Dairy Pipeline

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New Educational Programs on Risk Management for Dairy Farmers

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It is mid-September, and the Class III milk prices for October and November are close to or above $23/cwt at the Chicago Mercantile Exchange (www.cmegroup.com). These prices are unusual, and clearly reflect a high-demand scenario. While navigating this scenario is likely satisfying and comfortable, dairy managers should keep an eye on risk management to buffer any potential downtrends in the near future.

Our dairy extension program in the School of Animal Sciences at Virginia Tech has delivered educational programs on risk management for dairy farmers for almost a decade, and the Southern Extension Risk Management Education (Southern ERME) program of the National Institute of Food and Agriculture in the USDA has supported all these educational programs.

Last year, as part of the dairy extension program, we launched an e-learning module explaining the basic concepts of the Futures Market. This e-learning module, called "Managing Milk Prices Using the Futures Market," is interactive and can be completed in about 90 minutes. To access the module, you should request login information by emailing dairymanagementvt@gmail.com. Once you receive the login details, visit https://dairymanagement.cals.vt.edu and access the module.

In October, the enrollment for the 2025 Dairy Margin Coverage Program will likely open. While the Futures Market helps hedging or "locking in" a milk price, the Dairy Margin Coverage Program is an insurance to protect against low margins. In the context of the Dairy Margin Coverage, the margin is the difference between milk price and feeding costs. In other words, the margin under the Dairy Margin Coverage is conceptually the same as what we know as Income Over Feed Costs (IOFC). It is very important to repeat and highlight that the Dairy Margin Coverage is an insurance and not (strictly speaking) an investment. This program has been developed as a safety net to buffer the fall when margins are low. It is also important to highlight that low margins can occur with high milk prices when commodities prices are high. Alternatively, margins can be relatively high even when milk prices are low and commodities prices are very low as well (a scenario observed during the 2015 crisis).

Another tool for managing financial risk is the Dairy Revenue Protection (DRP) program. This tool is a bit more complex to understand. I consider this a hybrid as there is some locking in of prices while also being an insurance. In this case, the farmer would not be securing a price or a margin, but rather certain revenue according to the price locked in and the premium paid for the insurance.

Continuing with our extension program on risk management, soon we will release new educational programs to explain both the Dairy Margin Coverage and the Dairy Revenue Protection Programs. As in previous programs, our idea is to deliver programs in person. However, we will also prepare e-learning modules to perpetuate the program and reach the maximum number of stakeholders. Stay tuned for more information. In the meantime, sharpen your pencil and think about your most convenient tool for managing financial risk.

The Dry Period: What to Consider

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What does a dry period entail for the everyday dairy cow? "Dry" refers to the point in a cow's lactation cycle where she is no longer producing milk, or in other words, lactation has ceased. Traditionally, this period lasts 60 days and is the last two months of gestation. This period allows the cow to finish growing her calf while providing a period of rejuvenation of the mammary gland to prepare for the upcoming lactation. According to industry standard, cows are dried-off by expected calving date, given dry-cow therapy, and moved to a specified dry cow area. Recent research has shown that more thought is required to prepare dairy cows for a productive next lactation. Dry cow management by means of milk cessation methods, changes to dry-cow therapy, and a reduction in dry period length are additional practices that may enhance the likelihood of a productive subsequent lactation and are discussed in this article.

It is important to understand what occurs in the mammary gland following milk cessation. After initial dry-off, the mammary gland will go through involution. The gland will still produce milk for the first couple of days and after 36 hours without milking, the udder will reach full capacity. At this point the alveolar cells (responsible for milk production) will undergo a programmed cell death. All liquid secreted post dry-off will be reabsorbed by day 11, reducing intramammary pressure. Once the remaining liquid has been absorbed and cells are no longer secreting milk, the mammary gland is considered involuted.

Dry-cow management programs should consider all aspects of the dry period including animals approaching dry-off, the day of dry-off, the dry period as a whole, cows nearing parturition, and the length of this period. Attention to these details helps to prepare cows for a successful subsequent lactation. Alternate milk cessation methods are gaining popularity in the U.S., as the differences between abrupt cessation and gradual cessation are compared and researched. Abrupt cessation occurs when the farm continues to milk late lactation cows two or three times per day, up until the day of dry-off. Gradual cessation happens when farms reduce milking frequency before the dry-off date, such as one time per day for the week prior to dry-off, to reduce milk production before the cow is dried. Research regarding gradual cessation, has found that udder health is improved in relation to fewer clinical mastitis cases during the dry period and at calving (Gott et al., 2017). Research also shows that cows with a greater milk yield at dry off (>35 lbs/day) are associated with increased somatic cell scores in the subsequent lactation (Gott et al., 2017). The benefits from utilizing gradual cessation will be herd specific, but decreasing milk yield before the dry off date has a positive effect on milk quality in terms of maintaining a lower somatic cell count in the following lactation.

Once a farm has evaluated whether abrupt cessation or gradual cessation is better for their cows, dry cow therapy (DCT) protocols can be considered. Infusion of intramammary antibiotics with or without a teat sealant in all quarters of all cows (also known as blanket treatment) is a common DCT protocol. With rising concerns from consumers about antibiotic usage in dairy, the industry is looking for ways to reduce antibiotic usage. This has sparked research to evaluate – blanket DCT compared with selective DCT. Blanket DCT gives all cows intramammary antibiotics in all quarters, whereas selective DCT

gives an antibiotic treatment to infected quarters only or all quarters of a cow with at least one infected quarter. Infection status is determined by milk bacteriology from aseptically collected quarter samples 1-2 days before the dry-off date. Cows with no bacterial isolation received a teat sealant in all quarters. Research has shown that using selective DCT has no negative effect on somatic cell count or milk yield in the following lactation. Utilizing selective DCT gives farms the ability to decrease antibiotic usage and cost in dry cows without affecting the health of the cow and milk production in a subsequent lactation (Cameron et al., 2015).

After deciding what methods to use for milk cessation and dry cow therapy, farm managers can look at the length of the dry period. Traditionally, farms plan for a 60-day period, but recent research on utilizing a shorter length has shown a reduced risk of mastitis and transition issues at onset of lactation (O'Hara et al., 2020). Parity and duration of the dry period influence subsequent milk yield (O'Hara et al., 2020). Cows that are both abruptly dried off and have a short dry period length, show reduced milk yield in the subsequent lactation (Shoshani et al., 2014). Some research has shown that a reduction in length to ~40 days compared to ~60 days, resulted in increased milk yield, improvements in reproduction and energy balance, with no negative effect on colostrum production (Shoshani et al., 2014).

When managing a dairy farm, there will always be what seems like a hundred options, methods, and scenarios to consider. Without diving into the plethora of all other details to manage during the end of lactation, it is imperative to think about other stressors and problems that could derail the cow from having a productive subsequent lactation. These include but are not limited to body condition score at dry-off and throughout this period, nutritional needs and changes that come with different rations, social and physiological changes, and heat stress. While this article did not delve into these details, they should not be ignored. Each management decision must be farm-specific, with consulting veterinary expertise and knowing what the farm can handle.

Upcoming Events

October 21, 2024
Hokie Cow Classic
Blacksburg County Club

October 25, 2024
Inductions to the Livestock Hall of Fame
Blacksburg, VA

November 7, 2024
Grain Bin Safety Awareness Program
Franklin County

December 13-14, 2024
VA WISE Cattle & Equipment Women Increasing Skills & Education
Chatham, VA

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.

Additional Notes:

The dairy extension group is working with VDH to assist in the distribution of PPE for dairy farms. Request a kit online at https://shorturl.at/ethov or contact your local extension agent. Requests will be filled as supplies allow.

For more information on Dairy Extension or to learn more about our current programs, visit us at VTDairy—Home of the Dairy Extension Program online at www.sas.vt.edu/extension/vtdairy.html

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