

# Western Dairy News

For the West, About the West, From the West

A collaborative effort of Dairy Specialists from



Knowledge to Go Places



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## Are Your Cows Suffering from Asemenosis?

Ellen R. Jordan, Ph.D.

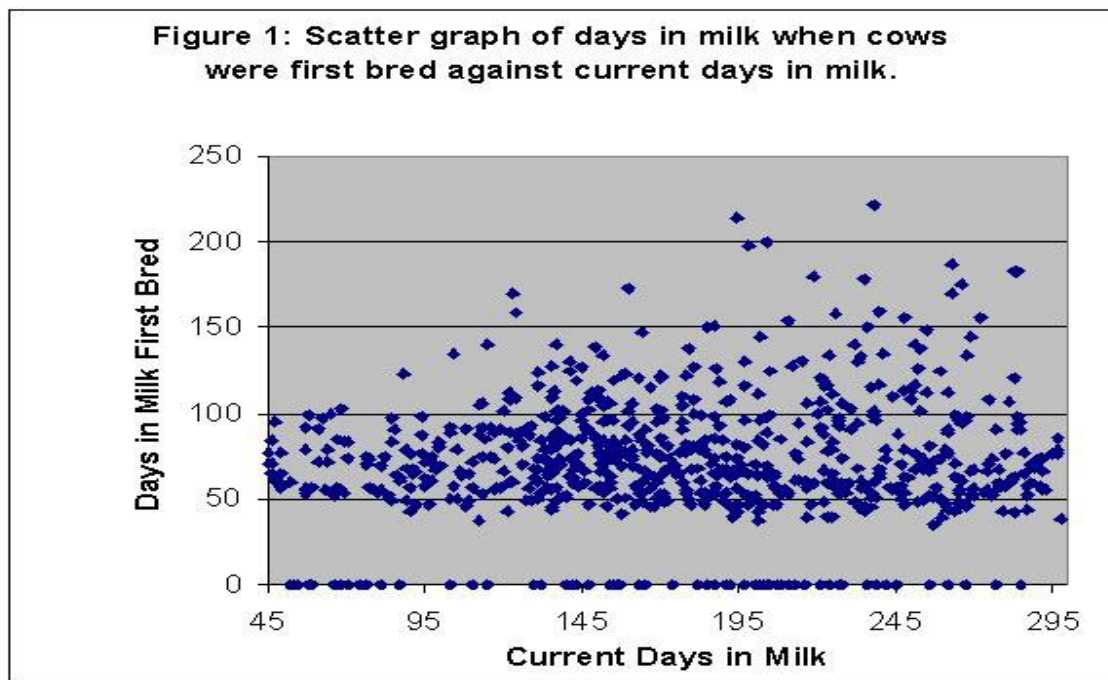
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Asemenosis isn't a new disease. It's a term I've coined to describe cows that don't get inseminated in a timely manner.

As herds have expanded and production has increased, reproduction has become more and more of a challenge. Traditionally we evaluated average days to first service, calving interval, conception rate, heat detection rate and services per conception to assess reproductive performance. Recently, we have started looking at pregnancy rates or the percent of cows eligible to be bred in a 21-day period that became pregnant.

When these numbers don't meet expectations we have to determine why. How can you tell if **asemenosis**, or the lack of semen, is at the root of your herd's reproductive problems?

When the days to first service gets too long the typical response from many producers has been to shorten the voluntary waiting period so breeding begins earlier. Although the average days to first service may improve, in some herds conception rate may suffer so calving interval doesn't decline. Figure 1 shows a herd that was using a heat detection program, with no planned intervention for cows not observed in heat. The voluntary waiting period in this herd was 45 days.



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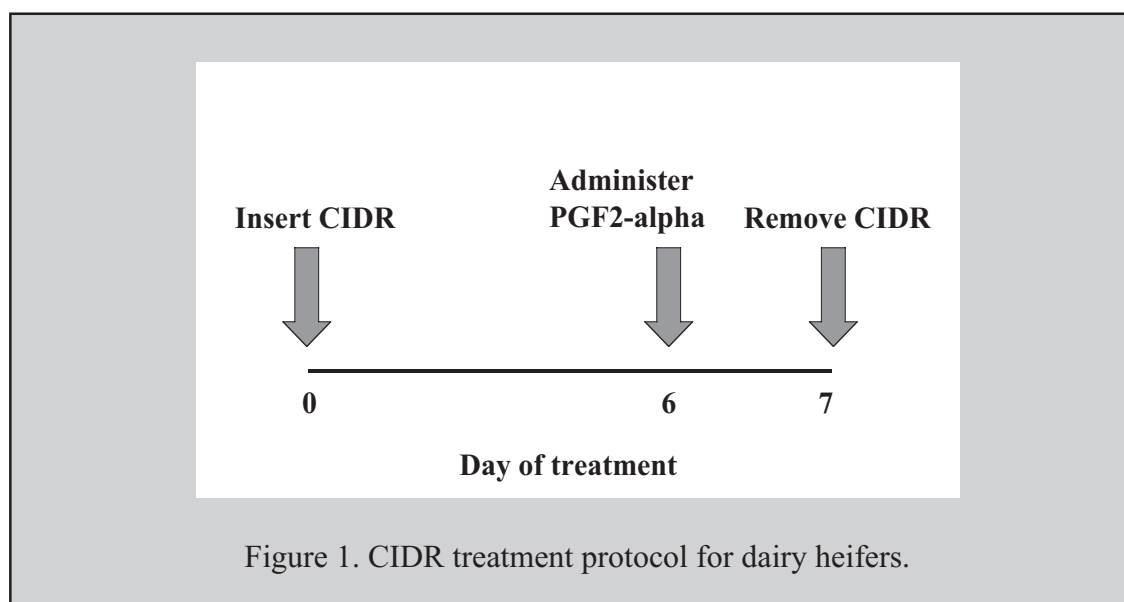
## *The CIDR: A New Estrous Synchronization Tool*

*Joseph C. Dalton, Extension Dairy Specialist,  
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Recently, a new estrous synchronization product called a CIDR (pronounced SEE-dur) became available for use in dairy heifers. (The CIDR is not labeled for use in lactating dairy cows.) "CIDR" is an acronym for "controlled internal drug releasing" device. The CIDR is placed into the vagina with a lubricated applicator. Although the CIDR is a T-shaped device, the applicator folds the wings of the CIDR for insertion into the vagina. Deposition of the CIDR causes unfolding of the wings and retention of the CIDR by pressure on the vaginal wall. The CIDR provides a continuous supply of progesterone to the animal. A thin nylon tail attached to the end of the CIDR allows for the easy removal at the end of the treatment period.

### *How should the CIDR be used?*

As with any treatment protocol, management and personnel should follow all directions on the label and package insert. The CIDR should remain in place for 7 days in dairy heifers (Figure 1). On the sixth day of treatment, all dairy heifers should receive an injection of PGF2-alpha. On day 7 the CIDR must be removed and disposed of properly. The use of PGF2-alpha on day 6 will cause regression of the corpus luteum (CL), and coupled with the removal of the CIDR on day 7, the beginning of the follicular phase of the estrous cycle. In a recent research study 80% of treated heifers exhibited heat within three days of CIDR removal, whereas 37% exhibited heat during the same period after a single injection of PGF2-alpha.



### *How does the CIDR work?*

The CIDR insert provides a continuous supply of progesterone. Therefore, the CIDR will, when utilized correctly, maintain animals in an *artificial* luteal phase. The CIDR is unique in estrous synchronization in that the CIDR will delay estrus in cattle that undergo natural CL regression during the treatment period. Furthermore, administration of PGF2-alpha near the end of the treatment period ensures heifers that began treatment early in the estrous cycle will have a CL that will be responsive to PGF2-alpha. The use of PGF2-alpha on day 6 will cause regression of the CL in those animals with a CL, and when the CIDR is removed, progesterone withdrawal will occur, similar to natural regression of a CL. Consequently, estradiol from growing follicles will change the frequency and amplitude of gonadatropin releasing hormone (GnRH)

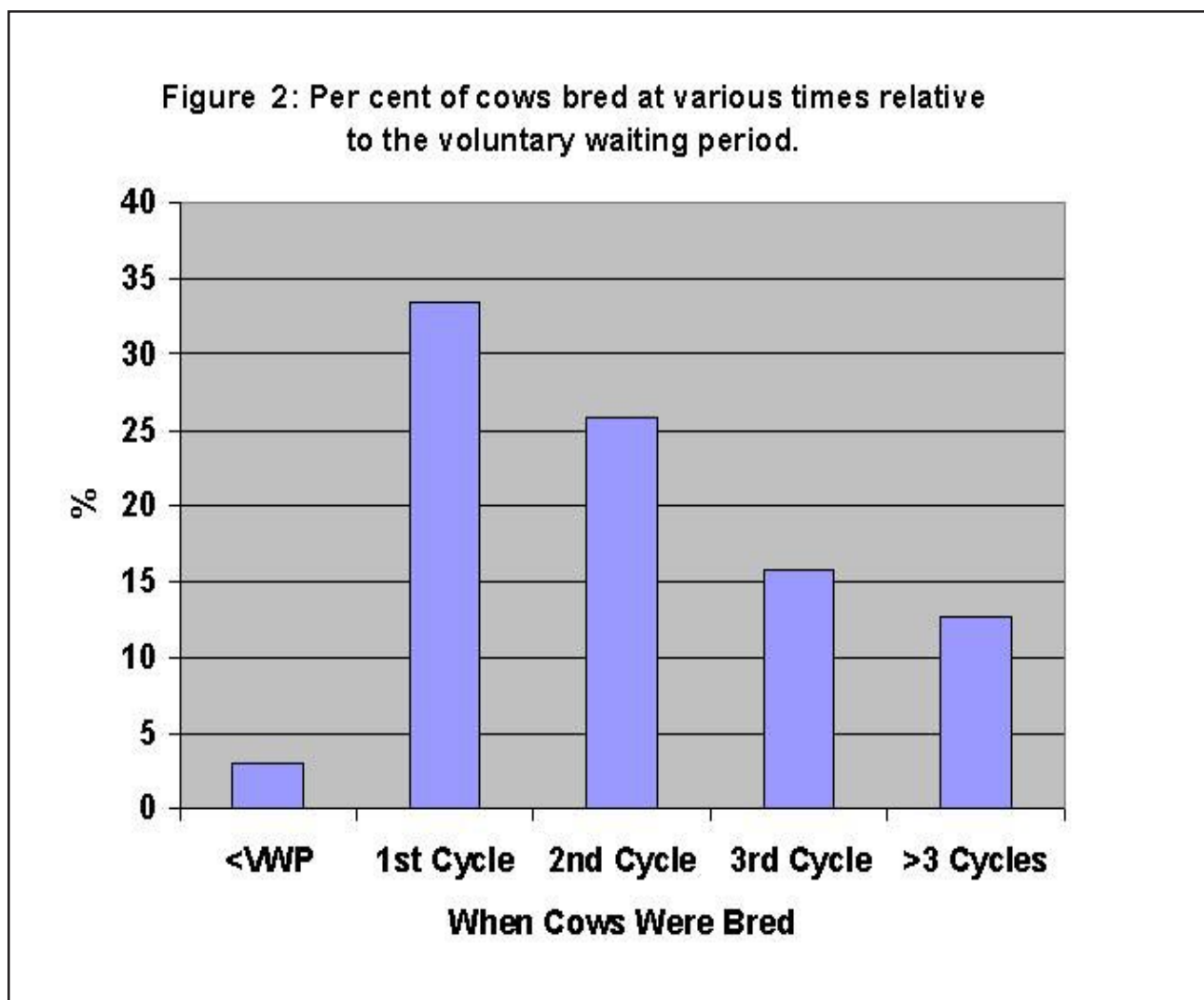
*(Please continue on page 4, under CIDR)*

*(Asemenosis, continued from page 1)*

The scatter graph in Figure 1 illustrates when cows were first inseminated. The cows on the X-axis are cows that have never been bred. In this herd over 7% of the cows had not been bred after three or more cycles beyond the voluntary waiting period. The system in place failed these cows and increased their likelihood of eventually being culled. The majority of these cows were subsequently put into pens where bulls were used to breed cows. Thus the opportunity to have an AI sired calf was lost without even a single AI service.

Figure 2 shows the distribution of when cows were actually bred. In this herd 3% of the cows were bred prior to the voluntary waiting period of 45 days. Those that conceive will have very short lactations, decreasing potential income. Only one third of the cows in this herd were bred by 66 days in milk or within the first cycle after the end of the voluntary waiting period. This indicates that the heat detection rate was only about 33%, which means there is a lot of room for improvement. An additional 26% of the cows were bred during the second cycle after the voluntary waiting period, but nearly 13% of the cows had not been bred until at least three cycles after the end of the voluntary waiting period.

One thing we can all agree upon is cows that don't get bred can't become pregnant. How can we prevent asemenosis? In recent years a lot of progress has been made in developing synchronization programs that manipulate the estrous cycle so ovulation occurs at a fairly precise time. Implement one of these programs to ensure that all cows are bred at least once within a prescribed period of time after the voluntary waiting period.



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*(CIDR, continued from page 2)*

*(Asemenosis, continued from page 3)*

release (from the hypothalamus in the brain), and luteinizing hormone (LH) and follicle stimulating hormone (FSH) release (from the anterior pituitary gland). The change in pulsatile release of GnRH, LH and FSH initiates the follicular phase of the estrous cycle and is necessary for maturation and ovulation of the dominant follicle.

**Where can I obtain a CIDR and how much does a CIDR cost?**

The FDA has approved CIDR's as an over-the-counter product. Therefore, a prescription from your veterinarian is not required to obtain a CIDR. A package of ten CIDR's costs approximately \$80.00. The applicator is sold separately and costs about \$9.00. The applicator is reusable, the CIDR's are not. Therefore, each CIDR treatment will cost approximately \$8.00. This estimate does not include the cost of PGF2-alpha or labor. For more information on CIDR's, contact your local Pharmacia Animal Health representative or visit [www.cidr.com](http://www.cidr.com).

**A few final thoughts**

One of the goals of an estrous synchronization program is to ensure greater heat detection and AI labor efficiency. The greater the number of animals in heat simultaneously (termed a "sexually active group"), the greater the opportunity for AI personnel to achieve success. Through careful management, the CIDR may help to increase the reproductive success of heifers by providing tighter synchrony of estrus. Nevertheless, the CIDR will not be the silver bullet to cure what ails your heifer reproductive program. Accurate heat detection and well-trained inseminators are mandatory to maximize fertility with or without the use of CIDR's.

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**West Nile Virus Invades the West**

Information may be found on these websites:

Center for Disease Control –

<http://www.cdc.gov/ncidod/dvbid/westnile/>

USDA APHIS –

<http://www.aphis.usda.gov/oa/wnv/>

American Veterinary Medical Association –

<http://www.avma.org>

Information on Mosquito Control –

<http://npic.orst.edu/wnv/>

The herd used as an example in figure 1 has implemented a PreSynch program followed by HeatSynch (Figure 3). The voluntary waiting period was moved from 45 days to 70 days and now all cows are bred for the first time between 70 and 76 days postpartum. Over the course of a year the pregnancy rate has climbed from 13% to 19%. Although other factors also may have been involved, ensuring that all cows were bred in a timely manner certainly helped this producer improve his reproductive program.

Make plans now to prevent asemenosis in your herd.

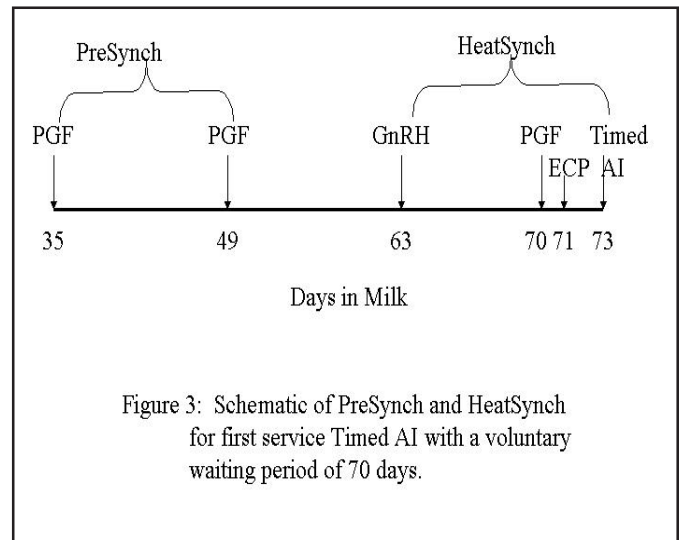


Figure 3: Schematic of PreSynch and HeatSynch for first service Timed AI with a voluntary waiting period of 70 days.

*Western Dairy News is published as a service to the people interested in the health and welfare of the western dairy industry. Archives of this publication may be found at <http://animalscience-extension.tamu.edu/dairy/wdn/wdn.html>*

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