

## DAIRY PIPELINE

Department of Dairy Science

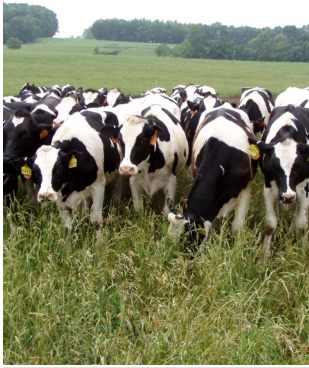
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**“Establishing grazing protocols will allow the most efficient utilization of grazing pastures.”**

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### LET THE GRAZING BEGIN!

Spring has sprung and right around the corner comes the hot summer months, so take advantage of lush, green pasture growth while you can! This year's mild winter across the United States has allowed almost year-round grazing for many areas.

With a new season the key is pasture management. The most important thing is to understand proper grazing management and how to maintain a hardy pasture, thus allowing animals to receive the greatest benefit. Establishing grazing protocols will allow the most efficient utilization of grazing pastures. Before sending cattle out to pasture, ask yourself a few questions.

First, why does your business use pasture grazing? Is the pasture used to help offset costs associated with buying feed? Is the pasture going to be used to help decrease the demand on stored forages? Assist in alleviating shortages until harvest? Are you a seasonal grazing operation, or using it to allow for exercise while still feeding a total mixed ration?

Second, does your operation provide the cows with enough acreage to continuously move from one pasture to another without overgrazing? It is vital to know the number of animal units that will be grazing. Next estimate how many acres will be needed throughout the entire grazing season, and estimate the size and number of individual paddocks needed for optimal grazing.

Third, are YOU ready for a program that at times can be time consuming if done correctly?!

The key to any pasture management program is to prevent OVERGRAZING while meeting the animal's nutritional needs with the available forages. Every operation is

different, and if you want a successful grazing program on your farm, knowing your animals, plants, and soil is of the utmost importance. The type of plants and soil quality can greatly affect the number of days animals can be left grazing and the length of time between pasture rest periods. Weather conditions play a huge role in both quality and quantity of available pasture. Grazing months can have both pros and cons. During the spring growth is rapid with higher quality, but can allow for greater waste. Summer months mean decreased yield, lower quality, and more time consuming movement.

Viewpoints differ on when to rotate cattle from one paddock to another. Some rotate based on forage length, allowing animals to graze until a predetermined stubble height. Grazing can supply a large amount of the animals' forage needs during optimal growing conditions. In the case of dairy cows, emphasis should be on pasture adaptation time and the effects grazing can have on milk production. Grazing cows have higher maintenance requirements because of the higher level of activity involved, thus lactating cows should not be pastured far distances from the milking facility.

After evaluating your pasture quality and quantity, if you feel pasture-based farming is right for your business, contact your local Virginia Cooperative Extension office. Our staff can answer questions and address concerns. The Extension office can provide the information and the expertise to assist in developing a grazing program suited for your cows.

—Cynthia Martel

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### ON-FARM CULTURING: UNDERSTANDING THE BASICS

Mastitis has been reported to be the most frequent reason for on-farm antibiotic use. However, culture results yield approximately 40% of cases that show no bacterial growth and therefore, may not require treatment

(Roberson, 2003). Additionally, antibiotic treatment of a portion of the Gram-positive pathogens isolated from clinical mastitis cases is not recommended due to susceptibility results and/or clinical history of

### ACTIVITIES

#### On-farm Milk Culture Training Workshop

Late April/Early May  
Contact [milk@vt.edu](mailto:milk@vt.edu) for details.

#### Hokie Cow Classic Golf Fund Raiser

May 21, Blacksburg Country Club. See [www.dasc.vt.edu](http://www.dasc.vt.edu) for details.

#### Feeder Management Workshop

June 5, Hodges View Dairy, Rocky Mount, VA. Contact Bob James ([jamesre@vt.edu](mailto:jamesre@vt.edu)) or Cynthia Martel ([cmartel@vt.edu](mailto:cmartel@vt.edu)) for more information.

#### FFA Dairy Food Career Development Event

June 18, Virginia Tech. See [www.vtdairy.dasc.vt.edu](http://www.vtdairy.dasc.vt.edu) for details.

#### FFA Dairy Cattle Career Development Event and Dairy Handlers Activity

June 19-20, Virginia Tech. See [www.vtdairy.dasc.vt.edu](http://www.vtdairy.dasc.vt.edu) for details.

#### State 4-H Dairy Quiz Bowl:

June 26, Virginia Tech. See [www.vtdairy.dasc.vt.edu](http://www.vtdairy.dasc.vt.edu) for details.

*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.*

**“Traditional methods of culturing via laboratory do not always yield timely results, but fortunately various on-farm culture systems have been developed.”**

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the cow. Therefore, administering antibiotics to all cases of clinical mastitis results in unnecessary dumped milk and the economic loss associated with antibiotic treatment (Lago et al., 2011a). Consequently, antibiotic treatment should be determined by culture results of each individual case of clinical mastitis. Traditional methods of culturing via laboratory do not always yield timely results, but fortunately various on-farm culture systems have been developed.

One system commonly used, is the University of Minnesota Bi-Plate or Tri-Plate system. As the names suggest, the Bi-Plate is an agar plate with two medias and the Tri-Plate offers three media types. The Bi-Plate system can distinguish between Gram-positive pathogens, such as *Staph. aureus* or *Streptococcus* spp., and Gram-negative pathogens such as *E. coli*. Whereas, the Tri-Plate system has a selective media for *Streptococcus* spp, allowing a producer to distinguish those from other Gram-positive pathogens such as *Staph. aureus*. The cost comparison between these two testing systems is \$2.80 per sample for the Tri-Plate compared to \$1.75 per sample for the Bi-Plate. In my opinion, the ability to distinguish *Streptococcus* spp. from other Gram-positive pathogens is worth the \$0.95 difference in cost.

To set up an on-farm culture system, a producer needs sterile tubes to aseptically collect milk samples, an incubator, the agar plates and sterile swabs. A commonly used and low-cost incubator is the Hova-Bator (model 50011), available online for \$55.00. The remaining supplies are available for purchase from the University of Minnesota Veterinary Diagnostic Laboratory. The plates can be purchased individually, so a minimum quantity is not required. The sterile tubes are \$23.00/125 tubes and the sterile swabs are \$1.00/100 swabs. This allows producers to tailor the order to their needs and herd size. In essence, the supply cost is approximately \$3.00/sample with the start-up cost of \$55.00 for the incubator.

Once a cow has been identified with mastitis, a sample should be aseptically collected from the clinical quarter. Using

a sterile swab, the milk is streaked on each of the 2 or 3 medias (depending on whether the Bi-Plate or Tri-Plate is chosen) and put in the incubator for 24 hours. At 24 hours, the plate is read and with the use of the Easy Culture System Handbook (available at no-cost from the University of Minnesota VDL), the reader can determine the pathogen type. Based on pathogen type, an appropriate treatment protocol is assigned. I suggest each producer work with their herd veterinarian to set up treatment protocols using the on-farm culture system.

Many producers are hesitant to wait 24 hours for the culture results prior to starting treatment. However, the literature suggests there is no difference in days to clinical cure or treatment failure—and in fact, waiting for the cultures tended to decrease milk withholding time by one day and also reduced antibiotic use by half (Lago et al., 2011a). Furthermore, no long-term effects were seen for SCC, milk production, clinical mastitis recurrence or survival in the herd for the remaining lactation (Lago et al., 2011b).

Based on these research findings coupled with the low input costs associated with this system, an on-farm culture system can work for most dairy operations. The operation must have at least one person who is interested in gaining this knowledge and becoming adept at reading the agar plates. Identifying pathogens is not necessarily an easy task, but this system has taken much of the guess-work out.

The Mastitis & Immunology Laboratory will be hosting an on-farm milk culture training workshop in late April/early May due to producer interest. This workshop will be limited in size, and therefore if you are interested in attending, please contact me ASAP ([milk@vt.edu](mailto:milk@vt.edu)).

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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](http://www.vtdairy.dasc.vt.edu).*



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