

# Common Questions about Ketosis

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What is ketosis? What are the types of ketosis and how are they different? What are the options for treating cows if they do have ketosis? What preventative measures can be taken to ensure cows don't get ketosis? These are all common questions associated with ketosis. This article is going to define what ketosis is, what the different types are, how to treat the cows that have ketosis, and some good prevention strategies against ketosis.

## *What is ketosis?*

Ketosis is defined as 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 to form non-esterified fatty acids (NEFAs) as an alternative energy source. NEFA's are further broken down by the liver to create ketone bodies. This underlying issue can decrease profitability and milk production as well as increase the possibility of other health problems in early lactation.

There are conditions in which cows can be more susceptible or at higher risk of developing ketosis. These include cows that have either gained or lost body condition during the dry period, cows that were lame at any point during the transition or dry period, cows that calved with twins, cows that have a retained placenta, or cows that freshened in with milk fever.

## *What are the types of ketosis and how are they different?*

There are two different types of ketosis, clinical and subclinical. Subclinical ketosis is when the cow does not look outwardly sick or show signs of sickness like being off-feed, low production in milk, lethargic, etc. but is still actually suffering from ketosis. Clinical ketosis is when the cow does exhibit the signs of being outwardly sick and therefore makes the diagnosis of ketosis much easier. The majority of ketosis cases are subclinical and can be easily undiagnosed by producers, leading to decreased milk production and later on poor reproduction.

## *How to treat cows if they have Ketosis?*

Oral energy supplementation and IV glucose are two ways to treat cows that have ketosis. Crystal Creek® recommends that once a cow has been identified as ketotic, they follow the Crystal Creek® ketosis protocol of 10 oz. of Cow Quench™ and two Super Boost™ boluses each day for three days. Oral supplementation is preferred over IV treatments as it gently raises the blood glucose levels over time and is less likely to lead to a blood glucose spike and crash afterwards. Whereas IV supplementation will raise the blood glucose very quickly and it is helpful at the time, but later on is more likely to result in a “crash” of the blood glucose levels which would therefore require additional treatment. Based on this research Crystal Creek® recommends the oral supplementation route.

## *What preventative measure can be taken to ensure cows don't get ketosis?*

The best way to prevent ketosis from happening to fresh cows is through proper management. With good herd management, it will be easier and quicker to catch the cows that might be exhibiting symptoms or to monitor the cows that are more at risk of ketosis, including a routine screening process for fresh cows. Cows should be observed on a daily basis on a regular schedule. It is important to assess appetite, udder fill, rumen fill, manure consistency, and overall health as any of these being abnormal could be a quick indicator to being or becoming ketotic. Making sure that all cows have access to pushed up feed and fresh water constantly is key to ensure proper feed intake and good health. Another way to assess the cows would be to use urine strips and ketosis meters to determine BHBA levels which can indicate the cows that have higher numbers putting them at risk for or having ketosis, and the lower numbers that mean they do not have ketosis. Implementing a ketosis screening and treatment strategy should minimize the negative impact of ketosis in a herd.

Being able to know what ketosis is and looks like, along with assessing, managing, and preventing it is key to helping production and reducing involuntary culling in a herd. This will also decrease postpartum health issues, improve reproduction performance, and increase overall milk yield. Ketosis is a costly and common disease in the dairy industry. Screening, finding and treating ketotic cows in an efficient manner will keep cows healthier and lead to a more profitable herd. Contact Crystal Creek® to discuss options

or questions on how you can benefit your herd with good ketosis management strategies.