

DAIRY PIPELINE

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Department of Dairy Science

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www.vtdairy.dasc.vt.edu



“Did you know
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THE REPRODUCTION-HYGIENE CONNECTION

Are conception rates on your farm where you would like them or is there room for improvement? There are a number of factors that can affect the conception rate in dairy cattle. Each can have a considerable impact on the conception rate and all can be prevented and/or controlled. Did you know that hygiene can play a considerable role in reducing conception rates? It's tempting to think reduced conception would only be a result of calving conditions, post-calving health, reproductive disorders, milk production, nutrition, estrous detection errors, and timing of service. However semen quality and handling, insemination technique, and the environment in which you work can also play a role in reduced pregnancy rate.

Self-assessment time! How would you grade yourself and your employees' breeding techniques and hygiene before, during, and after performing artificial insemination on the farm? Would you receive an A, B, C, or failing grade? How many of the following good sanitary procedures do you follow?

1. Wash hands before and after breeding.
2. Keep insemination supplies dry and clean at all times.
3. Keep breeding tool box clean and organized.
4. Maintain water bath thermos at the correct temperature for thawing semen (94–98°F).
5. Empty and clean water bath thermos routinely to prevent contamination and bacterial growth.
6. Correct use of breeding sheaths/protective rods and proper storage in original package until used.
7. Keep AI rod clean and protect from contamination.
8. Wash AI rod after breeding to prevent contamination.
9. Implement sanitary conditions when preparing the semen straw.
10. Protect loaded AI rod from cold shock and contamination.
11. Wear rubber gloves and/or sleeves when breeding.
12. Wipe the vulva with a paper towel prior to breeding to prevent contamination of the reproductive tract.
13. Use a paper towel folded in half and inserted into the vulva to help prevent contamination.
14. Keep AI tank clean and filled with the correct level of liquid nitrogen.

If you can honestly say you practice all 14 good sanitary practices give yourself an A. However, if you only practice 4 out of 14 it is time to start working harder to implement practices and carefully monitor your conception rates. Dairy farming is a busy business that involves seemingly endless hours of work, but money cannot be made if your cows are not getting bred. Many would say that their reproductive challenges stem from problems directly related to the cow without realizing contamination of breeding tools can cause decreased conception rates. A study presented by Ohio State University at the Joint Annual Meetings in Arizona this past month, looked at the economic impact from use of disposable sheath protectors to minimize contamination of the AI catheter at the time of AI. They concluded that the use of sheath protectors could increase profitability by increasing conception rate when taking into account the cost of synchronization injections, feed, breeding, replacement animals, and daily sales.

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Upcoming Activities

Late September
Reproductive Refresher course—details TBA

Sept. 30-Oct. 3, 2012
National 4-H Dairy Conference

Oct. 20, 2012
Showcase Sale at Virginia Tech

See vtdairy.dasc.vt.edu for details regarding any of the activities above.

If you are a person with a disability and require any auxiliary aids, services or other accommodations for any Extension event, please discuss your accommodation needs with the Extension staff at your local Extension office at least 1 week prior to the event.

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Hygiene in the parlor is important and steps should be taken to implement good hygiene practices while breeding your cows in order to increase conception rates. An open cow doesn't make milk or money!

Franklin and Pittsylvania Counties will be combining efforts to offer a Repro-

duction Refresher course in late September to Dairy and Beef producers. Watch your mailboxes or call your local ANR agent for more information.

—Cynthia Martel
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ANIMAL ACTIVITY DATA AND MILK COMPONENTS AS INDICATORS OF CLINICAL MASTITIS

The term “precision dairy” refers to the management style that incorporates the use of various data collection technologies currently available for commercial use. These technologies include in-line milk analyzers, pedometers, behavior monitors, rumination collars, temperature recording devices, RFID tags, and the list goes on. The data generated from these devices is overwhelming, to the say the least. In response to this, many researchers are examining ways to use this data to improve cow health and comfort as well as overall farm profitability. In a recent collaborative study with the University of Florida, we examined the ability to use daily animal activity data and milk components as indicators of clinical mastitis.

A total of 268 clinical mastitis cases were examined from Virginia Tech and the University of Florida dairy herds for daily changes in milk yield, electrical conductivity, milk fat, protein, and lactose percent, as well as activity measurements including daily rest time, daily rest duration, daily rest bouts, and daily steps taken. Additionally, a milk sample was collected from each clinical case and submitted for culture. The results show an increase in electrical conductivity, milk fat and protein percent during a case of clinical mastitis, while milk yield and lactose concentration decreased. No statistical changes in ani-

mal activity were observed prior to onset of clinical signs. However, we used a complex statistical model to examine ability of the animal activity data combined with the milk component data to predict cows at risk for mastitis. In this model, we found the combination of daily activity measures with milk component data was most accurate at identifying cows with clinical mastitis. We also examined the changes in milk components relative to which bacterial pathogen was isolated. These results show changes in milk components was affected by the bacterial pathogen causing the infection. This study shows that daily monitoring of animal activity and milk components can detect disease prior to clinical diagnosis and allow producers to make proactive management decisions regarding herd health.

—Christina Petersson-Wolfe
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For more information on Dairy Extension or to learn about current programs, visit us at VT Dairy—Home of the Dairy Extension Program at: www.vtdairy.dasc.vt.edu.



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