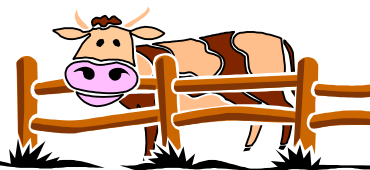


# DAIRY *Update*



Winter 2009

## Dairy Cattle Research Update

**Q:** *Does first service conception rate differ following Presynch+Ovsynch-56 as compared to Presynch+Cosynch-72?*

**A:** Lactating cows in three herds were used to study first service conception rates following timed AI. All cows were presynchronized with two injections of prostaglandin 14 d apart. Fourteen days after the second prostaglandin injection, all cows received a GnRH injection, followed by a prostaglandin injection 7 d later. In the Presynch+Cosynch-72 treatment, cows received GnRH and timed AI 72 h after the prostaglandin injection. In the Presynch+Ovsynch-56 treatment, cows received GnRH 56 h after the prostaglandin injection, and timed AI 16 h after the GnRH injection. At timed AI, cows averaged 73 days in milk.

**First service conception rates in lactating dairy cows following timed AI with Presynch+Ovsynch-56 or Presynch+Cosynch-72 protocols<sup>1</sup>.**

Lactation group	Treatment	
	Presynch+Ovsynch-56, % (n)	Presynch+Cosynch-72, % (n)
First <sup>†</sup>	37 (134)	31 (148)
Second and greater <sup>‡</sup>	47 (204)	25 (253)

<sup>1</sup>Adapted from Nebel et al. (2008)

<sup>†</sup>No significant difference between treatments

<sup>‡</sup>Significant difference between treatments

As shown, the conception rate was higher in second and greater lactation animals receiving the Presynch+Ovsynch-56 protocol. The response of first lactation cows was not statistically significant; however, a numerical trend in favor of Presynch+Ovsynch-56 can be seen from the data. For herds interested in timed AI, the apparent increase in conception rate that may be achieved in the Presynch+Ovsynch-56 protocol must be weighed carefully with the investment in management and labor necessary to administer injections to cows at different times of the day. Finally, it is not known whether Presynch+Ovsynch-56 results in improved fertility compared to a Presynch+Cosynch-72 protocol *which includes* AI followed by heat detection, which is common on dairies using the 72-h protocol.

## **New UI Dairy Nutritionist**

Pedram Rezamand, PhD, is the new Dairy Nutritionist in the Animal and Veterinary Science Department at the University of Idaho. Dr. Rezamand, a graduate of the University of Connecticut, conducted post-doctoral research at Michigan State University and the University of Idaho prior to joining the faculty at UI. Dr. Rezamand has conducted research investigating the feeding value of extruded corn grain in corn silage based rations, and is currently investigating the relationship between retinoids (vitamin A), inflammation, and mastitis in early lactation cows. Contact Dr. Rezamand at (208) 885-5392 or rezamand@uidaho.edu.

## **New UI Veterinary Bovine Specialist**

Roxanne Pillars, DVM, MS, PhD, recently joined the University of Idaho faculty at the Caine Veterinary Teaching Center in Caldwell. Dr. Pillars is a Veterinary Bovine Specialist with emphasis in dairy cattle. Dr. Pillars, a graduate of Michigan State University, will teach senior veterinary students in production and preventive medicine, and will also provide clinical evaluation and diagnostic support for dairy producers and the center's live animal caseload. Dr. Pillars' research emphasis will be focused on infectious diseases of cattle. Prior to attending graduate school, she was a mixed-animal practitioner in Ohio and Michigan, a herd veterinarian for a 650-cow dairy in Michigan, and a regional dairy agent for Michigan State University Extension. Contact Dr. Pillars at (208) 454-8657 or rpillars@uidaho.edu.

## **Award for Excellence in Preventive Medicine (Dairy)**

Drs. John and Laurie Day, Jerome, Idaho, received the American Association of Bovine Practitioners (AABP)-Merial Award for Excellence in Preventive Medicine (Dairy) at the AABP annual meeting in Charlotte, NC. Dr. John Day is an ardent supporter of educational opportunities for students interested in veterinary medicine and dairy and animal science. In addition to dairy practice, Dr. Day works closely with the veterinary technician program at the College of Southern Idaho, and also works with internship programs at the University of Idaho and Washington State University. Dr. Laurie Day operates a milk quality laboratory in addition to dairy practice. She has also raised numerous puppies for Guide Dogs for the Blind, and has led the state 4-H program for guide dogs.

## **Dairy Beef Maximizing Quality and Profits**

Dairy market cattle represent up to 15% of a dairy's income. Demands on meat packers as a result of Hazard Analysis Critical Control Point plan implementation have focused their attention on the quality of incoming cattle. Consequently, a 7-western state collaborative project (including the University of Idaho) was developed to create a distance learning program for dairy producers, cooperative extension advisors, dairy veterinarians, and dairy employees to provide a consistent message about dairy beef food safety and quality. The dairy employee modules are available in both Spanish and English. Learn more about maximizing quality and profits from dairy beef at <http://www.bqa.wsu.edu/DairyBeef/index.htm>.

# For the Employees

## **Semen Handling**

- Step 1:** Locate all items necessary to thaw semen and perform AI, including tweezers, water bath and thermometer, AI gun, sheaths, scissors, paper towels, plastic sleeves, and lubricant. Work close to the liquid nitrogen tank, preferably in a clean and dry location.
- Step 2:** Check the water bath temperature using a thermometer. Most semen packaged in 0.5- or 0.25-mL straws should be thawed in water at 95°F/35°C.
- Step 3:** Keep an accurate semen inventory including storage location.
- Step 4:** Work at or below the frost line in the neck of the tank to minimize the possibility of premature thawing of semen straws. After locating and grasping the desired cane, remove the straw with tweezers. Quickly transfer the straw to the water bath, while gently lowering the cane back into the canister, and the canister back into storage position. When thawing more than 1 straw simultaneously, do not allow straws to touch in the water bath.
- Step 5:** Semen should be thawed for a minimum of 45 seconds. Use a watch or clock to monitor the time.
- Step 6:** Remove the straw from the water bath and dry thoroughly with a paper towel. Water will kill sperm. Cut the crimped end of the straw at a right angle, keeping the straw covered by paper towels during the process.
- Step 7:** As you load the straw into the gun, very quickly check to make sure you have selected the right bull.
- Step 8:** Pull the sheath over the gun and secure it with an o-ring or by twisting the sheath on the raised spiral. Be certain the straw is seated squarely in the sheath. Make sure you use sheaths made specifically for your AI gun.
- Step 9:** Place the AI gun close to your body to keep it warm. Pull on a sleeve, get a little bit of lubricant, a few paper towels, and quickly make your way to the cow.
- Step 10:** Practice good hygiene. Insert your arm into the rectum of the cow without removing manure. Utilize a paper towel to clean the cow's vulva prior to insertion of the AI gun. Gently insert the AI gun, thread through the cervix, and slowly deposit semen in the body of the uterus. If the cow moves while you are depositing semen, stop and check the location of the end of the AI gun. If necessary, reposition the AI gun and resume semen deposition.
- Step 11:** Keep accurate records including 1) date and time of AI, 2) cow, bull, and technician identification, and 3) type of heat signs observed.
- Step 12:** Conduct pregnancy examinations prior to 40 days after AI. Evaluate the success of each AI technician.

# Para los Empleados

## Manejo de Semen

- Paso 1:** Localiza todos los artículos necesarios para descongelar el semen y llevar a cabo la I.A., incluyendo pinzas, termo descongelador y termómetro, pistola para I.A., fundas, tijeras, toallas de papel, guantes de plástico, y lubricante. Trabaja cerca del tanque con nitrógeno líquido, de preferencia en un cuarto limpio y seco.
- Paso 2:** Revisar la temperatura del agua del termo descongelador usando un termómetro. La mayoría del semen envasado en pajillas de 0.5 o 0.25 mL deben ser descongeladas en agua a 95°F/35°C.
- Paso 3:** Mantener un inventario de semen exacto, incluyendo el lugar donde se ubican las dosis.
- Paso 4:** Trabaja al nivel o por debajo de la línea de congelación en el cuello del tanque para disminuir la posibilidad de descongelamiento prematuro de las pajillas de semen. Después de localizar y alcanzar la caña deseado, remueve la pajilla con pinzas. Transfiere rápidamente la pajilla al termo descongelador, mientras regresa gentilmente la caña de regreso a la canastilla, y la canastilla de regreso hacia su posición de almacenamiento. Cuando se descongela más de una pajilla simultáneamente, no permite a las pajillas tocarse en el termo descongelador.
- Paso 5:** El semen debe ser descongelado por un mínimo de 45 segundos. Use un reloj para monitorear el tiempo.
- Paso 6:** Remueve la pajilla del termo descongelador, secándola perfectamente con una toalla de papel. El agua matará los espermatozoides. Corta el final sellado de la pajilla en el ángulo correcto, manteniendo la pajilla cubierta por una toalla de papel durante el procedimiento.
- Paso 7:** Al colocar la pajilla dentro de la pistola, rápidamente asegúrese de haber seleccionado el toro correcto.
- Paso 8:** Coloque la funda sobre la pistola y asegúrela con el anillo o enrollando la funda en el relieve espiral. Esté seguro que la pajilla está perfectamente colocada y cuadra con el final de la funda. Asegúrese de que esté usando las fundas hechas específicamente para su pistola de I.A.
- Paso 9:** Coloque la pistola de I.A. cerca de su cuerpo para mantener esta tibia. Colóquese un guante, ponga un poco de lubricante, lleve algunas toallas de papel y rápidamente tome el camino a la vaca a inseminar.
- Paso 10:** Practique una buena higiene. Inserte su brazo en el recto de la vaca sin remover estiércol. Utilice una toalla de papel para limpiar la vulva de la vaca previo a insertar la pistola de I.A, abra camino a través del cervix, y lentamente deposite el semen en el cuerpo del útero. Si la vaca se mueve mientras se está depositando el semen, deténgase y revise el lugar del final de la pistola de I.A. Si es necesario, reposicione la pistola de I.A. y comience de nuevo el depósito del semen.
- Paso 11:** Mantenga registros exactos, incluyendo 1) fecha y hora de la I.A., 2) identificación de la vaca, toro, e inseminador, y 3) tipo de signos de celo observados.
- Paso 12:** Llevar a cabo detecciones de preñez antes de los 40 días después de la I.A. Evaluar el éxito de cada técnico de I.A.

# Milk Yield and SCC for Western States in 2007

Test-day data from herds enrolled in Dairy Herd Improvement (DHI) somatic cell testing during 2007 were examined to assess the status of milk quality by the Animal Improvement Programs Laboratory (AIPL) in Beltsville, Maryland. According to AIPL, all test-day data within a herd were included regardless of breed; data from owner-sampler herds were also included. Table 1 shows the total number of herd test days, the average number of cows (with usable records) per herd on test day, and the average test-day milk yield and SCC. The current legal limit for bulk tank SCC is 750,000 cells/mL for Grade A producers; however, lower limits have been proposed on a number of occasions as future maximums by the National Mastitis Council. In fact, California lowered their state standard for legal milk to 600,000 cells/ml. Nationally, the average SCC during 2007 was 276,000 cells/mL.

**Table 1. Characteristics of DHI herd test days for milk yield and SCC of milk by selected western states during 2007<sup>1</sup>.**


State	Herd test days <sup>2</sup> (no.)	Cows per herd <sup>3</sup> (no.)	Avg. daily milk yield (lb)	Avg. SCC (cells/mL)
Oregon	2,255	154	67.6	228,000
Washington	1,842	240	74.4	237,000
California	9,327	702	73.9	253,000
Idaho	1,718	684	75.5	255,000
Arizona	264	1451	69.6	257,000
Nevada	116	540	78.3	306,000

<sup>1</sup>Animal Improvement Programs Laboratory, 2008

<sup>2</sup>All herd test days with usable records.

<sup>3</sup>Average number of cows (with usable records) per herd on test day.

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.



Extension Dairy Specialist

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## Coming Events

- ◆ National Mastitis Council Annual Meeting, Charlotte, NC, January 25-28, 2009. For more information: <http://www.nmconline.org/meetings.html>
- ◆ World Ag Expo, Tulare, CA, February 10-12, 2009. For more information: <http://www.worldagexpo.com/>
- ◆ National DHIA Annual Meeting, Boise, ID, March 4-5, 2009. For more information: [http://www.dhia.org/annual\\_meeting\\_2009.asp](http://www.dhia.org/annual_meeting_2009.asp)
- ◆ Responsible Dairy Symposium, Amarillo, TX, March 9-11, 2009. For more information: [http://www.dairyherd.com/ResponsibleDairy.asp?ts=rd&pgID=771&ed\\_id=7587](http://www.dairyherd.com/ResponsibleDairy.asp?ts=rd&pgID=771&ed_id=7587)
- ◆ Western Dairy Management Conference, Reno, NV, March 11-13, 2009. For more information: [www.wdmc.org](http://www.wdmc.org)
- ◆ Dairy Calf and Heifer Association Annual Conference, Tucson, AZ, March 24-27, 2009. For more information: <http://www.pdhga.org/2009conference.htm>

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