

# KETOSIS

“Ketosis”, in its clinical definition, refers to a specific metabolic change resulting in increased levels of ketones in the blood. This occurs when the cow breaks down body tissue in an attempt to meet energy demands around calving. The liver gets overwhelmed, and instead of making glucose, it makes ketones. Ketones in high levels are toxic to the cow, especially the brain. This article looks at the effects of negative energy status and the syndromes we call “ketosis”.

Energy intake is dependant on dry matter intake (DMI). DMI is linked to feed supply and demand. Feed must be provided and the cow must want to eat. Feed quality and quantity also play a role but, generally, on any given diet eating more will increase nutrient supply to the cow. Ketosis may affect individuals or the whole herd! There may be big variation in the speed of onset of clinical or subclinical signs. High performing animals can go from health to death in less than 12 hours, while others may have a chronic and insidious problem that could take days to weeks to develop before the severity is obvious.

## Causes:

Some of the more common causes of ketosis include poor transition management & feeding, poor colostrum feeding, inadequate feed offered, poor rumen function i.e. acidosis, lack of fibre, sudden feed changes; high protein - low sugar grass, bad weather, nutrient deficiencies i.e. minerals, carbohydrates; activity e.g. walking distances, fighting, mob changes, fast motorbikes.



## Clinical signs of Acute Nervous Ketosis

Cows may be drooling, frothing at the mouth, hyperactive, frenzied behaviour, chewing with no cud in the mouth, tongue flicking like lizards, high stepping, starry eyed and rapid blinking, they may appear blind, have odd vocalisation, are suddenly off milk, they might have profuse diarrhoea (“watery” due to swelling of gut lining), milk fever. You may only notice sudden unexplained deaths.

## Clinical signs of “Dopey” Ketosis

Dull lethargic “couldn’t care less” cows, look tired with head and ears down. They have a dragging walk, poor appetite, the eyes may be partially shut, and appear sunken, with “fat” lower lids. They often have diarrhea and poor milk production.

## Treatment

Ketotic cows are not eating, so they will have complicating problems like low calcium and magnesium. Treatment is aimed at correcting the metabolic imbalances, so give them calcium & magnesium, and IV dextrose. Drench with energy sources like monopropylene glycol (Ketol), starter drench, molasses, by-pass fats. Inject with B12 to stimulate appetite and liver function. If you have a herd problem consider using products like rumensin. Re-establish rumen function. The first priority is feeding bland long fibre e.g. hay or straw. Reduce energy output. Stop Milking these cows!!! Individual cows should not be milked until they have good rumen function i.e. the gut is wider than the udder. Start with once a day milking when resuming milking. Whole herds—consider once a day. Reduce activity—keep clinically affected cows close to the shed, take feeds to them. Finally, provide covers or shelter, especially during wet, cold and windy weather.