



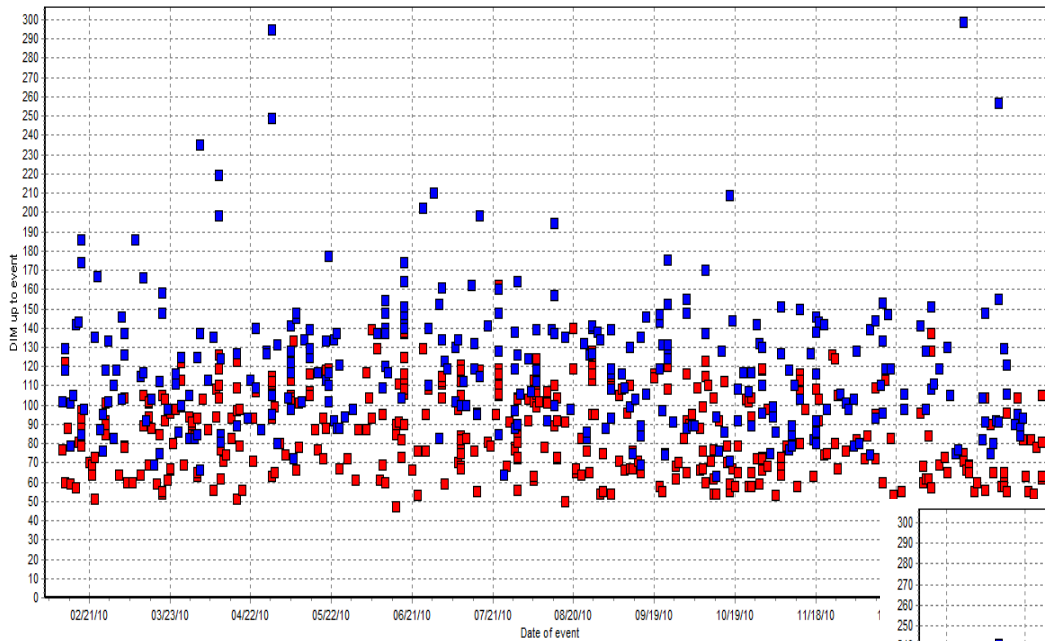
THE UNIVERSITY
of
WISCONSIN
MADISON

Impact of timed AI use on reproductive performance and culling rate in WI dairy herds

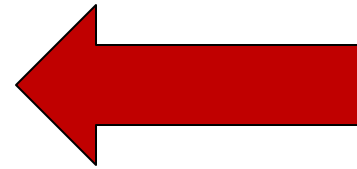
AH Souza*, PD Carvalho, RD Shaver, MC Wiltbank, V Cabrera



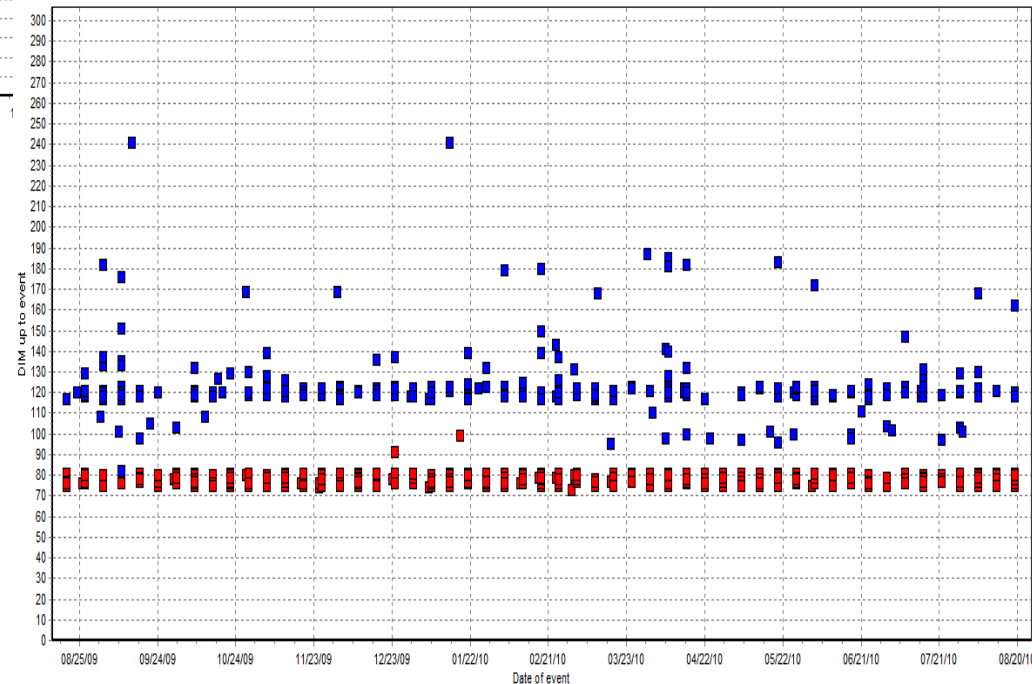
Rationale: impact of timed AI on breeding routine



AI following estrus



AI following Timed AI

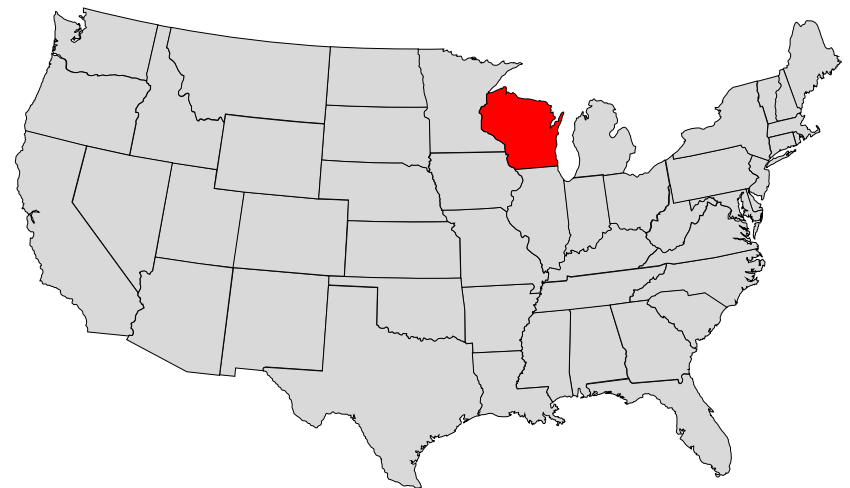


RATIONALE

Timed AI (TAI) have changed reproductive management in most WI herds. However, **information** reporting the **pattern of use of TAI** and its impact at herd level is **lacking**

OBJECTIVE

To examine the use and impact of **TAI** on **reproductive performance** and **culling rates** in dairy herds in Wisconsin-USA



HYPOTHESIS

The hypothesis was that herds using **TAI more intensively** would have improved reproductive performance and lower culling rates in late lactation

(association, not cause-effect)

MATERIAL and METHODS

- DC 305 backups from 200 confined herds were manually collected from 2009 to 2012.
- Only herds with complete breeding records from last 12 months prior to backup date were used.
- Within herd, inseminations associated to TAI were assessed by recorded breeding codes in DC305 and confirmed with respective distribution of breeding codes by day of the week.
- Average lactating cows per herd was 660 (51-7,273) and 305ME production was 12,427kg (9,476-16,112)

MATERIAL and METHODS

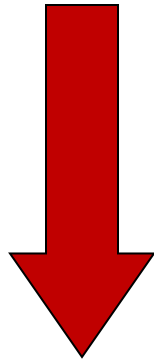
- Herds divided into quartiles of TAI use intensity:

Q1: 0-36%

Q2: 37-55%

Q3: 56-69%

Q4: 67-99%



Q1 = least, to Q4 = most TAI

- SR, CR, PR: bredsum in DC305
- Culling rate: number cows sold + dead over 12 months divided by the average number of cows in the herd during same period
- Late cullings (>330 DIM)

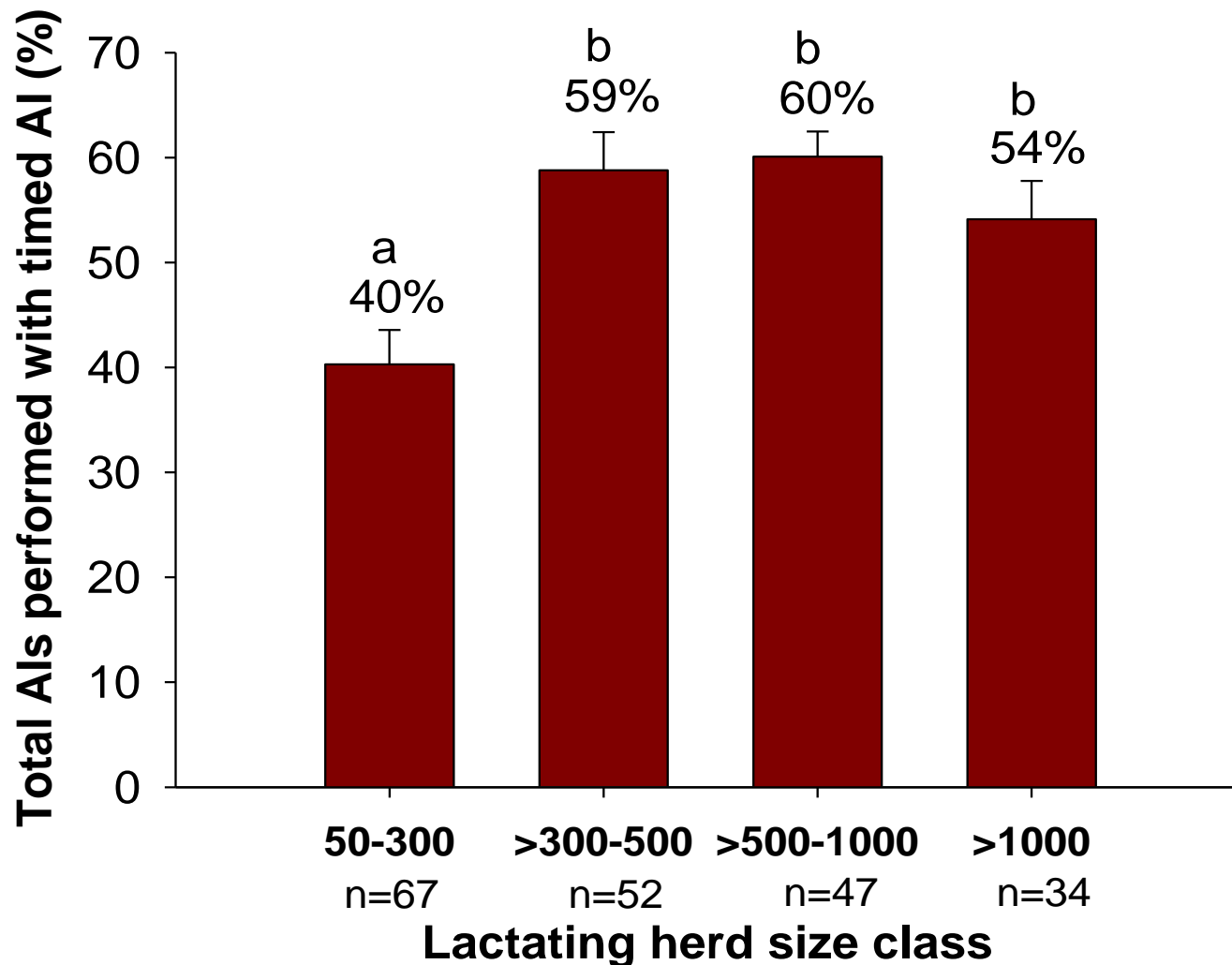


Outline of results

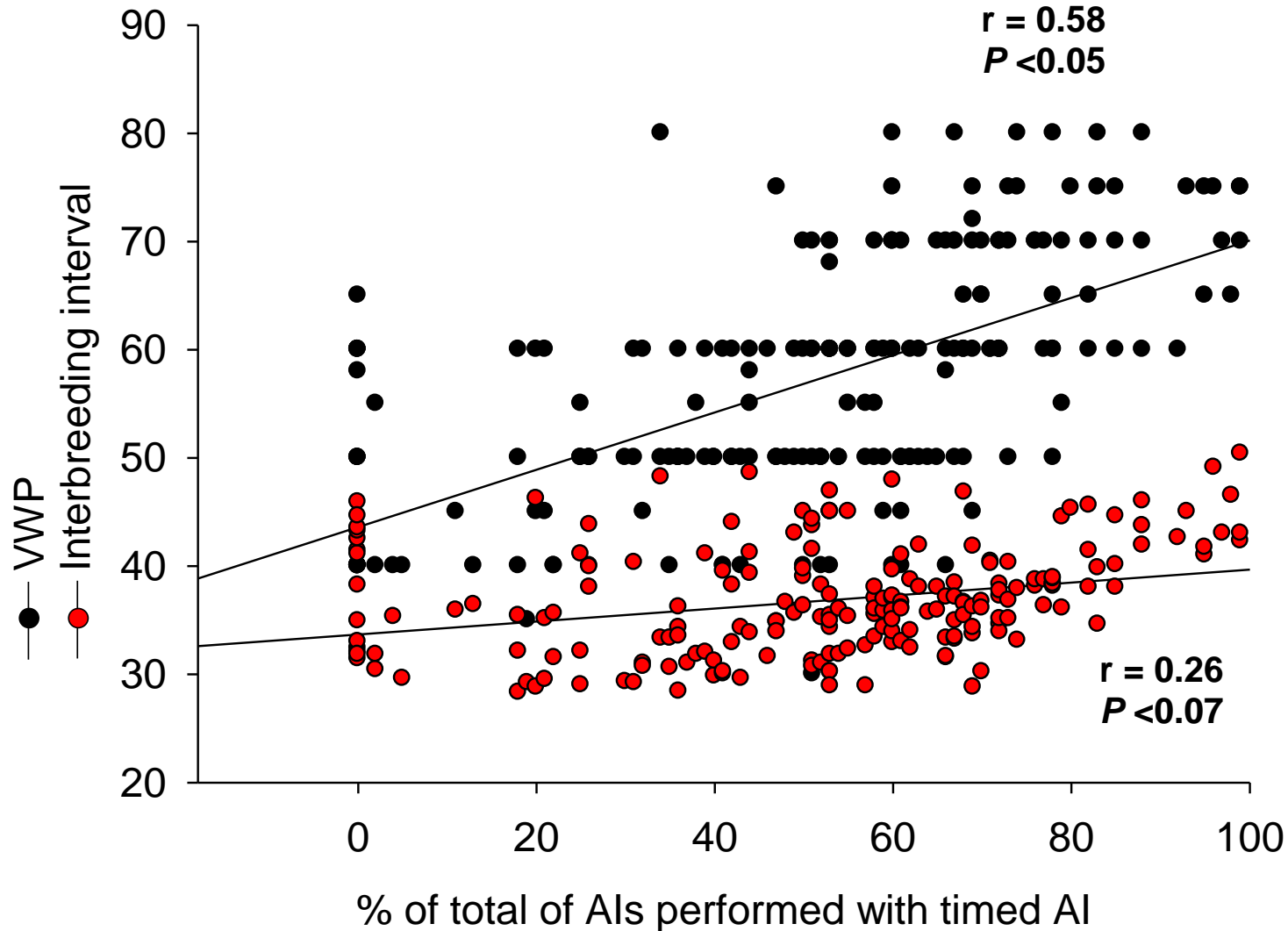
- Use of timed AI – herd level
- Impact of TAI on CR, SR, and PR
- Impact of TAI and PR on cull rate

Results: TAI overall and by herd size

- 91% of herds had $\geq 10\%$ of their AIs associated to TAI
- Across herds averaged 52% of all AIs



Results: TAI and voluntary waiting period and interbreeding interval

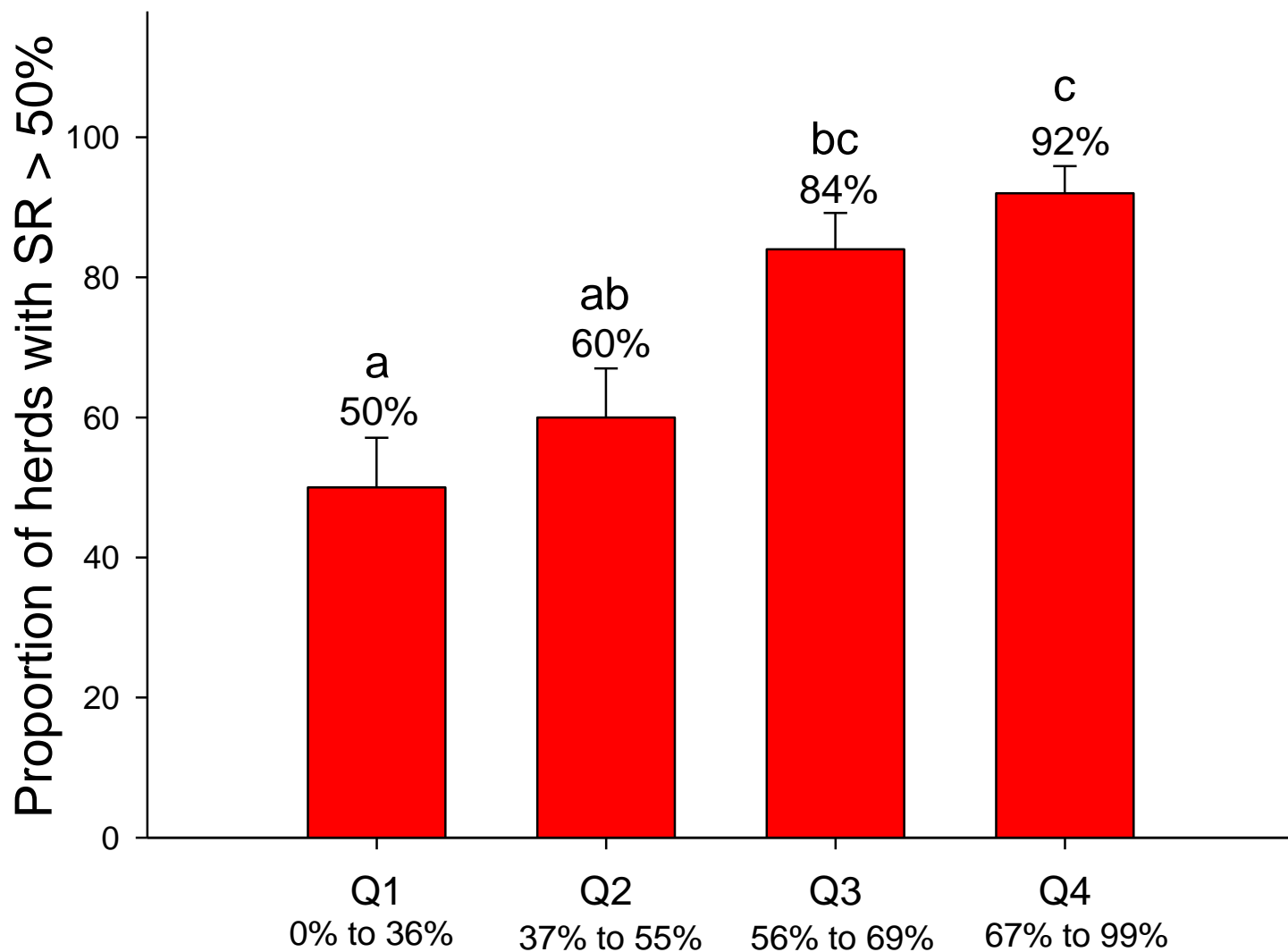




Outline of results

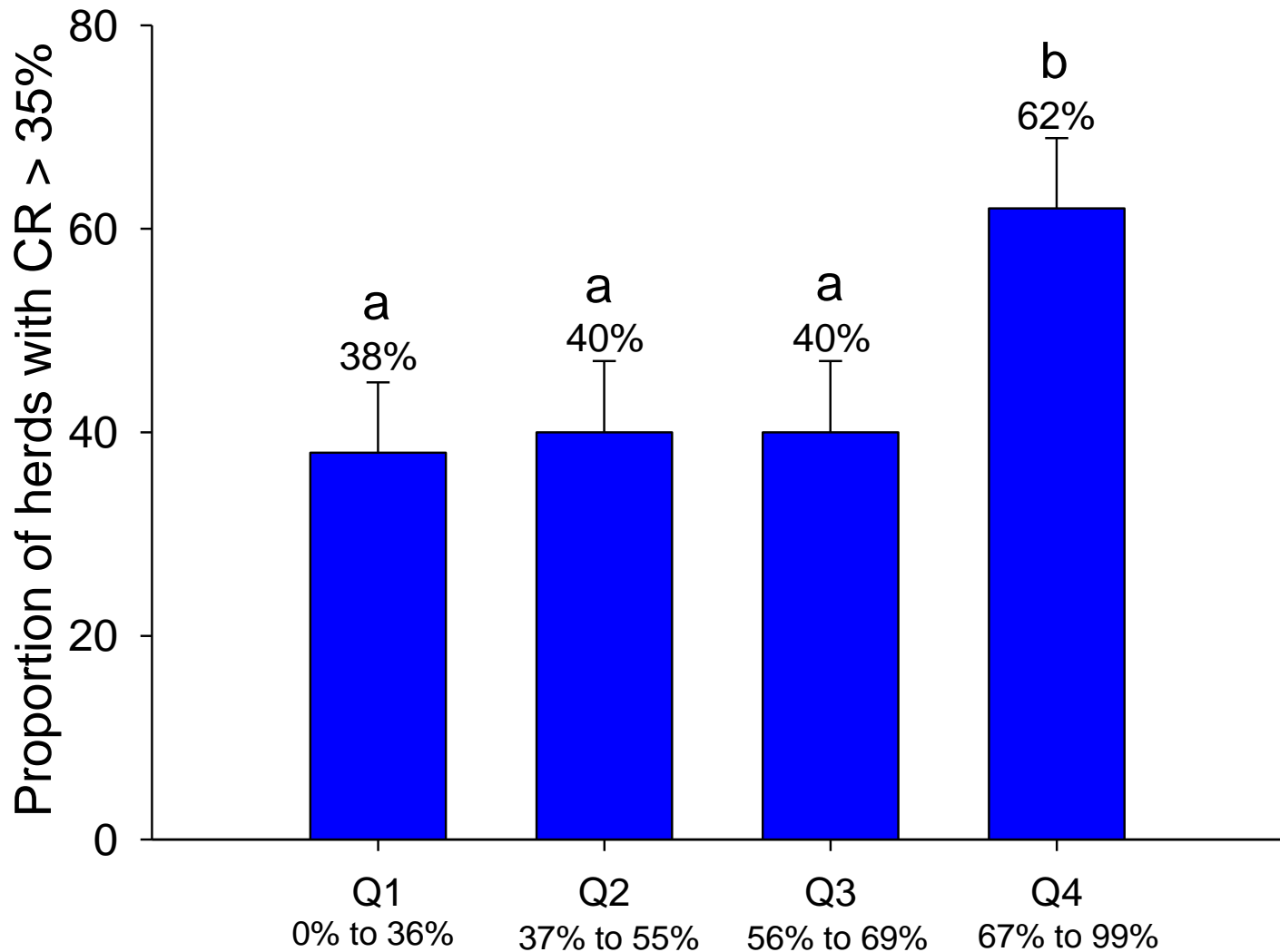
- Use of timed AI – herd level
- Impact of TAI on CR, SR, and PR
- Impact of TAI and PR on cull rate

Results: Timed AI on SR



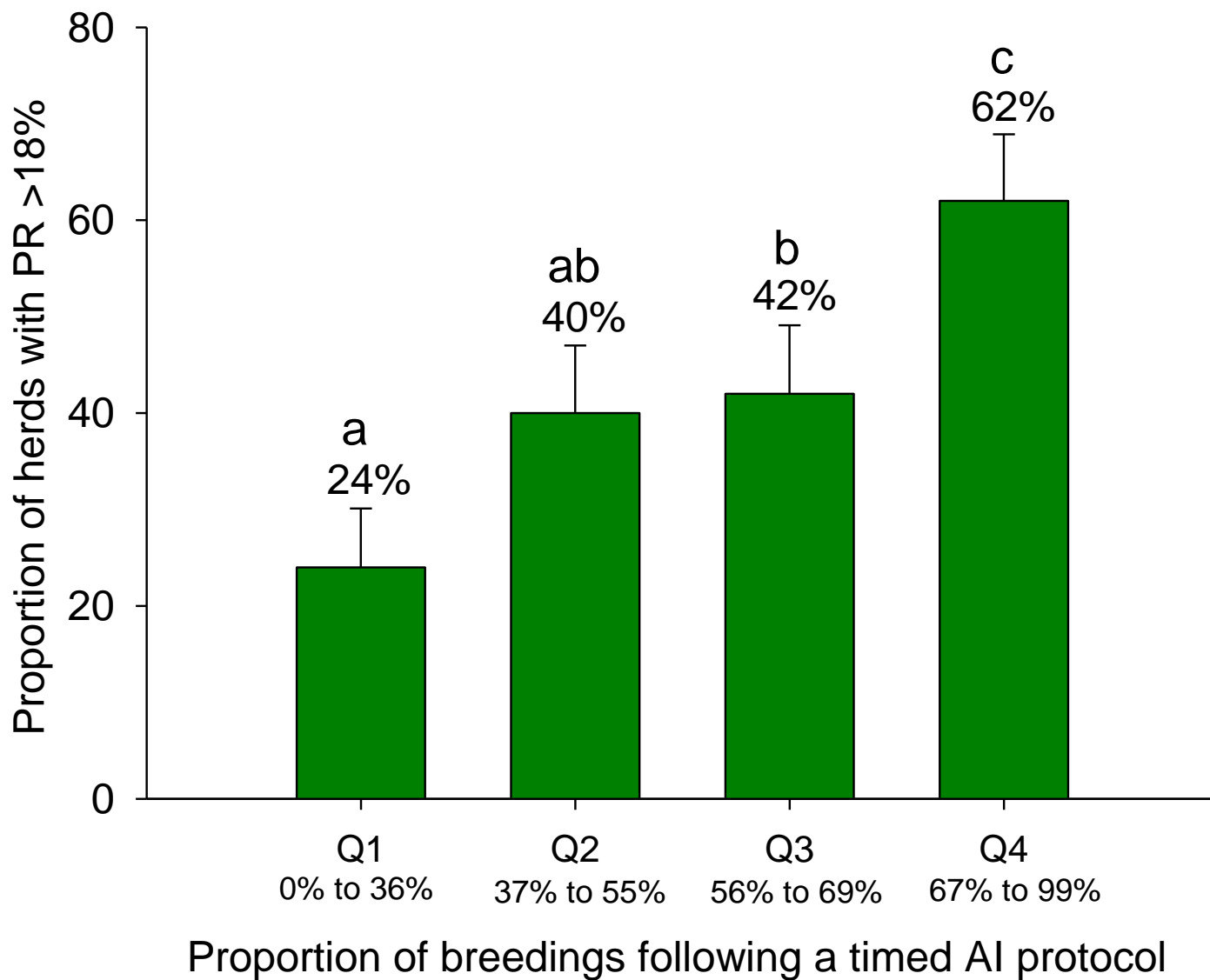
Proportion of breedings following a timed AI protocol

Results: Timed AI on CR



Proportion of breedings following a timed AI protocol

Results: Timed AI on PR

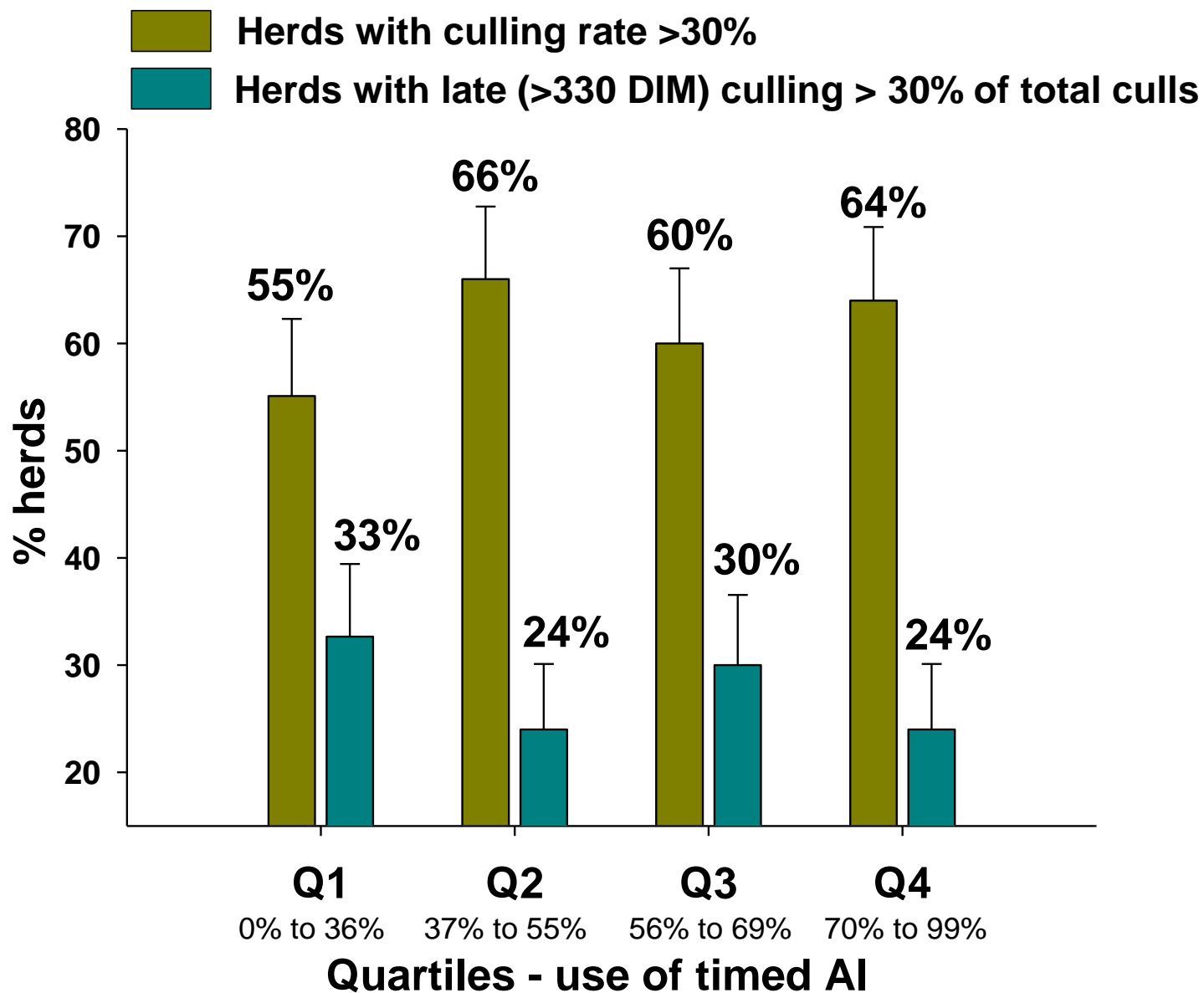




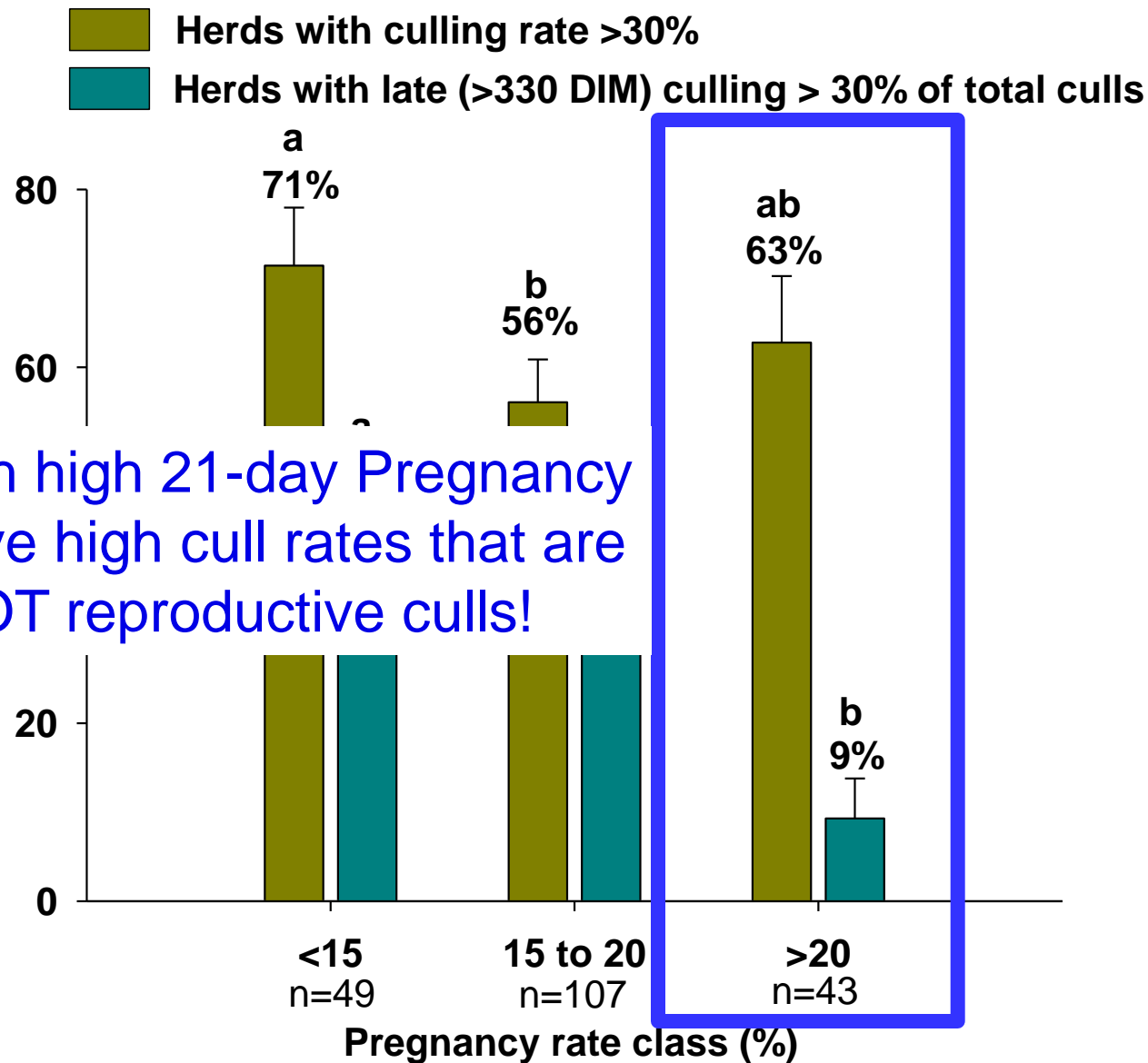
Outline of results

- Use of timed AI – herd level
- Impact of TAI on CR, SR, and PR
- Impact of TAI and PR on cull rate

Results: Impact of TAI on culling rate



Results: Impact of PR on culling



Conclusions:

- **Larger** herds and herds with **greater milk** production use TAI more often.
- Herds that use **more TAI** have longer VWP, but need to be careful with extended interbreeding intervals when >80% TAI is used.
- In general, herds that use more TAI are much more likely to have better reproductive efficiency.
- There is no difference in overall culling between herds with low vs. high 21-d PR but the type of cows that are culled differs.



THE UNIVERSITY
of
WISCONSIN
MADISON

THANK YOU

QUESTAIONS?

