A REPRODUCTIVE MOMENT WITH MEL

Mel DeJarnette, reproductive specialist

EAZI-BREED™ CIDR® Now Approved for Lactating Dairy Cattle

In case you haven't heard, the EAZI-BREED CIDR recently received FDA approval for use in lactating dairy cattle. The CIDR, as it's commonly called, was developed in New Zealand almost 20 years ago and has proven itself in numerous countries around the world as being a very effective means to synchronize a fertile estrus in cattle. Introduced to the U.S. market by Pharmacia Animal Health (now Pfizer Animal Health), the CIDR received FDA approval for synchronization of estrus in beef cows, beef heifers and dairy heifers in June of 2002. In late July 2003, the CIDR approval also was extended to lactating dairy cattle for synchronization of returns to estrus after a previous service.

> "Now all cattle producers can add the EAZI-BREED CIDR to their reproductive-management toolbox."

What is a CIDR?

The CIDR is a T-shaped vaginal suppository with a specially engineered coating that has been impregnated with the naturally occurring hormone progesterone. During the normal estrous cycle, progesterone is produced by the corpus luteum (CL) on the ovary. Progesterone has two primary functions. In cycling cows, it prevents them from coming into estrus, while in pregnant cows progesterone is the primary hormone responsible for pregnancy maintenance. Any use of the CIDR could be considered similar to placing an artificial CL in the cow.

How is it used?

Virgin heifers (beef or dairy)

The labeled recommendation for synchronization of estrus at first A.I. in the United States is to insert the CIDR on day zero, inject all animals with LUTALYSE® on day six, and then remove the CIDR on day seven (Figure 1). However, in most every other country in the world, the recommendation is to use the seven-day CIDR treatment but inject with Lutalyse at CIDR removal on day seven. The day-seven LUTALYSE injection eliminates one animal handling and, according to Select Sires field trials, simply delays estrous response by about 12 hours with little to no impact on the synchrony of estrus or the overall estrous response rate. Insemination options following CIDR removal include: 1) heat detection for three or four days with animals bred by A.I. eight to 12 hours after detected estrus, 2) fixed-time A.I. at 55 to 65 hours after CIDR removal, or 3) a combination of the above where animals are bred to standing estrus until 72 hours after CIDR removal with mass A.I. of the remainder. For insemination options No. 2 and No. 3, research indicates an injection of GnRH at the fixed-time A.I. may increase pregnancy rates of the animals that have not been detected in estrus. Application of chalk or tail paint at the time of CIDR removal will facilitate cost-effective application of GnRH treatments by allowing producers to distinguish responding (chalk absent; no GnRH) from non-responding heifers (chalk intact; inject with GnRH).

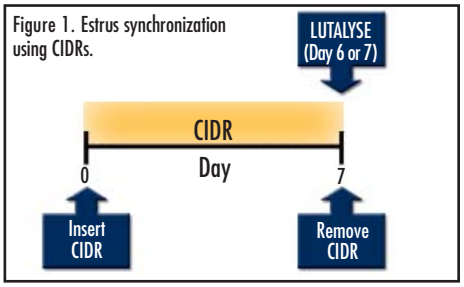


Figure 1. Estrus synchronization using CIDRs.

The wide range in the suggested insemination time for option No. 2 (55 to 65 hours) is because we are constantly shooting at a moving target – some heifers respond earlier or later than others. Within the estrous-response plateau, the overall pregnancy rates likely will be similar anywhere within this range, but the actual heifers that get pregnant may be different. That's because we always are "robbing Peter to pay Paul." With early A.I., you miss a few late heifers; with late A.I., you miss a few early heifers; if you breed in the middle, you'll likely miss a few on both ends. Estrous response distributions from lots of herds suggest timed A.I. (TAI) likely is optimized when we target the middle (approximately 60 hours). There are two ways to do this. One is to remove the CIDR late in the afternoon (4 p.m. to 6 p.m.) and TAI three days later in the morning. This approach likely is best when Lutalyse is given on day seven. The other option is to remove the CIDR as early as possible in the morning and breed two days later in the afternoon hours. This option likely is best for the day-six LUTALYSE injection as those heifers will respond a little earlier. However, in the big picture, either option should work well with either LUTALYSE injection day, and we're likely hard pressed to measure a difference.

Beef cows

For beef cows, the CIDR is used exactly as described for heifers; however, for fixed-time A.I., a considerable amount of research indicates a favorabe response to an

Training to Better Serve Customers

The No. 1 focus of the Select Sires federation is to serve you, our customers, and to help your business be as successful as possible. To ensure that we do so, Select holds bi-annual training events in Columbus, Ohio, where staff from the entire organization gather for three days of training and seminars on the most current topics in the industry. This year, more than 300 participants attended seminars on trends among today's dairies and dairy customers and Select Sires programs and services. Reproduction was one of the main topics, with seminars led by Dr. Ray Nebel, Virginia Tech; Dr. Jeff Stevenson, Kansas State University and Mark Armfeldt, Monsanto. Attendees also took reproductive certification exams, reinforcing their knowledge on the subject.

Select Sires offers a group specialists who are experts in troubleshooting reproductive issues in your herd. (Back row, L-R) Clif Marshall, Select Sires; Gene Lowe, COBA; Ivor Jones, Select Sire Power; Matt Hershey, Select Sire Power; Bob Woodard, COBA; Dave Whitlock, Select Sire Power; Dave Watt, COBA; Kenley Connor, KABA; (center row, L-R) Brad Meek, Cache Valley; Sam Eisenbraun, Minnesota; Adam Hahlen, COBA; Bob Otremba, Minnesota; Jim Siporski, NorthStar; (front row, L-R) Roy Wallace, Select Sires; Steve Kacuba, East Central; Dave Dockter, Minnesota; and Mel DeJarnette, Select Sires.

The 2003 Super Achievers are (back row, L-R): Gary Brummer, Prairie State; Steve Dockendorf, Minnesota; Jan Sas, Select Sires Canada; Jason Ossmann, NorthStar; Dave Thorbahn; Mike Long, COBA; Howard Minnema, East Central; Melvin Beiler, Southeast; Loren Smart, Cache Valley; (front row, L-R) Monty Kuhn, Prairie State; Kurt Barnes, East Central; Chris Suess, Minnesota; Rick Krall, Select Sire Power; Don Davis, All West; Mark Long, COBA and Terry Kranning, NorthStar

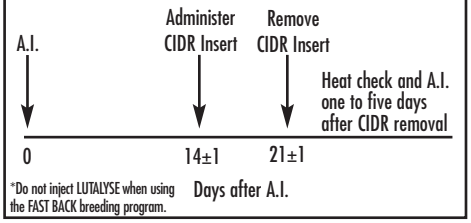
In addition to the training sessions, Select federation staff celebrated the achievements of many who are going above and beyond to serve our customers. The President's Club award, which annually recognizes North American employees who excel in sales and service to dairy and beef customers, was presented to 80 employees. Also recognized were the Super Achievers – employees who annually increase market penetration in their assigned sales areas and expand the services that they offer to their existing customers. Managers of the 10 Select Sires member cooperatives choose both the sales representatives and technicians from their organizations who will be recognized at the national level. This year 15 Super Achievers were recognized.◆

injection of GnRH given at CIDR insertion on day zero. Although the benefit is primarily reflected in improved pregnancy rates among cows that were anestrous prior to treatment, cyclic cows appear to benefit as well, but to a much-reduced magnitude. Thus, including the CIDR within popular GnRH-PGF based synchronization protocols such as Ovsynch and CO-synch appears to have worked extremely well. Although cows usually respond favorably to a GnRH injection at the time of CIDR insertion, the results in virgin heifers are highly variable and do not appear to consistently offer a return on investment in terms of improved reproductive performance. A large multi-location field trial sponsored in part by Select Sires Inc. presently is on going to evaluate the magnitude of the improved pregnancy rate from various combinations of CIDR, LUTALYSE and GnRH in both cows and heifers, and heat detection and fixed-time A.I. protocols. A thorough economic analysis of the results will help to identify the most cost-effective applications.

Dairy cows

As mentioned previously, the FDA approval for use of the CIDR in lactating dairy cows is for synchronization of the returns to estrus. In this application, the CIDR is inserted 14±1 days after A.I. and is removed seven days later (day 21±1 of the estrous cycle; Figure 2). Many of the open cows then will have a synchronous return to estrus within the next three or four days after CIDR removal. This allows for efficient detection of returns to estrus and more timely repeat services. In the resynchronization application, cows should *not* be injected with LUTALYSE, or any other prostaglandin, as this would cause pregnant cows to abort.

Figure 2. Synchronizing returns to estrus using the FAST BACK® breeding program*.



*Do not inject LUTALYSE when using the FAST BACK breeding program.

Now all cattle producers (beef and dairy) can add the EAZI-BREED CIDR to their reproductive-management toolbox. For more information on how to get the most efficient use and optimum return on investment from the application of this newly available tool, contact your local Select Sires Reproductive Solutions™ specialist.◆