

Dairy Pipeline

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Department of Dairy Science

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Personnel changes in Dairy Science Department

Dr. Ray Nebel left the Department of Dairy Science in July 2005 to join the private sector. We will continue to benefit from his expertise as his new responsibilities will include working with Virginia dairy producers. He has been replaced as Extension Project Leader for Dairy Science by Dr. Bennet Cassell. Bennet holds BS (1968) and MS (1972) degrees in Dairy Science at Virginia Tech. He joined the Dairy faculty in 1982 immediately after receiving his PhD degree from NC State. Dr. Cassell is the long time author of the genetics portion of the Hoards Dairyman AI column.

Leadership at the Virginia Tech dairy farm changed in July with the retirement of Mr. Harold Nester as superintendent of the dairy herd. Harold gave leadership to the transition from the old to new dairy facilities. In the process, he maintained herd productivity while continuing to support the research, teaching, and extension missions of the department. We are deeply indebted to Harold and wish him every success in his retirement. Harold has been replaced by Mr. Shane Brannock, former MS student in the Dairy Department and manager of the James River Correctional Center dairy herd. Shane completed his BS in Animal Science at Virginia Tech in 1976. He has a very diverse background of practical business and agricultural experience and promises new, innovative approaches to go with the new dairy facilities that he now manages.

Two new faculty members join the ranks of Dairy faculty in August. Dr. Ben Corl joins us as Assistant Professor with major research responsibilities in nutritional physiology. He received his BS in Biochemistry from Virginia Tech in 1997 and went on to complete a PhD at Cornell, working with conjugated linoleic acid. Ben hails from the beautiful Middletown Valley region in Maryland, and has permanent ties to our community through his wife Julie, who grew up in Blacksburg. Our second new faculty member is Dr. Mark Hanigan, who will join the faculty as an Associate Professor. Dr. Hanigan was educated at Iowa State and UC Davis, with emphasis in nutrition and molecular biology. He will also have major research responsibilities and will work in the area of amino acid metabolism in lactating dairy cow.

Change is guaranteed. Success is not. We are enthusiastic that the changes in personnel throughout the

Dairy Science family will give us more than ample opportunity for success. We say fond farewells to exiting employees and proudly introduce our new family members to the dairy industry of Virginia.

Mike Akers

Head, Department of Dairy Science

Supplementing cows and heifers on pasture

This year pasture for grazing has been extremely variable. May was very cool, followed by a very dry June. In some regions of the state the drought has persisted, while in others heavy rains have encouraged lush growth. These variable conditions make a "one size fits all recommendation" for pasture supplementation an untenable option for meeting the nutritional needs of growing heifers. Here are five recommendations for the pasture reared dairy heifer.

1. It's not uncommon for grazers in more temperate climates to move heifer calves into pasture systems when they are 3 months old. There are two risks that must be considered. First, heifers should be included in parasite control programs shortly after entering the pasture systems with the advice of your veterinarian. The second risk is of low intake and variable quality. Typically intake is lower on pasture than confinement system rations. This is especially important when demand for nutrients is high. Typically young calves (< 6 months of age) will require continued, significant concentrate intake (5 lb./ head/ day).
2. Inclusion of an ionophore will probably yield as much return as any additive available today. Ionophores are best included in the diet by including them in even a limited amount of a concentrate mixture. Lasalocid (Bovatec) may be fed in free choice mineral supplements, but Monensin (Rumensin) is most successful when included as a component of a concentrate mixture that is fed daily.
3. Nutrient levels of pasture are highly variable in much of the U.S. During the cooler months of the year it's not uncommon for pastures to contain in excess of 16% protein and 70% TDN, which is more than adequate to support excellent rates of growth (>1.8 lb. / day) in older heifers without too much additional supplementation. Vitamins and most minerals are also adequate in high quality pasture. However, during drought and the hotter months of the summer, protein may decline to less than 12%

and energy to less than 60% TDN, which is not adequate. During these months supplemental concentrate feeding is necessary.

4. How much concentrate to feed/day? I hear many dairy producers and heifer growers' state that they feed 5 lb. / heifer / day regardless of the pasture quality or availability. If one assumes that a 16% protein mixture cost \$175/ton, this could represent an extra \$.40/head/day in unnecessary added costs if heifers are consuming a high quality pasture mixture.
5. Most progressive dairy producers or heifer growers have weight tapes or have purchased electronic or mechanical scales to evaluate heifer growth during routine handling procedures such as vaccination, parasite control or breeding. This provides an opportunity to objectively evaluate growth of heifers and make more timely adjustments in supplemental concentrate feeding if growth is outside of the desired ranges of gain. Documented weights can reveal the existence of management or nutritional deficiencies that might go unnoticed if the manager relies solely on the "eyeball method".

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What's in your milk?

With one of the hottest summers of the last few years upon us, cases of clinical mastitis have been on the rise and, along with that, an increased use of antibiotics to try to cure the infected quarters. With chronic environmental infections, some herds are using extra-labeled drugs on the advice of their veterinarians to increase cure rates. With products formulated specifically for intra-mammary mastitis treatment, withdrawal times are known and can be relied upon, often with a guarantee from the manufacturer. But how sure are you that an extra-label antibiotic is totally cleared from your milk? In addition, more and more herds are going to pre-treating heifers with either a dry cow or lactating cow intra-mammary treatment. Do those first lactation animals, with smaller udders and better penetration of antibiotic through the udder, have longer or shorter withdrawal times? Even the best managed herds can have simple things happen, such as forgetting to band treated cows, forgetting to remove the milk line from the tank if treated cows are milked last, not thoroughly cleaning equipment after milking a treated cow and surprisingly, employees leaving the treated quarter out of the tank, but putting the other quarters in the tank. Let's also not forget the labor

issues everyone seems to have now, such as the turnover rate of employees increasing and the challenge of training new labor correctly on how to manage treated and fresh cows. The only reliable way to tell if an antibiotic has cleared from a cow's system is the use of on farm testing. There are many tests out there available for purchase from your milk cooperative, the most common being the Delvotest® and SNAP®. These tests are easy to use and only take 15 minutes to three hours for results, depending on the test. Heater units for these tests require an initial investment of \$200 on average. Costs for running samples are anywhere from \$1.10 - \$3.00 per sample. That's too expensive you say? Consider the average herd in Virginia of 147 cows making 70 pounds of milk, on every other day pickup. That equates to 20,580 pounds of milk. At a \$13 Class II price, that equates to a loss of \$2700 if the tank was contaminated with antibiotics and needed to be dumped. Additionally, if that tank of milk made it on to the truck, it can cost you upwards of another \$4000 to pay for the rest of the milk on the truck if it isn't caught soon enough. With \$2700 you can purchase anywhere from 900 – 2000 individual antibiotic residue tests. Doesn't that seem like a fair investment? And isn't it cheap insurance, with the need to manage financials more tightly than ever because of the ever changing target of milk price? For more information on which test is right for you, call your local Co-op representative or Dairy Extension Agent.

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Upcoming Activities

Recruiting Day, *Virginia Tech*
Litton Reaves Hall

October 15

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.

Bennet Cassell
Bennet G. Cassell
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