Extension
UNIVERSITY OF WISCONSIN-MADISON

Healthy Cows: Nutrition Recommendations for Transition Periods

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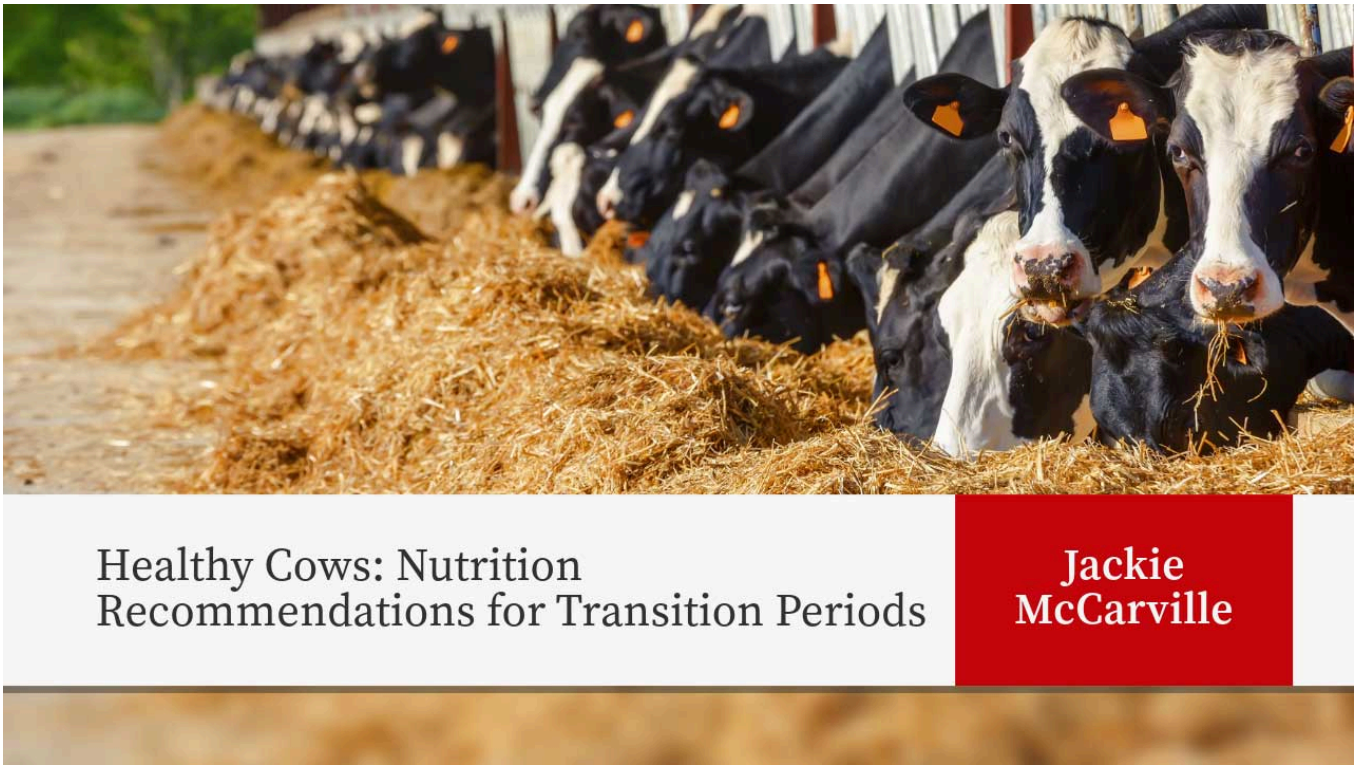
Introduction

Fresh cow diseases such as ketosis, milk fever displaced abomasum, retained placenta, metritis and mastitis can cost farmers anywhere from $150-700 per case or more, it is extremely important to pay attention to transition (both far-off and prefresh) and fresh cow diets. Not only are there costs associated with metabolic diseases, but there are also other factors that can cost a farmer extra money. Those things include lost milk production and longer days to cycle and get pregnant which increases her days in milk. However, we can manage some of these metabolic diseases by managing dry matter

intake, nutrient needs, body condition score, and stress during this critical timeframe of the dry cow, transition, and fresh cow periods.



Diet composition

Minimizing the use of high potassium forages during the transition period, especially the close-up period to manage milk fever. Sometimes low potassium feeds aren't available or are hard to source or still leave a high dietary cation anion difference (DCAD) diet. Most transition and fresh cow groups are smaller sized so can your mixer properly mix a TMR for these smaller groups? The consistency of the ration during this period is extremely important. There are some nutritional strategies used to reduce metabolic disorders during this period. Some of those practices include increasing metabolizable protein (MP), balancing for (DCAD), and controlling energy levels in the diet.

The following issues can be decreased with proper ration composition:

Ketosis

Ketosis is largely tied to negative energy balance and body condition score before and after calving. Too much energy during the dry cow and transition period can cause issues along with poor energy after calving. Keeping cows eating during the transition period is critical to keeping them healthy.

Milk fever

Feeding low potassium forages in the dry cow and transition can help prevent milk fever. However, the use of anionic products or phosphorus binding agents such as zeolite A and balancing the diet for DCAD might be necessary to help improve calcium metabolism. If balancing a diet for DCADs, it is important to monitor the animals to make sure the supplement is working. This can be done by checking the urine pH in these animals that have been fed DCAD supplement for at least 2 days. Feeding higher dietary magnesium levels can help during the prefresh period as it helps with calcium homeostasis. Appropriate levels of Vitamin D need to be fed also as it helps with calcium and phosphorus absorption.

Retained placenta

Retained placenta can be prevented by feeding a nutritionally balanced ration especially vitamins and minerals and maintaining proper body condition score during the dry and transition period. Deficiencies and excesses of minerals can cause issues during this time.

Displaced abomasum

Displaced abomasum generally can be avoided by making small and gradual changes in rations between the transition, fresh, and lactating diets. Avoid over-feeding concentrates which can cause acidosis and provide proper fiber levels.

Metritis

Metritis can be prevented by drying cows off at the proper body condition score (BCS), providing adequate bunk and resting space, a clean environment, and making a stress-free environment to optimize the animals' eating capacity.

Negative energy balance and BCS

Cows that are carrying more BCS during late lactation tend to eat less during the critical dry cow period which can lead to loss of BCS and negative energy balance. When cattle don't eat during this critical time, they use up their fat reserves to supply energy needed for maintenance and lactation.

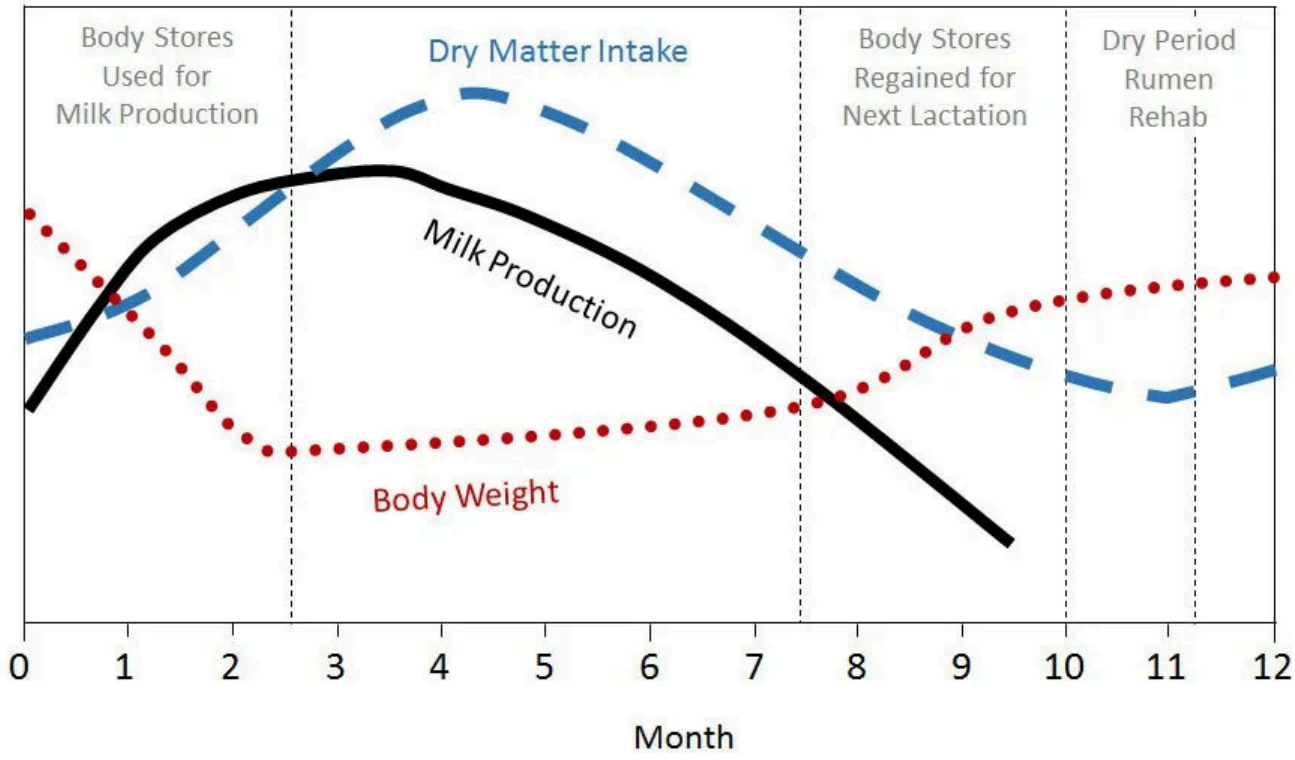


Figure 1. Changes in body weight, dry matter intake, and milk production over a single lactation. (Source: Body Condition Scoring as a Tool for Dairy Herd Management. Heinrichs, Jones, and Ishler – Penn State Extension)

Feed bunk management

Transition and fresh cows need a minimum of 30 inches of bunk space during the transition (21 days before calving) and fresh (21 days after calving) period to ensure all cows can eat at the same time. If you are using the standard (24 inch) headlocks, then understocking the pen is encouraged to allow for room to eat. Our goal is to get the cows to eat the ration formulated by a nutritionist. Ideally these rations should be fed twice per day. However, that doesn't always work so pushing up the feed frequently throughout the day will help the cattle eat fresh feed.

Stress

Ensure that transition cows have at least one stall per cow for housing allows cows to not have to compete for a place to rest. Deep loose bedded freestalls or a dry bedded pack are optimal for transition cows to allow them a comfortable place to lay without trouble getting up. Think about heat stress mitigation in the dry period too. Dry cattle can get heat stress just like milk cows. Finally, refrain from regrouping animals 2 to 7 days before calving to help avoid a dry matter intake drop.

Conclusion

Work with your nutritionist to figure out the best grouping strategies and diet formulations for your farm. The less health issues an animal has before or after calving, can help set that animal up for success during their lactation. Not only can it save the farmer money on vet bills, antibiotic costs, lost milk production; it can also help get those cows bred back sooner.

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