Virginia Cooperative Extension

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DAIRY PIPELINE

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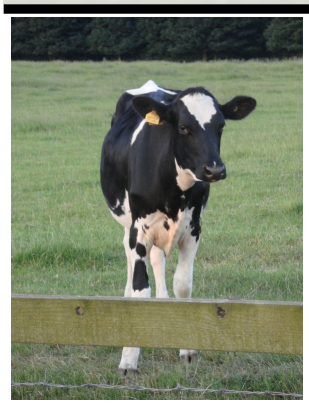

"Until recently there was very little incentive for farmers in the Commonwealth to want to share their efforts towards environmental stewardship with the government."

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Got Voluntary Ag BMPs?

Since the 1980's, Virginia's Department of Conservation and Recreation (DCR) has collected information on the number and type of agricultural Best Management Practices (BMPs). This information has been shared with the Environmental Protection Agency (EPA) for use in the Chesapeake Bay Watershed Model. To date, the information entered into the system has been limited to BMPs that have been implemented utilizing federal or state cost share dollars. Until recently there was very little incentive for farmers in the Commonwealth to share their efforts towards environmental stewardship with the government.

The incentive to share that information now comes in the form of the Chesapeake Bay TMDL. To document progress in reducing the agricultural nutrient loads reaching the Bay, Virginia must prove that it has implemented enough BMPs to reach their two year milestones and ultimately the 2025 goal. Failure to show sufficient progress in the rate of BMP implementation may result in the legislation of mandatory BMP adoption by the Commonwealth farms. Alternatively, Virginia's Water Implementation Plan also suggested requiring certain BMPs be used on farmland before it could be eligible for land use taxation rates locally.

The agriculture industry accurately pointed out that there are many BMPs installed on farms without cost share funding that are not currently credited in the Watershed Model. The 2010 Virginia General Assembly passed Senate Bill 346 which required the Secretary of Natural Resources to submit a plan to establish a data collection system for agricultural and forestry BMPs implemented voluntarily in the Commonwealth. In Secretary Domenech's plan, he designated Virginia's 47 soil and water conservation districts to be the primary mechanism for collection and entry of voluntary agricultural BMP data. The plan further designated 6 SWCDs to pilot the Agricultural Voluntary BMP Assessment during the 2012 Fiscal Year spanning from July 1, 2011 to June 30, 2012.

Participation in the Agricultural Voluntary BMP Assessment pilot program will create three categories of BMPs.

1. First, it will detail BMPs that were installed to the Natural Resources Conservation Service (NRCS) specifications using cost shared funding. These BMPs are more than likely already accounted for in Virginia's BMP Tracking Program.
2. The second category will include non-cost shared BMPs that can meet the NRCS specifications for installation and maintenance. These BMP's will receive full credit in the Chesapeake Bay Watershed model and count towards achieving Virginia's BMP milestones.
3. The final category will be those BMPs that were installed without cost share but do not meet their respective NRCS specifications. They will be noted in the Virginia BMP Tracking Program while EPA works to establish at what level they may be credited in the future.

If your operation is located in one of the following 6 pilot SWCDs, you should seriously consider participating in the Agricultural Voluntary BMP Assessment: Shenandoah Valley, Thomas Jefferson, Three Rivers, Holston River, Blue Ridge and Virginia Dare.

---John Welsh
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Upcoming

October 11 - Dairy BQA Training - Weyers Cave Community Center - Weyers Cave, VA 5:00 PM

October 12 - Dairy BQA Training - Montezuma Hall - Montezuma, VA 10:00 AM

For details, contact John Welsh at jlwelsh@vt.edu or 540-564-3080.

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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Using Animal Activity to Detect Disease

Metabolic diseases in the transition period continue to cause substantial economic losses to dairy producers. With the advancement in activity monitors for dairy cows, researchers have begun to examine ways to utilize animal behavior data to detect disease prior to the onset of clinical signs. The Virginia Tech Dairy Center was given the new AfiFarm pedometer system called "PedometerPlus©". These new monitors record total rest time (time spent lying), rest bouts (number of times the animals went from lying to standing), rest time per bout and traditional step activity. With this data, we can now compare the behavior of healthy animals compared to those who are sick. Last year, we evaluated this with respect to experimental mastitis and more recently; Emily Yeiser (Master's student) examined this in relation to metabolic disease. In her study, activity measures were collected during the periparturient period to determine the likelihood of disease occurrence. Primiparous and multiparous Holstein, Jersey, and crossbred dairy cows were monitored for rest bouts, rest duration, rest time, and average daily steps throughout the pre and postpartum periods from -21 days to +30 days relative to calving. We were able to analyze the data related to dystocia, subclinical ketosis, clinical mastitis, and milk fever. Our results show that on the day of calving, rest bouts increased in animals that experienced dystocia over those who did not experience dystocia. Further, cows experiencing subclinical ketosis displayed increased rest bouts on the day prior to disease and decreased daily steps 6 days before the disease was diagnosed. Additionally, cows experiencing clinical mastitis had decreased rest times beginning 3 days prior to the onset of disease as compared to animals without mastitis. Cows with milk fever displayed more rest bouts with decreased daily steps on the day prior to and the day after disease diagnosis and increased overall rest duration and time after the clinical diagnosis of disease compared to cows that were not diseased. As you can see from this study, there are certainly changes in activity both prior to the onset of metabolic disease, as well as afterwards. These deviations may allow producers to identify animals at risk for disease and more proactively manage herd health in the future. However, we still do not have the research to know what to do with these cows once they are identified as "at-risk". Therefore, future studies will be designed to examine whether early intervention may be appropriate.

> "With the advancement in activity monitors for dairy cows, researchers have begun to examine ways to utilize animal behavior data to detect disease prior to the onset of clinical signs."

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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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