Virginia Cooperative Extension
A partnership of Virginia Tech and Virginia State University

VirginiaTech
College of Agriculture and Life Sciences

School of Agriculture
Virginia State University

DAIRY PIPELINE

Department of Dairy Science
Blacksburg, VA 24061
540/231-4762 Fax: 540/231-5014
www.vtdairy.dasc.vt.edu

Volume 30, No. 8 SEPTEMBER 2009

"The **best** group of 20 bulls was the group of young sires chosen on genomic evaluations, and second best, $53 behind the best group, was the group of proven bulls with genomic data."

"These were a few of the studies I found especially interesting. Some confirmed what I already believed while others refuted 'common practice'."

Photo courtesy of Flickr

SELECTION BASED ON GENOMIC PROOFS WORKS

Dairy farmers face a decision these days about how heavily to use young bulls with exceptional genomic proofs in herd breeding programs. Scientists from AIPL conducted a study that compared selection on proofs with and without genomic information on Holstein bulls with and without daughters. The table below shows the results. Production records were restricted to those available in 2004. Proofs were calculated with and without genomic information on young bulls and bulls with daughters. The best 20 young bulls with and without genomics and the best 20 proven bulls, with and without genomics were chosen. Then, all the data available through January 2009 were used for proofs and the four selected groups were compared. In those five years, the young bulls received progeny test results and proven bulls gained second crop daughters. The BEST group of 20 bulls was the group of young sires chosen on genomic evaluations, and second best, $53 behind the best group, was the group of proven bulls with genomic data. This test is like looking back to selection decisions made five years ago to see how well the proofs held up and those young bulls with genomic proofs were the best choice. But the table also shows that the young bulls' proofs declined an average of $130 over those five years. The most stable proofs were on the top 20 proven bulls based on genomic proofs with only a $30 drop. The first conclusion from this study is that farmers should use a group of young bulls with outstanding genomic evaluations heavily, in place of many proven bulls, but we can't expect to find the very best of large groups of young bulls without progeny tests. A second conclusion is that genomic proofs on top proven bulls hold up better over time than they used to. Farmers can use those individuals more heavily than in the past.

—Bennet Cassell, Extension Dairy Scientist, Genetics & Management
(540) 231-4762; bcassell@vt.edu

Select the best 20 Holstein bulls based on 2004 information	Average Net Merit based on data available in 2009	Change in Net Merit from proofs based on 2004 data
Young bulls with traditional Parent Average evaluations	$395	-$278
Young bulls with genomic evaluations	$516	-$130
Proven bulls, traditional PTA	$381	-$96
Proven bulls, genomic PTA	$463	-$30

RESEARCH HIGHLIGHTS FROM THE AMERICAN DAIRY SCIENCE ASSOCIATION ANNUAL MEETING

Most of our departmental faculty, along with a few thousand others, spent the second week of July in Montreal, Canada for the annual American Dairy Science Association (ADSA) meeting. This meeting provides a venue for researchers, graduate students and industry members to get together, share recent research findings and brainstorm future work. The research sessions are comprised of 15-minute presentations allowing just enough time to highlight the important findings on each particular project. The goal of this Pipeline article is to convey those 'snippets' of information to you. The question of a 'short dry period' has come back up in recent years and some researchers have continued to examine whether it is a feasible option for today's high-producing dairy cow. One group of researchers in Canada presented several studies at the ADSA meetings. However, the results left me believing the gold standard of a 60-day dry period is still preferred over a shortened dry period of 35 days. A shortened dry period provides one less diet change, which

(Continued...)

Upcoming Activities

Dairy risk management workshop series –10am to 12pm (need to attend all sessions) —-Multiple locations Wytheville, Rocky Mount, Weyers Cave, Culpeper —- **Oct. 15, Oct. 22, Oct. 29, Nov. 5, Nov. 12, and Nov. 19** Contact Beverly Cox at (540) 483-5161

Nov 4 -- Lameness Workshop Rocky Mount, Location and time TBA

Nov 10—Feed Management Workshop, Penn State—Training for consultants interested in Feed Management Planner Certification. This workshop is targeted for those who are NOT yet certified. contact Virginia Ishler vishler@gmail.com or (814) 863-3912.

Nov 11-12 Penn State Dairy Cattle Nutrition Workshop, Grantville, PA for agenda and registration information see http://www.das.psu.edu/research-extension/dairy/nutrition/continuing-education/workshop

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.

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 G. Cassell
Dairy Extension Coordinator
& Extension Dairy Scientist,
Genetics & Management

seemed beneficial for rumenal adaptation. However, this was outweighed when you consider the loss in production over the next lactation as well as the reduced milk fat percent. Another group of studies presented focused on animal well-being and improving 'cow comfort'. One group of Canadian researchers examined the use of flunixin meglumine (Banamine) in the immediate postpartum period (2 h and 24 h post-calving) on cow health and milk production. Despite their hypothesis, flunixin meglumine given that close to calving actually showed detrimental effects on cow health. However, researchers have begun to examine actual timing of administration because they suggest the initial dose tested may be too close to calving. Although this study does not support the use of flunixin meglumine after calving, future research may change this thought if the proper timing can be elucidated. Another study examining calf rearing found nursery raised calves had increased body weight compared with individual hutch raised calves at the end of the study. However, this study did not examine health parameters associated with group-raised calves. Validation data was presented on the new Afikim Pedometer Plus system compared with video recorded data. We were glad to see data from the pedometers were highly correlated with actual video. This provides promise for our future research in which we intend to examine the use of this equipment in detection of disease. A project was reported on risk factors for high serum NEFA concentrations. An increase in NEFA levels is associated with metabolic diseases. Interestingly, the researchers found that cows calving in individual pens had higher serum NEFA levels than group housed animals. Additionally, mixing close-up heifers with older cows resulted in reduced DMI and increased serum NEFA levels. These were a few of the studies I found especially interesting. Some confirmed what I already believed while others refuted 'common practice'. If you are interested in details of any of the mentioned studies, please contact me at milk@vt.edu.

—Christina Petersson-Wolfe, Extension Dairy Scientist, Milk Quality & Milking Management (540) 231-4767; cspw@vt.edu

IT'S TOO VALUABLE NOT TO PACK

The inputs associated with raising corn silage and its tremendous feed value demand intensive management to ensure the preservation of quality to maximize return. Recall that exclusion of oxygen is perhaps the most important component of the ensiling process and we try to achieve this in bunker silos by packing them with tractors. Researchers from Cornell determined that bunker silo DM losses approach 17 to 20% at silage densities less than 14 lbs dm/ft^3. The less densely packed silos allow more air inside the silage leading to loss. Dairy agents in Virginia have measured the density of bunker silos and have found that few achieved the benchmark of 14 lbs dm/ft^3. Of those tested in Southwestern VA only 50% of them had an overall density of greater than 14 lbs dm/ft^3. In Southside VA, only 20% met this guideline. In these silos across the state little correlation of DM to density was observed. Since it is highly unlikely that farmers or silage contractors will alter harvest speed to allow for more thorough packing, it is wise to develop a strategy to accommodate the delivery rate. Possible strategies may include:

> "The less densely packed silos allow more air inside the silage leading to loss."

- ►Simply requiring the packing tractor and operator to never stop packing;
- ►Addition of weight (tire fluid, counterweights, etc..) to the packing tractor;
- ►Delivery rate may dictate more than one packing machine is required.

Extension personnel can measure your silo's density. This is not only a good measure of your packing capacity, but also a great exercise to determine your feed inventory and make appropriate ration adjustments. It's much easier to make those changes for 12 months than it is to discover in June that you are not going to have enough silage then try to stretch it during just a few months. Please give your area dairy agent a call after silo harvest to measure your silo's density.

—M. Chase Scott, Extension Agent, Southwest Virginia (276) 223-6040; miscott1@vt.edu