Comparing Pregnancy Rates in Beef Cows Using Five vs. Seven Day CO-Synch + CIDR Protocol

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Background and Significance

- CO-Synch + CIDR is one type of estrous synchronization protocol. This is typically used as a seven day protocol, but can be used for only five days. A few studies have been conducted recently that show the five day CO-Synch + CIDR protocol results in higher pregnancy rates than the seven day protocol. The five day protocol has resulted in pregnancy rates of 65-80% whereas the seven day protocol results in pregnancy rates ranging from 45-60%
CO-Synch+CIDR Protocols

Figure 2. 7 day - CO-Synch Program + Progestin

GnRH-1  PGF$_{2\alpha}$  GnRH-2

Progestin

-7  0  2  3

54-66 h

Day Relative to PGF$_{2\alpha}$ Administration

Figure 4. 5 day - CO-Synch Program + CIDR®

GnRH-1  PGF$_{2\alpha}$  GnRH-2

CIDR®

-5  0  0.5  2  3

Day Relative to PGF$_{2\alpha}$ Administration
Example of a CIDR

- CIDR = Controlled Internal Drug Release
- Intravaginal insert
Previous Research

- The five day protocol has resulted in pregnancy rates of 65-80% whereas the seven day protocol results in pregnancy rates ranging from 45-60% (Bridges et al. 2008).

- Exposing cows to progesterone through CIDR for seven days causes the animals’ follicles to be maintained for a longer period of time. When CIDR is used for only five days follicles will be younger and healthier, therefore increasing the likelihood of conception. (Gunn et al.)

- Kasimanickam et al. showed that two doses of PGF are necessary to maintain the advantages of using the five day CIDR protocol.
Working Hypothesis

- I hypothesize that the five day CO-Synch + CIDR protocol will result in higher conception rates due to the fact that the five day protocol fits the pattern of follicular waves more closely than the seven day protocol.
Main Objective

- To determine if the five day CO-Synch + CIDR protocol results in higher pregnancy rates than the seven day protocol.
Support Objective

- Determine which cows conceived after their CO-Synch + CIDR protocol based on their calving date compared to their due date. Cows that do not calve reasonably close to their due dates could not have conceived as a result of the artificial insemination that is part of the CO-Synch + CIDR protocol.
Cows were bred on Oct. 15 and 16. Cows should calve on July 25. July 25 – Aug. 6, I will collect calving data and describe the results of the experiment.
Anticipated Outcomes

- Based on previous studies I predict that the five day CO-Synch + CIDR protocol will result in higher pregnancy rates than the seven day protocol.
Deliverables

- Determine which CIDR protocol is more effective.
- Give beef producers another tool for the reproductive management of their herds.
- Allow producers to determine which CIDR protocol will be more economical in their situation.
References

