

# Using precision technology to detect the onset of digital dermatitis in dairy cows

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## INTRODUCTION

- Digital dermatitis is a common, expensive foot disease that can cause lameness
- Cows with digital dermatitis spend more time lying down than cows with healthy feet
- Cattle with digital dermatitis in a feedlot ruminate less and are more inactive than healthy cattle

Can we use behavior data from activity monitoring devices to detect the onset of digital dermatitis?



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## METHODS

### Hoof health assessments

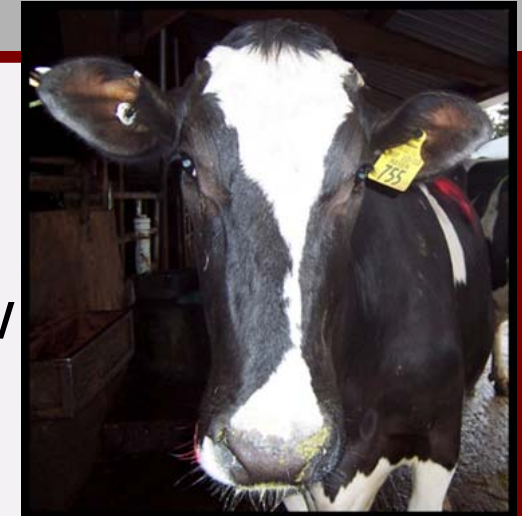
- Daily evaluation of rear feet for all lactating cow
- Lesion presence and status (active vs. regressing)

### Behavior data

- CowManager<sup>®</sup> ear tag recorded each cow's behavior
- Behavior data 1-wk prior to 1-wk post DD detection
- Healthy counterpart for each DD cow (DD = 21; Healthy = 21)

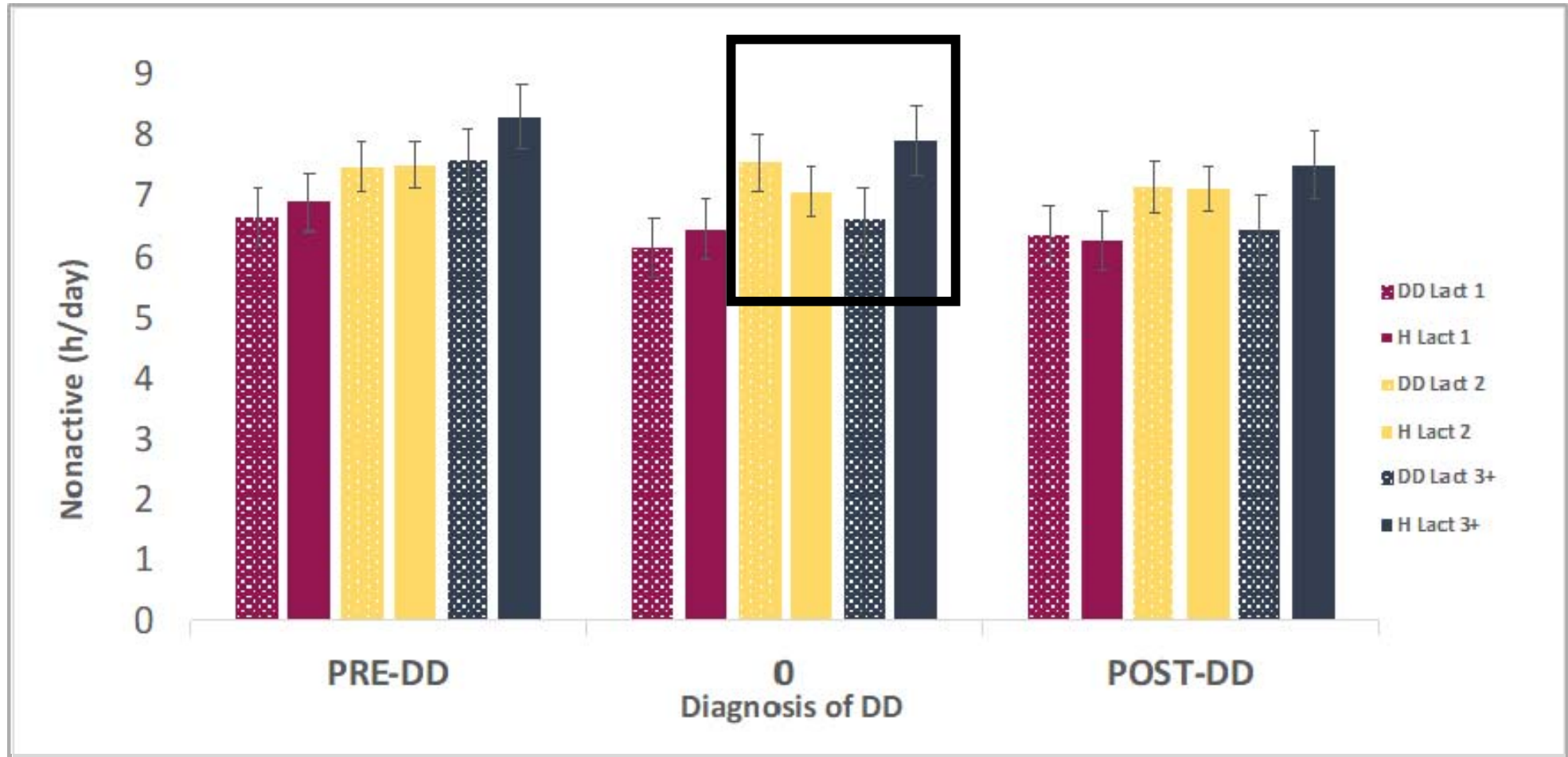
### Statistical analyses

- Day in relation to detection of DD: pre-DD, day 0, post-DD
- Mixed model ANOVA and regression in SAS



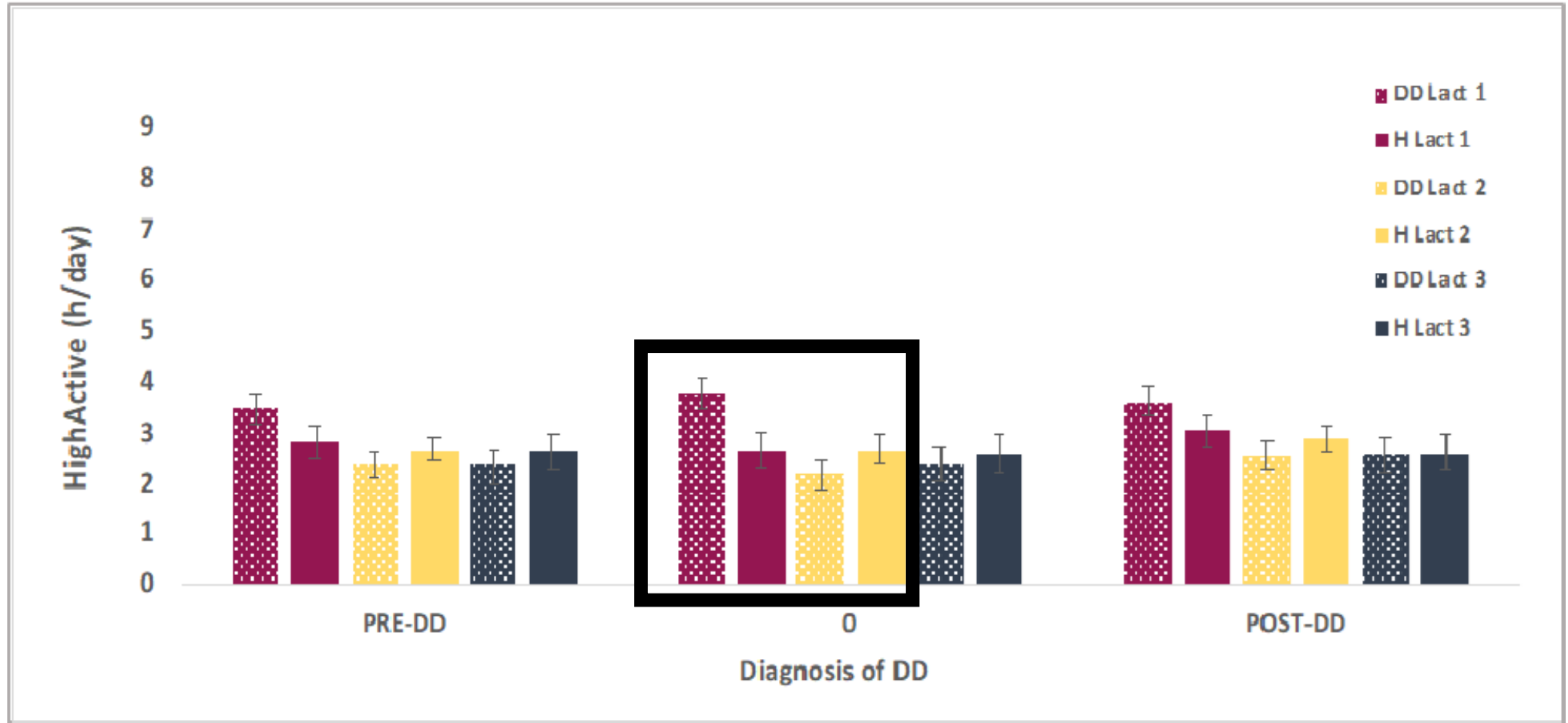
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## RESULTS



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COWS WITH ONE INFECTION AND THREE OF THOSE INFECTIONS (20%)

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## Take-home Messages

- Individuals matter → individual differences
- Effects of lactation number overshadowed DD effects
- How does age affect cow behavior and our interpretations of changes in behavior?



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**THANK YOU!**

