

Suggested Protocols: Herd Level Management

For dry cow and transition periods:

- Check 12 cows within the first two weeks of freshening. If 2 or more cows are positive, consult with your veterinarian and/or nutritionist to evaluate herd management practices during the dry cow and transition periods.

Some factors that can affect the incidence of ketosis are feed bunk space, overcrowding, heat stress, transition diets, etc.

For herd health and nutrition management:

- Check 12 cows in each feeding group quarterly. If 2 or more cows test positive, consult with your nutritionist to evaluate herd feed rations.

Prevent Subclinical Ketosis

- Feed cows according to their nutritional needs.
- Good nutrition and excellent cow management can achieve the largest gains in ketosis risk prevention.
- Establish a subclinical ketosis monitoring program for your herd.

Test for Subclinical Ketosis



the **PortaBHB**[™]
milk ketone test

- Simple, on-farm test to screen for BHB levels
- Uses milk, not urine
- Affordable and convenient
- Field tested, proven worldwide



Dip in milk



Compare to color chart

Each vial contains 25 test strips.

Intended Use:

This test is intended solely as an on-farm screening test. Consult a veterinarian before starting any treatment.

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Monitoring Subclinical Ketosis in Dairy Cows



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What is

Subclinical Ketosis?

Ketosis in dairy cows occurs as a result of negative energy balance, a condition most common during the early postpartum period. During this time, milk production is increasing dramatically, while energy intake may not be adequate to sustain the higher production level. When this happens, cows metabolize body fat to meet their energy needs, resulting in increased production of ketones, a condition known as subclinical ketosis.

The subclinical condition is much more common than clinical ketosis and has been associated with significant economic loss due to decreased milk production, impaired fertility, displaced abomasums and metritis. It is estimated that the incidence of subclinical ketosis during the first three weeks of lactation averages 30% in most herds.

Did you know?

- Ketosis causes 506 lbs milk loss per affected cow.
- Each case costs approximately \$150.
- Ketosis increases the risk of impaired fertility and displaced abomasum.
- 5% of affected cows are culled.
- Ketosis causes 0.5% death loss in affected cows.

Source: Guard, Cornell University

Why Test for

Subclinical Ketosis?

- Monitoring for subclinical ketosis in individual cows provides a means of early detection and treatment.
- Monitoring at the herd level can help producers identify problems and make appropriate management decisions to correct nutritional and other ketosis related issues.

BHB (beta-hydroxybutyrate) is one of the major ketone

bodies formed during ketosis.

How can you test for Subclinical Ketosis?

- Ketones can be monitored in blood, milk, or urine.
- The gold standard for detecting subclinical ketosis is to test for BHB in serum (lab test).
- Some on-farm tests measure BHB in milk instead of blood.
- Most ketosis powders and urine dipsticks change color in the presence of other ketones, not BHB.
- Milk tests offer the advantage of immediate results, low-cost, and ease of sample collection.
- Commonly used threshold values for subclinical ketosis are:
Blood BHB = 1200 µmol/L to 1400 µmol/L
Milk BHB = 100 µmol/L to 200 µmol/L

Items to consider

- Mastitic cows and/or cows with high SCC (> 1,000,000) may exhibit higher BHB levels.
- Abnormal milk (bloody) may alter test results.

Suggested Protocols: Individual Cow Management

Cows should be monitored for BHB at 2 to 14 days in milk when the incidence of subclinical ketosis peaks. In some cases, this period may extend to 21 days.

Recommended protocol:

- Test all fresh cows once a week during the first two weeks of lactation (identifies approximately 95% of subclinical cows).

Alternate protocols:

- Test fresh cows once during the second week of lactation (identifies approximately 69% – 86% of subclinical cows).
- Test fresh cows once during the first week of lactation (identifies approximately 30% – 56% of subclinical cows).
- Test fresh older cows (second or greater lactation).
- Test fresh cows with body condition score > 4.
- Test fresh cows during periods of heat stress.

Protocol for problem herds:

Herds experiencing an abnormal incidence of DAs, metritis, mastitis, weight loss, poor milk production, etc.

- Test all fresh cows weekly for the first six weeks of lactation.

