

Public Abstract

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Title:COMPARISON OF LONG-TERM CIDR-BASED PROTOCOLS TO SYNCHRONIZE ESTRUS IN POSTPARTUM BEEF COWS

Reproductive performance and efficiency are the most important economic traits to a beef cow-calf operation. The goal of the research presented in this thesis is to provide beef cattle producers with more efficient and economical ways of increasing reproductive performance in a cattle herd. By incorporating the use of a controlled internal drug release (CIDR) insert (source of progestin derived from outside of the body) into estrus synchronization protocols, a producer is better able to manipulate the reproductive cycle of bovine females. Integrating the use of fixed-time artificial insemination (artificially inseminating all cows or heifers at a specific time) also provides producers with a way to increase the genetic merit of a herd. The following experiments were performed to compare the use of long-term CIDR-based estrus synchronization protocols prior to fixed-time artificial insemination in beef cows. In experiments 1 and 2, two long-term CIDR-based estrus synchronization protocols were compared on the basis of physiological characteristics such as steroid hormone concentrations in the blood, estrous response, and changes in ovarian structures, as well as conception rates and pregnancy rates resulting from fixed-time artificial insemination. From these two intensive trials, it was determined that both protocols yielded comparable pregnancy rates and similar physiological responses following treatment when used in beef cows. In experiment 3, the use of either a long- or short-term CIDR-based estrus synchronization protocol was compared prior to fixed-time artificial insemination in a large-scale field trial. Results from this trial indicated that pregnancy rate resulting from fixed-time artificial insemination was similar for both protocols. These data provide preliminary support for the use of long-term CIDR-based protocols to synchronize estrus prior to fixed-time artificial insemination in beef cows, and demonstrate that these protocols yield acceptable pregnancy rates following fixed-time artificial insemination.