KETOSIS IN CATTLE

Ketosis is an elevated concentration of ketone bodies (acetone, acetoacetate, beta-hydroxybutyrate) in all body fluids. Key clinical signs of ketosis are vague but include anorexia, decreased milk production, noticeable loss of body condition, firm dry feces, and, occasionally, neurologic signs (nervous ketosis); however, ketosis may be subclinical or go unrecognized. Cows with ketosis can be identified via routine testing using appropriate cow side blood, milk, or urine tests. The most efficacious treatment for ketosis is oral drenching of propylene glycol. (MSD VETERINARY MANUAL)

What causes ketosis?

Ketosis is a metabolic state in which your blood has a high concentration of ketones, namely beta-Hydroxybutyrate. It occurs when your body starts using fat as its main fuel source due to limited access to glucose, or blood sugar, typically caused by starvation, fasting, or following a very low carb diet.

Signs of Ketosis in Cattle

Key clinical signs of ketosis are vague but include **anorexia, decreased milk production, noticeable loss of body condition, firm dry feces, and, occasionally, neurologic signs (nervous ketosis**); however, ketosis may be subclinical or go unrecognized.

What are the signs of clinical ketosis?

1. Lethargy (head down, lack of energy)
2. Decreased dry matter intake.
3. Decreased milk production.
4. Often a sweet smell on the breath (acetone).

How can you identify ketosis?

You can find out how much ketosis is going on in your body by testing for ketones in your blood or urine. You can buy test strips to check your pee at home. Blood meters can measure ketones in your blood.

Management to Control Ketosis in Dairy Cows

While some nutritional factors can play a role in controlling the negative impacts of ketosis in dairy cows, management is key. In fact, some cows can have high levels of ketones and still perform if it is managed properly.

1. Prevent overcrowding in your transition cow facilities.

As dairies become larger, there is often a tendency for overcrowding, especially during times when there is a flush of calving. Dairy producers may have adjusted their facilities as their dairy herd has expanded, but many still have not adjusted their transition cow facilities to match the size of their herd. Overcrowding can reduce feed intake by adding stress and by physically limiting the amount of feed bunk space available to each cow. Lastly, overcrowding negatively affects quality lying time, which increases the risk of hoof lesions developing in the first 100 days in milk.

2. Don't co-mingle cows and heifers.

Heifers will be more stressed when mingling with older cows. This can also cause a reduction in dry matter intake and further contributes to a negative energy balance.

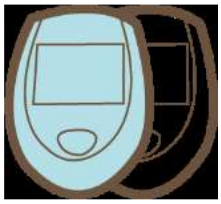
3. Reduce the number of pen movements.

There is a social hierarchy in dairy herds, and moving a cow into a new pen with cows it is not familiar with can add additional stress. Try moving the cows as a group so they can be with other cows they are familiar with.

4. Monitor body condition scores in late-lactation cows.

Group body condition scores should be monitored in the last trimester of lactation and corrected before cows enter the dry cow pen. Once they are in the dry pen, it will be difficult to correct their body condition score without increasing the risk of transition cow disorders.

Because prevention is better than treatment and cost of treatment is higher than testing for Ketones/Glucose in Cattle, it is suggested to early detect Ketones/Glucose with the use of eBGK Vet reader- strips.



ACCURATE – SIMPLE OPERATION – 2 IN 1 (Glu/Ket) – QUICK MEASURING TIME

Brand	**eBGK-VET**	
Measuring Type	Glucose	Ketone
Blood Volume	2.5 µl	0.5µl
Acceptable Hematocrit Range	20% ~ 60%	30% ~ 60%
Measuring Range	20~600 mg/dL (1.1 ~ 33.3 mmol/L)	0 ~ 8 mmol/L
Measuring Unit	mg/dL and mmol/L	only mmol/L
Measuring Time	10 seconds	10 seconds
Memory Capacity	180 results for glucose and ketone in total	
Average Display	—	
Time Display	24 H	
Operating Temperature Range	10~40 ℃	
Operating Humidity Range	Below 85%	
Meter Storage Condition	0~50 ℃	
Meter Storage Humidity Range	Below 95%	
Dimension L x W x H (mm)	85 X 63 X 15	
Weight	50 g (≦50g)	
Power Supply	CR2032 (3V, Lithium Battery)	