

ACIDOSIS/KETOSIS EASY REFERENCE CHART

	Rumen Acidosis	Ketosis
Caused by:	Too much acid in the rumen = low ruminal pH	Energy imbalance – not enough energy eaten by cow vs. energy demands of pregnancy and / or lactation 1. Low blood sugars 2. High blood ketones
Affects what class of stock:	Any ruminant	Usually cows, just before calving or during early lactation
Risk factors:	<p>Acute:</p> <ul style="list-style-type: none"> Sudden unrestricted access by stock to ad lib very high quality feed (usually starchy or sugar feeds) <p>Chronic:</p> <ul style="list-style-type: none"> Prolonged exposure to high quality, low fibre feed 	<ul style="list-style-type: none"> Over-conditioned cows (e.g. carryover cows) Underfeeding Feeding low energy feeds – low ME Poor appetite / feed intake due to some other reason e.g.. lame or secondary to hypocalcaemia Feeding high butyrate silage (vomit smell)
Clinical signs in affected animals	<p>Acute:</p> <ul style="list-style-type: none"> Sudden death Sudden scouring with undigested bits of feed in dung Dehydrated No cudging Hunched up, sick cow Sore on all four feet <p>Chronic:</p> <ul style="list-style-type: none"> Poor appetite Poor gut fill Poor milk production Less cud chewing than normal Loose dung Soft feet 	<p>'Sad cow' syndrome:</p> <ul style="list-style-type: none"> Most often seen Flat/depressed cow Rapid weight loss Poor appetite Glassy eye, sometimes sunken Acetone on breath Low milk production May 'go down' with secondary milk fever <p>'Mad cow' syndrome:</p> <ul style="list-style-type: none"> Less common Aggressive behaviour (like grass staggers) 'High stepping' over objects Acetone on breath
Diagnosis:	<ul style="list-style-type: none"> Clinical signs Feed history Rumen pH (rumenocentesis) 	<ul style="list-style-type: none"> Blood test – betahydroxybutyrate (BHOB) Milk test for ketones Clinical signs and history of feeding and body condition change
Treatment:	<p>Acute:</p> <ul style="list-style-type: none"> Contact vet urgently Vet will treat in range of ways including drenching with sodium bicarb / MgO, inject penicillin to rumen, rumenotomy <p>Chronic:</p> <ul style="list-style-type: none"> Fix dietary problem, e.g.. feed more fibre, or resolve contributing factors such as over processed grain Contact vet / nutritionist if acidosis is a whole herd problem 	<ul style="list-style-type: none"> Intravenous dextrose solution Drench with Encalplus (if cow has calved) or MPG (pre calving), repeat doses over several days may be required Inject with vitamin B12 Correct accompanying / predisposing health problems e.g. lame, milk fever Offer more high quality tasty feed Contact vet / nutritionist if ketosis is a whole herd problem
Prevention:	<ul style="list-style-type: none"> Adapt cows gradually onto high risk feeds over 7 – 10 days Don't over process starchy grains (e.g. barley, maize) Care with starchy or sugary by-products e.g. hominy, kiwifruit Maintain sufficient fibre in the diet. Encouraging cows to chew fibrous feeds and cuds is essential. Cows make 200 – 300 litres of saliva per day; 1 litre contains 10g sodium bicarbonate. Monitor cows for adequate rumen function Consider use of rumen buffers (but make sure other factors are addressed first, particularly fibre supply) Rumensin® may help prevent acidosis however it does not have a registered claim to do so Investigate management practices that reduce risk, e.g. method of feedout of high risk feeds. 	<ul style="list-style-type: none"> Don't let cows get overfat before calving (usually more than 6.0 body condition) Feed cows very well before and after calving with tasty, high quality feeds Use Rumensin® before and after calving Control other metabolic problems or health issues such as milk fever, lameness Don't feed high butyrate 'vomit' silage to high risk stock e.g. springers or cows in early lactation Control social problems that reduce feed intakes Consider vitamin B12 supplementation for at risk cattle.