

# Don't Play Catch Up: Early Ketosis Detection And Treatment



By Teresa Hanson, B.S.

In my last newsletter article, I reviewed two herds on the Crystal Creek® Dairy Nutrition Model and profiled the positive economic impact we had on each farm's bottom line. These herds have continued to refine team protocols, making

them even more successful and profitable. Herd B's goal was to average 80# of milk per head per day and they have now reached their goal. This herd was experiencing high subclinical ketosis rates among their fresh cows as a result of handling and management. Rather than adding costly ingredients to the ration, we explored fresh cow management as a way to increase milk production.

According to Dr. Oetzel at the University of Wisconsin-Madison, ketosis can affect up to 45% of cows under 30 days in milk. Ketosis is the buildup of ketone bodies in a cow's bloodstream as a result of either a carbohydrate deficiency or an inadequate carbohydrate metabolism. The cow's body senses that it is low on blood glucose (energy) so it breaks down fat as an alternative energy source further producing ketone bodies. This underlying issue can decrease profitability and milk production as well as increase the possibility of other health problems in early lactation.

Cows that are most susceptible to ketosis include: cows that were lame in the fresh or dry cow period, fat or skinny cows in the dry period, cows that had twins and cows that had a retained placenta. Research has shown that cows with retained placentas are sixteen times more likely to have ketosis than cows that don't have a retained placenta.

Our team strategy was to identify cows with ketosis and then develop a routine screening process for fresh cows. Fresh cows should be observed every day on a regular schedule. Assessing their appetite, udder fill, rumen fill, manure consistency and overall health can create a screening process that does not have to be time intensive. Urine strips and ketosis meters can also be used to determine BHBA levels in the cow. Please refer to Dr. Leiterman's article on page 8 to learn more about different testing

options. Once fresh cows have been identified as being ketotic, Crystal Creek® recommends they receive an oral treatment of 10 oz. of Cow Quench™ and 2 Super Boost™ boluses each day for 3 days.

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Bunk space, stall space and crowding also need to be taken into consideration when looking at your fresh cow management. Each cow should have a minimum of 30" of bunk space. If you have a freestall with 24" headlocks, only fill to 80% of capacity. Each animal should be able to eat at the same time. Holsteins should have a minimum stall length of nine feet. If animals are housed in a bedded pack, there should be 100 square feet of resting area per cow.

Implementing a ketosis screening and treatment strategy should minimize the impact of ketosis on your herd. The strategy we implemented with Herd B included a transition cow protocol for every cow that freshened. A specific pen was created for fresh cows to aid in the daily screening process. Dr. Leiterman and I went to the farm to test for BHBA levels using the Precision Xtra meter shortly after the fresh cows were put into the new pen. At that time, we showed the producer proper fresh pen screening techniques. Our initial testing, before implementing the fresh pen screening process or treatment protocols, showed 50% ketosis in the fresh cows. Prior to our initial test, the producer did not believe their fresh cows had a ketosis problem. The producer continued to screen the fresh cows and treat on a daily basis. Nothing in the ration was changed. The second test 6 weeks later showed 9% ketosis and the third test showed 16% ketosis 6 weeks after the second test (this included two cows with retained placentas). The creation of the fresh pen and daily screening helped to decrease ketosis in this herd. Not only did ketosis decrease in this herd, milk production increased.

Below, is a graph of the rolling herd average according to DHIA records.

As you can see, rolling herd average increased almost 2000#/cow in less than 6 months. We have achieved this herd's goal of 80# of milk simply by reducing this herd's incidence of subclinical ketosis. Again, the ration was not changed during this time. The ketosis level in this herd will continue to be monitored.

Assessing ketosis in your herd will help to reduce involuntary culling early in lactation, decrease post-partum health issues, improve reproduction and increase milk yield. Fresh cow screening can increase your profitability with a potential average net return of \$170/cow. Don't let fresh cows with ketosis slip through the cracks. Finding and treating ketotic cows in a more efficient manner will lead to a more profitable lactation. Call Crystal Creek® to discuss options for your herd on increasing your farm's profitability.

References:  
 Nordlund, Ken. "Fresh Cow Programs: The Key Factors to Prevent Poor Transitioning Cows." *Transition Cows*. N.p., n.d. Web. 02 May 2014.



**ROLLING HERD AVERAGE - - DHIA**

