

DAIRY PIPELINE

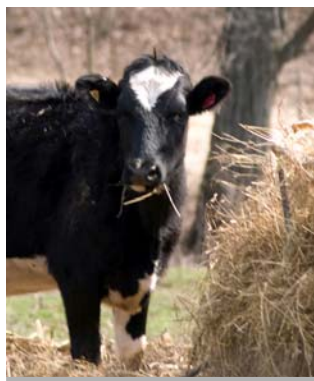
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“... even small changes can make a big difference in performance of transition cows.”

“...improving reproduction is rarely as simple as improving one thing—usually a variety of factors need attention in order to improve reproductive performance.”

Photo courtesy of Flickr.com

WHAT'S YOUR NEW YEAR'S RESOLUTION?

The new year often brings motivation for change. It's a chance to evaluate where you are compared to where you want to be. This can apply to your farm as well. Management of transition cows (defined as three weeks before and after calving) may be one area to critically evaluate. This period is crucial to the overall productivity (and ultimately profitability) for each cow. Additionally, the longevity of the cow is often compromised during the transition period, with on average 8.6% of all cows that calve leaving within the first 60 days of lactation (S. Stewart, 2001, *When Cows Leave the Herd*; John Fetrow et. al., 2003, *Monitoring Fresh Cow Programs*). A good resolution for this year would be to strive to provide the following for transition cows:

- Clean, dry calving area.
- Access to plenty of clean water. At least one watering location (two linear feet) per 15 to 20 cows is needed. More troughs may be needed to prevent boss cows from monopolizing the area.

► Minimum of 30 inches of bunk space per cow both for dry and fresh cows.

► No overcrowding! At least 10 hours of rest time is needed during this time. This can be accomplished by grouping fresh cows separately where facilities allow.

► Monitor fresh cows closely for the first week to 10 days. Minimally, these evaluations should include observation of temperatures, milk production, posture, gait, respiration rate, signs of dehydration, rumen fill, and foul odors. Urine ketone checks are also advised.

► Record cases of metabolic disorders with the cow number, date, and treatment. Good records allow you to monitor the success of your transition program as well as detect surges in disorders.

Of course not all of these can be accomplished overnight and facilities may limit some changes. At a minimum everyone can closely monitor fresh cows early after calving and record metabolic diseases. Keep in mind even small changes can make a big difference in performance of transition cows.

—Beverly Cox, Extension Agent, Franklin County
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STRATEGIES FOR IMPROVING REPRODUCTIVE PERFORMANCE: PART ONE OF FOUR

Reproductive Performance (RP) in dairy herds continues to be a major issue. While experts suggest that herds should strive for a pregnancy rate of greater than 20%, Virginia's average for DHIA herds is currently 14.1%, indicating potential for improvement.

Unfortunately, improving reproduction is rarely as simple as improving one thing—usually a variety of factors need attention in order to improve RP. At its simplest, improving the RP of a dairy requires the timely administration of semen to a cow with a healthy uterus at the correct time of the estrus cycle. What sounds simple when boiled down to one sentence actually encompasses most aspects of dairy management.

Days open remains a useful tool in diagnosing the weak link in herd RP and there are four components: the voluntary waiting period, heat detection, conception rate, and culling. This issue discusses the voluntary waiting period (VWP), which is an often overlooked area of reproductive performance.

Sixty days has been the standard VWP for years. As reproductive problems increased on dairy farms an attempt was made to lower the VWP to 45 days to improve reproductive management. While good in theory, this practice rarely lead to improvement in RP. In most cases the conception rate in these herds for cows from 45-60 days in milk (DIM) was less than 15%. One of the main issues this early in lactation is uterine health. In a recent study, 44% of the cows still had subclinical metritis at 45 DIM. Many factors have been blamed for uterine problems post calving. These factors include: subclinical hypocalcemia, dirty calving environment, and selenium deficiency. Recent studies have shown that excessive negative energy balance pre-calving may be the single most important factor in cows developing metritis post-calving. Putting the information from these studies together reveals that a successful reproduction program must begin even before a cow calves.

—John Currin, Extension Dairy Veterinarian
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Upcoming Activities

Area Dairy Conferences:

Jan 20—Harrisonburg

Jan 22—Culpeper

Contact local extension office for more details.

**Jan 13 — PC Dart workshop
— 9 - 3 in Rocky Mount.**

Contact Beverly Cox for details 540-483-5161.

Dairy Extension Winter Trip—

3 days/2 nights visiting SC and GA Jan 09 — Contact Chase Scott for details.

Feb 18– 20—Virginia State Feed Association Conference & Nutritional Management “Cow” College—Roanoke, VA

for more information, contact Bob James at (540) 231-6870 or

jamesre@vt.edu or visit

www.vtdairy.dasc.vt.edu

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.

MILK COMPONENTS AND SOMATIC CELL MEASUREMENTS FOR EACH COW AT EACH MILKING

In the Fall of 2008, the milking parlor at Virginia Tech was equipped with “AfiLab” equipment for in-line monitoring of fat, protein, somatic cell count and other milk component parameters as part of a cooperative research effort between Dairy Science at VT and the AfiKim company. These units were installed, one in each milking stall, and record data for each cow at each milking. Initial studies will calibrate the devices for Holstein cows, followed by a study to examine the validity for Jersey and crossbred cows in the herd. This will be the first application of AfiLab equipment on breeds other than Holstein. Research to follow will evaluate the relationship of milk components with a variety of herd management decisions. For instance, can we use changes in fat, protein, or other milk components as early warnings of metabolic diseases such as ketosis? Can we use the results to fine tune rations for more efficient production or healthier cows? The devices can be calibrated to evaluate milk lactose and MUN in addition milk composition traits, which allows for more potential applications. Equipment of this kind al-

ready exists in research herds in some other countries, but this is only the second installation of AfiLab equipment in the United States. As an example of work being done, New Zealand research in the December 2008 issue of Journal of Dairy Science reported a correlation of 0.8 (high correlation) between somatic cell data from in-line SCC readings and laboratory results from the same milking when counts exceeded 200,000 cells/mL. The same study reported that in-line SCC data and electrical conductivity were more effective when used together to identify quarters affected by clinical mastitis than either measure separately. There are many potential applications of in-line milk analysis for improved herd health and nutritional management, and perhaps reproductive performance as well. AfiLab equipment places the Department of Dairy Science in a unique position for leadership in this rapidly growing field of scientific study. We are grateful to the AfiKim group for their support and cooperation.

Co-authored by:

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“There are many potential applications of in-line milk analysis for improved herd health and nutritional management, and perhaps reproductive performance as well.”

For more information on Dairy Extension or to learn about current programs, visit us at VT Dairy—Home of the Dairy Extension Program on the web at:

www.vtdairy.dasc.vt.edu.

Bennet Cassell

Bennet G. Cassell
Dairy Extension Coordinator
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DAIRY PIPELINE CELEBRATES ITS 30TH YEAR

“The Dairy Pipeline” is celebrating its 30th year of bringing practical, research based information to the dairymen of Virginia. It began as a quarterly publication and has grown into our current monthly newsletter. The first issue in 1980 was titled “Dairy Pipeline...For More Profitable Dairying”. And that has always ultimately been our goal—to put real information into your hands where it could be used to increase profitability.

All publications from August 1982 – January 1994 are now stored in Special Collections in the University Library and the Department of Dairy Science maintains hard copies of earlier issues. In May of 1995, we established a presence on the World Wide Web and all Pipelines generated since that time are archived electronically at www.ext.vt.edu/news/.

Presently, we use both print and email versions—and of course the current issue is always posted at www.vtdairy.dasc.vt.edu. The Virginia Dairyman carries the corre-

sponding monthly issue so hopefully we’re able to reach all who would find the articles helpful. Additionally, DAIReXNET lists the Pipeline along with dairy newsletters from across the country at www.extension.org/pages/Dairy_Newsletters.

As our world and resources change, so must our operations. In this spirit, we ask those who can to switch their mailed paper subscription to an electronic version (.pdf format). To do this, please send an email to vt dairy@vt.edu with “Pipeline change” in the subject heading. Also, include your name and the address to which it’s been mailed in the past so we can remove you from the ‘hard-copy’ mailing list.

We’ve seen many changes in the past thirty years, and we’re sure to see many more, but the Dairy Extension group is committed to the dissemination of timely, quality information to Virginia’s dairy farmers. We look forward to serving you for another 30!

—Laura Coffey, VT Forage Program &
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