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DAIRY PIPELINE

Fly Season Has Arrived!! You've probably read that first sentence and thought, "It's too early yet!", but it's not too early to start preventative measures. As you probably know, the warm and humid conditions in Virginia and the amount of organic matter on our dairy farms make it the perfect breeding grounds for flies. Flies are a good vector for the spread of diseases such as pink eye and *Staph Aureus* mastitis. Heifers are extremely susceptible to these diseases as more often than not, they are not being looked at everyday. By reducing the fly population on your farm, you can prevent blind eyes and the spread of contagious mastitis to your herd. Now is the ideal time to start your entire herd on a pour-on fly control product. These products provide the best solution to the fly problem and in addition they can provide protection against worms and eradicate lice. Fly tags alone are not sufficient for reducing populations as research has shown an increase in resistance to organophosphates and pyrethrum due to the slow, constant release of these compounds. Additionally, fly tags do nothing to control flies biting udders. Pour-on control needs to be applied to all animals, including wet calves, beginning now. It should continue every 4 to 6 weeks to be effective. Also, you should rotate products at least yearly, if not twice a year. Rotate active ingredients, NOT name brands. Different name brands can have the same active ingredients. In addition to pour-on fly control, you should consider some other management practices. First, make sure you maintain your facility and minimize areas where manure and other organic material can build up. These are the breeding grounds for flies. Second, consider feeding an oral larvacide to the whole herd, which will control juvenile fly populations and reduce overall loading. All the pour-on and spray will not be effective if you have another generation of flies hatching daily. Lastly, keep good records. Record what product was used and when it was used. Keep track of mastitis, pink eye and other health records to enable your herd veterinarian or Extension Agent to help pinpoint problem areas. By starting now, you too can help reduce (notice I didn't say eradicate!) the fly population on the farm!

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Adapting to change and new technologies. Changing technologies are nothing new to the dairy industry. Dairy farming is one of the most intensive technology intergraded farming system in the world of production agriculture. The market generally sorts out which technologies offer a competitive advantage and which do not. Very few technologies are appropriate for every farm. The issue for any single dairy producer is if and when to adopt a new technology. Since no dairy producer will adopt every new technology and no new technology will work on every farm, the questions are how will producers decide which technologies to adopt and when? Since microcomputers appeared in the early 1980's their use has greatly changed the way we work, think and communicate. Computers had many early applications in dairy management such as computerized feeding systems, ration balancing, electronic access to production records, automatic milk recording, electronic heat detection systems and accounting packages. However, computers have been accepted as a management and productivity tool much more rapidly in the non-agricultural sector than in the agricultural sector. Development of artificial intelligence has been the recent computer technology field that includes expert systems, machine learning, speech recognition, computer vision and robotics. The Internet has opened the world through the portal of the connected computer. The world is a much smaller place because of the advancements in information technologies available at one's fingertips with the use of the Internet. **Requirements for the profitable adoption of a new technology!** Since no farm will adopt every new technology and no new technology fits every farm, what should a dairy producer consider when deciding what to do? 1. **Efficacy**: Does the technology really work under conditions similar to what is on the farm? Ideally, this should include both controlled research studies (usually conducted at a major University) and an evaluation of the technology under practical conditions. 2. **Management**: Can management adjust to new methods or change of procedures so that the farm can reap benefits? Every new technology requires new skills, knowledge, and focus of thinking. 3. **Initial Investment**: What are the start-up costs? Do changes in facilities need to be made to adopt the new technology? Can the technology be phased in on a small scale to evaluate its value on your farm? If the new technology does not work for you, what is the downside risk? 4. **Labor**: What changes in labor will the new technology require, including employee training? 5. **Feelings**: What are your own psychological/cultural feelings and beliefs about the technology? Remember that many times the obstacle preventing adoption of a profitable technology is not the practical issue, but an emotional one. Today the one constant appears to be change! Do you use Timed Breeding Protocols such as PreSynch-Ovsynch to pre-determine the start of the breeding cycle. Will you use

ultrasound for early pregnancy determination, or will sex sorted semen be a part of your heifer AI program?

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Rumensin – A new management tool for dairymen. In October, the FDA approved the use of the ionophore, Rumensin, for use in lactating and dry dairy cattle. Many producers have used Rumensin in dairy heifers as an aid to controlling coccidiosis and for improved feed efficiency. However, it's now approved for use in the milking herd with claims for improved milk production efficiency. Rumensin is an antibiotic that's not used in the human food industry. It alters fermentation of carbohydrates in the rumen by changing microbial populations resulting in more glucose precursors (that's good for lactose production) and less waste gas production. Effective dairy managers should evaluate this new technology by weighing **expected costs** against **expected benefits** and estimating the likelihood that a beneficial response will be observed. The good news is that inclusion of Rumensin in the ration costs pennies per day. Therefore, the amount of increased milk production necessary to generate a net positive return is small. Inclusion of Rumensin in the ration should result in an improvement in milk production of 1.8% to 3.9%. In addition, since it improves glucose production by the cow, it would be expected to lessen the risk of ketosis when fed to dry and transition cows. **What are the risks?** Rumensin has a very wide safety margin for humans and animals. Lowered milk fat percentage has been observed, particularly when effective fiber levels are marginal in the ration.

Nutritional management when Rumensin is included in the ration.

1. Include Rumensin in the ration at 11 g/ton of total ration dry matter to begin. This is equal to 5.5 mg/lb. of ration dry matter. Increases in feeding rates should only be made in consultation with a qualified nutritionist.
2. Feed Rumensin by adding it to a concentrate or mineral carrier mixture provided by your feed mill to assure accurate mixing. Feed this mixture as part of a total mixed ration. Feeding Rumensin in a concentrate mixture during milking or separate from a TMR is not approved at this time.
3. Rations must contain adequate effective fiber
   a. If milk fat % is less than 3.5% for Holsteins, correct the fiber deficiencies before using Rumensin.
   b. Rations should contain the following minimum levels of fiber
      i. 19 – 20% Acid Detergent Fiber
      ii. 28- 30% Neutral Detergent Fiber
      iii. 21% NDF from forage
      iv. 10% of the ration should reside on the top screen if the Penn State Particle Separator is used.
      v. More than 50% of the cows should be chewing their cud when observed.
      vi. If rations don't contain long forage, consider adding 1 to 2 lb. of ground straw per cow per day.
   c. Consider using buffers such as sodium bicarbonate at a rate of .3 lb. per day.
4. Give it time. Once Rumensin is added keep it in the ration for at least one month before making a judgment on it's efficacy in your herd.

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**** Upcoming Activities****

VT Showcase Sale, *German Club* Southgate Drive	April 15
Little All-American Dairy Show *Etgen Pavilion*, Virgina Tech Dairy Center	April 16
Hokie Cow Classic, Virginia Tech *Blacksburg Country Club*	May 31
Waste Management System Demonstration and Dairy Tour, *Virginia Tech Dairy Center*	July 15
State 4-H/FFA Dairy Youth Field Day *Harrisonburg*	August 5

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