



Head MGA TO CIDR Head

How do MGA- and CIDR-based synchronization systems compare?

University of Missouri (UM) researchers compared the use of melengestrol acetate (MGA) and controlled internal drug release (CIDR) inserts and their effects on heifer estrous response, timing of artificial insemination (AI) and pregnancy rates.

A total of 353 heifers at three locations were randomly assigned to one of two treatments by age and weight. Of those, 175 head of MGA Select-treated heifers were fed MGA for 14 days. Researchers administered GnRH 12 days after MGA withdrawal, and administered prostaglandin (PG) seven days after GnRH.

An additional 177 head were inserted with Eazi-Breed™ CIDRs for 14 days. GnRH was injected nine days after CIDR removal, and PG was administered seven days after GnRH.

Heifers were monitored for signs of heat beginning the day PG was administered. Researchers AI bred heifers 12 hours after the onset of estrus, and determined pregnancy rates by ultrasound 40 days after AI.

They found that estrous response did not differ between treatments. They determined that peak AI occurred on day three for heifers in both treatments, but distribution of AI was more highly synchronized among CIDR- than MGA-treated heifers.

Pregnancy rate to AI was greater in CIDR-treated heifers (63%) than MGA-treated heifers (47%). However, final pregnancy rates did not differ between treatments.

“In summary, replacing MGA with CIDR inserts improved synchrony of estrus and pregnancy rate resulting from AI in replacement beef heifers,” says Dave Patterson, state Extension beef reproduction specialist at UM-Columbia.

Cow study

UM researchers also evaluated 650 head of crossbred, lactating beef cows at four locations. These cows were assigned to groups based on age, days since calving and body condition scores (BCS).

Cows assigned to the MGA-Select treatment were fed MGA for 14 days. GnRH was injected on Day 26 and PG was injected on Day 33.

CO-Synch+CIDR-treated cows were injected with GnRH and equipped with a CIDR for seven days, and PG was injected and CIDRs removed seven days later.

AI was performed at 72 hours after PG for cows assigned to the MGA-Select treatment and at 66 hours after PG administration for cows assigned to the CO-Synch+CIDR treatment.

All cows were injected with GnRH at the time of insemination and AI was performed by one of three experienced technicians.

Three AI sires were used at location one, and one sire was used at locations two, three and four. Cows were exposed to fertile bulls for natural service 14 days after AI for a 60-day natural service period at locations one, three and four

and for a 45-day natural service period at location two.

Researchers found no differences between treatments at the respective locations for age, days postpartum, BCS or estrous cyclicity status at the initiation of treatment. However, there were differences between locations.

There was no effect of treatment, technician or sire on

pregnancy rates resulting from fixed-time AI.

Most importantly, pretreatment estrous cyclicity before the initiation of the MGA-Select or CO-Synch+CIDR protocols did not affect pregnancy rates resulting from fixed-time AI.

Final pregnancy rates did not differ between treatments.

“These results indicate that estrus synchronization with the MGA-Select and CO-Synch+CIDR protocols produce comparable pregnancy rates to fixed-time AI when inseminations were performed at 72 and 66 hours after PG, respectively,” says Patterson. “The results of our research present beef producers a choice and means for expediting genetic improvement and reproductive management.” **HW**

