

Adding water to dry cow feed improves cow health

Adding water to dry cow diets improves feed intake and health

By Mya Kidson

The transition period, defined as three weeks pre-calving to three weeks post-calving, can be a challenging time for the dairy cow. One strategy to promote health in this critical time is to encourage consistent feed intake in the weeks leading up to calving. University of Guelph researchers have identified a way to optimize feed intake in the dry period, resulting in improved health after calving.

U of G Prof. Trevor DeVries, Department of Animal Biosciences, and his former graduate student Casey Havekes, demonstrated that adding water to a high-straw, dry cow diet, consequently increasing the moisture content, improves feed intake during the dry period and results in a healthier rumen environment after calving.

Maintaining consistent intake of a well-balanced diet prior to calving has been shown to improve dry matter intake and metabolic health after calving. While striving for high, consistent intake during the dry period, the energy density of such diets must be controlled in order to limit body condition gain. The concept of feeding “controlled energy dry cow diets”, or specifically high-straw dry cow diets, has gained popularity as a result of improved health across the transition period. However, due to the high inclusion rate of straw, these diets have significantly lower moisture content relative to the lactating diet that the cow begins to consume after calving.

DeVries says that maximizing intake across the transition period,



Ketosis in dairy cows

Ketosis is a metabolic disease of dairy cows that affects up to 30% of the herd during early lactation. After calving, the cow's feed intake often does not increase quickly enough to meet the energy demands associated with rising milk yield.

Risk factors for ketosis

- High body condition at calving
- Low feed intake prior to calving
- Low feed intake during early lactation

Subclinical ketosis results in

- Reduced milk production
- Decreased reproductive performance
- Other diseases such as clinical ketosis, displaced abomasum and metritis

Ketosis is costly for the dairy industry
Implementing prevention, monitoring, and treatment programs during the transition period is important to reducing costs associated with ketosis in dairy cows.

and minimizing the drop in intake as cows approach calving, is essential in preventing post-calving health disorders. DeVries hypothesized that this may be accomplished by making the dry cow diet more physically similar (i.e. in density) to the lactating diet through the addition of water.

Post-calving health disorders may include, for example, milk fever (also known as hypocalcemia, where blood calcium levels fall below an acceptable range) and ketosis (excessive negative energy balance related to reduced feed intake), both

of which result in poorer performance for the cow, and economic setbacks for the farm.

According to DeVries' research, water addition is an effective strategy in achieving the goals of maximizing intake in the weeks leading up to calving, and reducing health disorders post-calving.

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