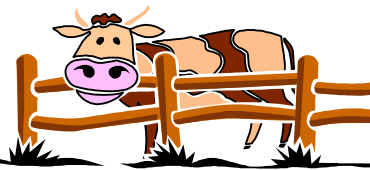


# DAIRY *Update*



Autumn 2008

## UI Dairy Cattle Research Update

**Q:** What is the effect of reducing the length of time of intravaginal progesterone insert (CIDR) exposure in a timed-AI (TAI) protocol on conception rate in dairy heifers?

**A:** Heifers in Treatment 1 (7-d CIDR; n = 120) received a CIDR insert (d -7) for 7 d and prostaglandin at CIDR removal (d 0). Heifers in Treatment 2 (5-d CIDR; n = 121) received a CIDR insert (d -5) for 5 d and prostaglandin at CIDR removal (d 0). All heifers received GnRH and TAI 53 to 55 h after CIDR removal. Three professional technicians performed AI. Pregnancy status was diagnosed by palpation of uterine contents 35 d after TAI.

Treatment had no effect on conception rate, 41.9% vs. 42.3% for 7-d CIDR and 5-d CIDR treatments, respectively. There was an effect of AI technician. Reducing the duration of CIDR treatment (5-d vs. 7-d) in a CIDR-based TAI protocol did not affect the conception rate in dairy heifers. Neither timed AI protocol compared favorably with the conception rate achieved following once daily heat detection (with tail paint) and AI (60%).

## Coming Events

**DHI-Provo 54<sup>th</sup> Annual Herd Management Conference**, Phoenix, AZ, November 5-6, 2008.  
[www.dhiprovo.com/](http://www.dhiprovo.com/)

**Dairy Cattle Reproductive Council**, Omaha, NE, November 6-7, 2008.  
[www.dcrcouncil.org/  
CONVENTIONS/1103093\\_Agenda\\_r8.pdf](http://www.dcrcouncil.org/CONVENTIONS/1103093_Agenda_r8.pdf)

**United Dairymen of Idaho Annual Meeting**, Boise, ID, November 11-12, 2008.  
[www.udidaho.org/ourproducers.asp](http://www.udidaho.org/ourproducers.asp)

**15<sup>th</sup> ADSA Discover Conference** -- Biology of the Calf: Birth to 4 Months, Roanoke, VA, November 16-19, 2008. [www.adsa.org/  
discover/15thDiscover\\_2008.htm](http://www.adsa.org/discover/15thDiscover_2008.htm)

**International Embryo Transfer Society Annual Conference**, San Diego, CA, January 3-7, 2009. [www.iets.org/2009/index.asp](http://www.iets.org/2009/index.asp)

**National Mastitis Council Annual Meeting**, Charlotte, NC, January 25-28, 2009.  
[www.nmconline.org/meetings.html](http://www.nmconline.org/meetings.html)

**World Ag Expo**, Tulare, CA, February 10-12, 2009. [www.worldagexpo.com/](http://www.worldagexpo.com/)

**Western Dairy Management Conference**, Reno, NV, March 11-13, 2009. [www.wdmc.org](http://www.wdmc.org)

**Dairy Calf and Heifer Association Annual Conference**, Tucson, AZ, March 24-27, 2009.  
[www.pdhga.org/2009conference.htm](http://www.pdhga.org/2009conference.htm)

## Sexed Semen Results from the Field

*The following field data is from a presentation at the 2008 American Dairy Science Association-American Society of Animal Science Annual Meeting in Indianapolis, Indiana:*

### Conception rates following the use of sexed semen and conventional semen in dairy heifers.

Service	Conception rate		
			Sexed semen relative to conventional, %
First	47.0 (26,465)	56.4 (21,864)	83.3
Second	43.1 (6,375)	53.8 (13,389)	80.1
Third	38.1 (2,567)	45.4 (11,772)	83.9

*(Adapted from DeJarnette et al., 2008)*

The percentage of heifers born was reported to be 90.1. If you are thinking about using sexed semen in your business, keep the following points in mind:

- Use sexed semen in well-managed virgin heifers only.
- Consider the genetic merit of your heifers.
- Do not use fixed time AI.
- **Recognize the inevitable decrease in conception rate.**

## ABS Global – University of Idaho – Washington State University Conference

In early September, nine members of the ABS Global Technical Services team traveled to Moscow, Idaho, to meet with University of Idaho and Washington State University faculty and students. The goal of the three-day conference was to learn more about each other, and to investigate avenues of future collaboration in research and educational internships for undergraduate, graduate, and veterinary students.

After meetings, presentations, and a trap shooting excursion, all three groups returned to their regular duties with a new appreciation for each other and numerous collaborative opportunities on the drawing board.

## For the Employees

### How are X- and Y- sperm separated?

The two populations of sperm in the bull's ejaculate are called X- and Y-chromosome-bearing sperm. In contrast, all cattle ova contain an X chromosome. When an X-chromosome-bearing sperm fertilizes the ovum, a female (XX) develops. When a Y-chromosome-bearing sperm fertilizes the ovum, a male (XY) develops. Sex ratios (number of males: females born) are usually very close to 50:50.

The X chromosome is larger and contains approximately 3.8% more DNA than the smaller Y chromosome. After sperm are treated with a fluorescent dye, the X-chromosome-bearing sperm glow brighter (when exposed to a laser) than Y-chromosome-bearing sperm because of the increased DNA content. Next, as sperm flow through the sorter single-file, a positive or negative electrical charge is attached based on the sperm's fluorescence intensity. Sperm then pass an electrical field and the X- and Y-chromosome-bearing sperm are sorted into different collection tubes. After separation, the X-chromosome bearing sperm is packaged in 0.25 mL straws, frozen and stored in liquid nitrogen. The Y-chromosome-bearing sperm are discarded.

## Para los Empleados

### ¿Como se separa el esperma X y el Y?

Las dos poblaciones de esperma en el eyaculado de un toro son llamadas esperma portador del cromosoma X y el esperma portador del cromosoma Y. En contraste, todos los óvulos de la vaca contienen el cromosoma X. Cuando un esperma portador de cromosoma X fertiliza el óvulo, se desarrolla una hembra (XX). Cuando un esperma portador del cromosoma Y fertiliza el óvulo, se desarrolla un macho (XY). Los ratios de sexo (número de machos: hembras nacidos) por lo general son muy cercanos a 50:50.

El cromosoma X es más grande y contiene aproximadamente 3.8% más ADN que el cromosoma Y. Después de que el esperma es tratado con una tinte fluorescente, el esperma con cromosoma X brilla más (cuando se expone a un láser) que el esperma portador del cromosoma Y debido a su mayor contenido de ADN. Después, el esperma fluye a través de un separador individual donde se adhiere a una carga eléctrica positiva o negativa en base a la intensidad de su fluorescencia. El esperma entonces pasa por un campo eléctrico y el esperma portador del cromosoma X y el esperma portador del cromosoma Y son separados en diferentes tubos colectores. Después de la separación, el esperma portador del cromosoma X es empacado en pajillas de 0.25 mL, y congeladas y almacenadas en el nitrógeno líquido. Los espermias "Y" son desechados.

Dairy Update is compiled by Joseph C. Dalton, Associate Professor and Extension Dairy Specialist for the University of Idaho Department of Animal and Veterinary Science. For more information, contact Dr. Dalton at the Caldwell Research and Extension Center, 1904 E. Chicago Street, Suite AB, Caldwell, ID 83605, (208) 459-6365, dalton@uidaho.edu.



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COMING SOON

SPANISH LANGUAGE AI SCHOOL

December 1, 2, 4, 5, 2008

Twin Falls, Idaho

For more information, call Joe Dalton, 208-459-6365