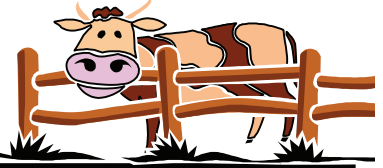


DAIRY *Update*



Summer 2005

University of Idaho Dairy Cattle Research Update

Q: *What is the effect of GnRH administration five days after AI on ovarian structures, progesterone concentration, and conception rates in lactating dairy cows?*

A: In the first study, 23 cows were synchronized using Ovsynch. Five days after AI (day 0) cows received either saline (n = 11) or GnRH (n = 12). To examine ovarian structures, ultrasonography was performed on day -1 and every other day beginning on day 5 until day 14. On days 5 and 14 blood samples were obtained to measure progesterone concentrations. All cows in the GnRH-treated group developed an accessory corpus luteum (CL), whereas cows in the saline group did not. Progesterone concentrations did not differ between GnRH and saline groups on day 5. However, on day 14 progesterone concentrations were higher in the GnRH group. Two dairies, one in Washington and one in Idaho, participated in the second study. Cows (n = 542) were synchronized and detected for estrus according to tail chalk removal. Cows detected in estrus received AI immediately. Five days after AI, cows were assigned randomly to receive either GnRH (n = 266) or saline (n = 276). Conception rates did not differ between GnRH and saline groups at either location (26.7% vs. 24.3% for the GnRH and saline groups, respectively). Regardless of treatment, days in milk, parity, milk yield, and number of services had no effect on the risk of pregnancy.

Take home message:

The results indicate that GnRH administration five days after AI:

- ◆ Caused the development of an accessory CL and increased progesterone concentration in blood.
- ◆ Did not improve conception rates in lactating dairy cattle.

(J. Howard et al., 2005)

Coming Soon Dairy Youth Field Day

A Dairy Youth field day will be held at Riverview Dairy on Saturday, July 9. Events begin at 10:00 a.m. and include a dairy cattle fitting and judging clinic, an embryo transfer demonstration, milk marketing discussion, and lunch! Riverview Dairy is located at 179 S. 500 E. in Jerome. For more details, please call Dean Bezek and Jeanne Serviss at 208 644 1059. Don't miss out on this educational opportunity for youth!

What's on the Floor Can End up on Your Plate

Food safety issues are of great importance to the agricultural community and consumer. Applying manure to cropland is one of the oldest agronomic practices, yet it still needs to be done with careful consideration for food safety. In particular, there is great concern of “foreign material” (essentially “garbage”) being carried in the manure, applied to a crop, and ultimately being harvested with the crop that is packed or processed for the consumer. There is the possibility of a foreign object, such as a fragment of a latex glove, may end up in a food product destined for the consumer’s plate.

Although there are substantial precautionary pieces of equipment and procedures to limit the possibility of such a serious situation, the potential is always there. In particular, minimizing the presence of foreign material in the potato industry is a serious issue. This does not only pertain to manure applied previous to a potato crop but also to any field that may be rotated into potatoes. Since potatoes are one of Idaho’s most widely grown crops, there are a tremendous number of acres that will be planted to potatoes within 5 to 10 years. A substantial number of those acres will also have manure applied.

Dairymen need manure application acreage and cropland needs this basic form of fertilization and soil development, but this relationship must include procedures to minimize the potential of foreign material in the food system. The potato industry is responding to the concern of potential foreign material in manure, and some processing contracts now have strict language regarding the timing of manure application prior to potatoes. This is one example of how serious of an issue foreign material in potatoes is in Idaho.

There are a few simple procedures that can be implemented at your dairy to minimize the presence of foreign material in manure:

- ◆ Dispose of milking gloves and veterinary examination sleeves in a garbage can. Gloves that are thrown on the parlor floor and sleeves left in alleyways will be scraped or flushed, end up in the manure disposal system, and may be applied to a field destined for potatoes, sugar beets or other edible crops.
- ◆ Provide several garbage cans throughout the dairy. It is a good idea to label the cans in both Spanish and English. Garbage cans should be accessible to the dairy workers but not to the cows.
- ◆ Educate dairy workers on the importance of hygiene on dairies. In addition to the concern of garbage in field crops, garbage is very dangerous to cows. Ingestion of garbage by dairy cows could cause disease leading to illness and even death.
- ◆ Dispose of soda cans in the garbage. Many large dairies provide soda machines for their employees. The employees should be encouraged to dispose soda cans into appropriate containers.
- ◆ Syringes, needles, blood vacutainers, medicine bottles, and other veterinary supplies should always be disposed in containers for sharp objects.
- ◆ Be careful where dead calves or aborted fetuses are placed. This is especially true for dairies that use automatic alley scrapers. Mortalities should never end up in the manure handling system.

(Dr. Mireille Chahine, UI Extension Dairy Specialist and Dr. Nora Olsen, UI Extension Potato Specialist)

For Employees ... Semen Handling

We conducted a field trial to determine 1) the effect of simultaneous thawing of multiple 0.5-ml straws of semen and sequence of insemination (1st, 2nd, 3rd or 4th) on conception rates in dairy cattle, 2) whether conception rates achieved following AI by professional AI technicians (PAI) and herdsman-inseminators (HI) differed, and 3) the effect of elapsed time from initiation of thawing straws of semen to seminal deposition on conception rates in dairy cattle. Although the average conception rate differed between PAI and HI (45% vs. 27%), simultaneous thawing and sequence of insemination (1st, 2nd, 3rd or 4th), and elapsed time from initial thaw to completion of fourth AI had no effect on conception rate within inseminator group. Nevertheless, a general recommendation as to the number of straws that may be thawed simultaneously detracts from the overall importance of proper semen handling for successful AI. Conception rates are most likely to be maximized when AI personnel a) accurately identify cows in estrus, b) follow the AI stud's recommendations for thawing semen, c) prevent direct straw-to-straw contact during thawing to avoid decreased post-thaw sperm viability as a result of straws freezing together, d) utilize appropriate hygienic procedures, e) maintain thermal protection of straws during AI syringe assembly and transport to the cow, and f) deposit semen in the uterus of the cow within approximately 15 minutes after thawing.

Para los Empleados ... Manejo del Semen

Nosotros realizamos una prueba de campo para determinar: 1) El efecto de descongelar simultáneamente múltiples pajillas de 0.5 ml de semen y la secuencia de inseminación (1a, 2a, 3a, 4a) sobre las tasas de concepción en ganado lechero, 2) Si diferían las tasas de concepción logradas después de la I.A. realizada por técnicos profesionales y encargados de hato, y 3) El efecto del tiempo transcurrido desde el momento del inicio del descongelado de las pajillas de semen hasta la deposición del semen sobre las tasas de concepción del ganado lechero. Aunque la tasa de concepción promedio difirió entre los técnicos y los encargados (45 vs. 27%), el descongelado simultáneo, la secuencia de inseminación (1a, 2a, 3a, 4a) y el tiempo transcurrido del descongelado inicial hasta completar la cuarta I.A. no tuvieron efecto sobre la tasa de concepción dentro de cada uno de los grupos de inseminadores. No obstante, una recomendación general es que el número de pajillas que pueden ser descongeladas simultáneamente es inversamente proporcional a la importancia del manejo apropiado del semen para tener éxito en la I.A. Las tasas de concepción tienden a maximizarse cuando el personal de I.A.: 1) identifica con exactitud a las vacas en estro, 2) sigue las recomendaciones de la empresa de I.A. para descongelar el semen, 3) evita el contacto directo entre pajilla y pajilla para evitar la disminución en la viabilidad del esperma como resultado de congelar pajillas juntas, 4) utiliza procedimientos higiénicos apropiados, 5) mantiene protección térmica de las pajillas durante el ensamblado de la pistola de inseminación y durante su transporte hacia la vaca, y 6) deposita el semen el útero (en el cuerpo) aproximadamente dentro de los quince minutos siguientes al descongelado.

(Reference/Referencia: Dalton et al., 2004)

Dairy Update is compiled by Joseph C. Dalton, Asst. 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, 16952 S. Tenth Avenue, Caldwell, ID 83607, (208) 459-6365, jdalton@uidaho.edu.



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AN EQUAL OPPORTUNITY EMPLOYER



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A cartoon illustration of a brown and white cow standing behind a wooden fence, positioned to the right of the "Update" part of the title.

Coming Events

- ◆ Conferencia Internacional Sobre Ganado Lechero – CIGAL 2005, Guadalajara, Jalisco, México, July 13-15. For more information, e-mail: cigal@prodigy.net.mx
- ◆ American Dairy Science Association-American Society of Animal Science Annual Meeting, Cincinnati, OH, July 24-28. For more information: www.fass.org/2005/
- ◆ Washington State University, University of Idaho, and Oregon State University Feed Management Workshop: Focus on Nitrogen Utilization Efficiency and Hoof Health, Twin Falls, ID, August 3, and Puyallup, WA, August 4. For more information: <http://capps.wsu.edu/FeedManagement/>
- ◆ DIGAL 2005 – Día Internacional del Ganadero Lechero, Delicias, Chihuahua, México, September 8-10. For more information: <http://www.muuu.com.mx/CONFERENCIAS/conferencias.html>