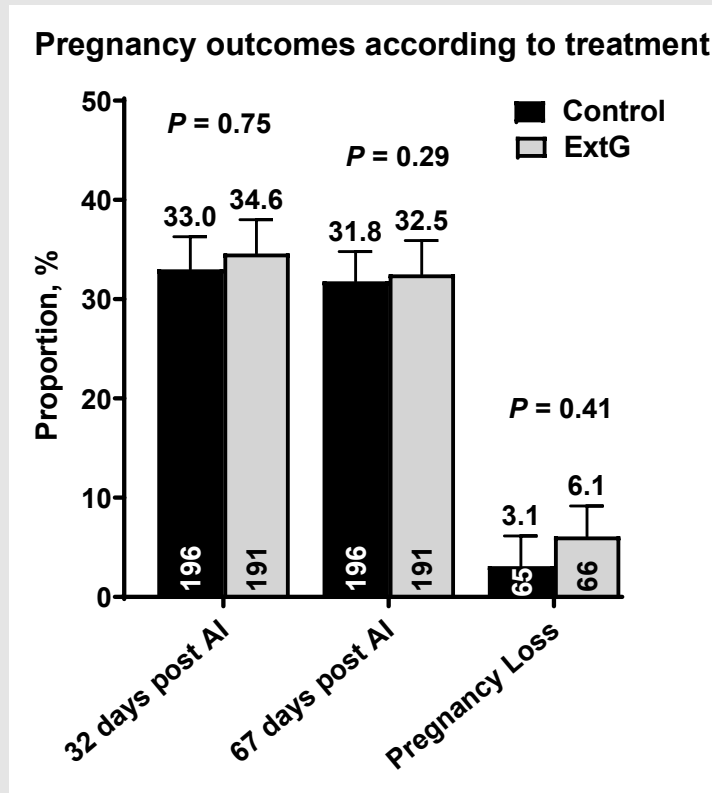
4 ultrasounds throughout study period to document response to treatment

### Statistical Analysis

Performed using LOGISTIC and GLIMMIX procedure of SAS  
v. 9.4

## Results

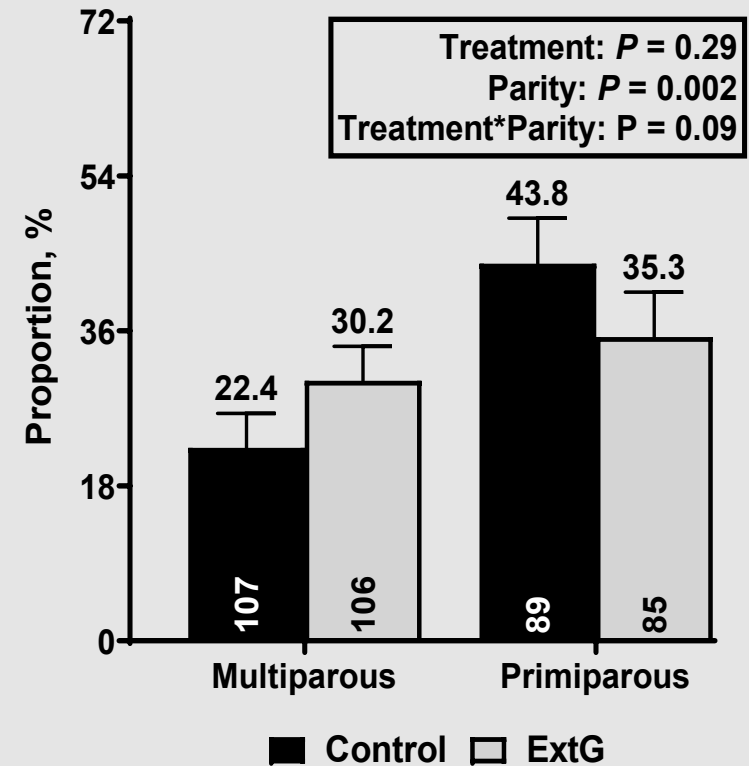
While the additional injection of GnRH did increase the percentage of primiparous cows with a CL at the time of simultaneous injections of GnRH and PGF<sub>2</sub>α it did not increase P/AI at 32 or 67 days post-AI



## Results

Interestingly, there was a treatment by parity tendency which may indicate that the additional primiparous cows with a CL at the time of simultaneous GnRH and PGF<sub>2</sub>α may have negatively affected pregnancy outcomes in primiparous cows.

Pregnancy 67 days post AI according to treatment and parity



## Acknowledgements

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Department of Veterinary Clinical Medicine, University of Illinois

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