FSH at CIDR removal does not affect pregnancy rate to a CIDR-based, Cosynch protocol in lactating beef cows

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Introduction

- eCG increased pregnancy rates to timed-AI in postpartum beef cows subjected to estradiol-CIDR-based protocols [1]
- eCG increased pregnancy rates to timed-AI in 2-y-old lactating beef cows, subjected to a modified Cosynch protocol [2]
- However, eCG is not universally available; perhaps pFSH would be effective

Hypothesis

- Giving pFSH at CIDR removal would improve pregnancy rates in a CIDR-based, Cosynch timed-AI protocol in postpartum, lactating Bos taurus beef cows

Objectives

In postpartum, lactating beef cows subjected to a CIDR-based, Cosynch timed-AI protocol:
- Primarily, to determine the effects of pFSH at CIDR removal on pregnancy rates
- Secondarily, to determine the effects of GnRH versus pLH (to synchronize wave emergence and ovulation) on pregnancy rates

Materials and methods

Experiment 1
- Lactating, crossbred beef cows (n=240), 2 to 9 y of age, 94 ± 11 d postpartum, and BCS 5.8 ± 0.4 (mean ± SD)
- All cows subjected to a CIDR-based, Cosynch timed-AI protocol (Fig. 1)
- 79 cows received 12.5 mg pLH at CIDR insertion and at timed-AI
- Half of the cows received 20 mg pFSH at CIDR removal

Experiment 2
- In Replicate 1, lactating, crossbred beef cows (n=109), 2 to 8 y of age, 59 ± 20 d postpartum and BCS 5.6 ± 1.1
- In Replicate 2, lactating, crossbred beef cows (n=160), 2 to 15 y of age, 71 ± 20 d postpartum and BCS 5.2 ± 0.4
- Same protocol as Experiment 1, except only GnRH was used to synchronize wave emergence and ovulation

Transrectal ultrasonography
- Day 42 (to confirm pregnancy)

Statistical analyses
- Data were analyzed by Logistic Regression (backward selection) and Proc MIXED (Statistical Analysis System; SAS Institute, Cary, NC, USA)

Results

- In Experiment 1, three cows lost their CIDR; all were excluded
- In Experiments 1 & 2, there were no significant effects of pFSH on pregnancy rates (Fig. 2)
- In Experiment 1, pregnancy rates did not differ between GnRH and pLH (62.7 vs 69.6%; P=0.91)
- In Experiment 1, there was an interaction (P=0.04) between parity and the synchronizing treatment; in primiparous cows, pregnancy rates were lower in those given GnRH versus pLH (59.3 vs 83.3%; Fig. 3)

Summary

- pFSH at CIDR removal did not improve pregnancy rates
- GnRH and pLH were equally effective in achieving high (>50%) pregnancy rates
- Primiparous cows had higher pregnancy rates when given pLH vs GnRH

References