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# Smithton Veterinary Service

## July '05 Newsletter

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## Ruminal acidosis in dairy cattle

### What is Ruminal acidosis?

Ruminal acidosis is the alteration of the rumen microbial environment from its normally neutral state to a low pH, acidic state. This is usually a result of over-production of lactic acid by rumen bacteria, following an excessive intake of highly digestible carbohydrates by the cow.

Ruminal acidosis can be caused by an excessive consumption of **any highly digestible source of carbohydrate**, including grain, pellets, potato waste and lush ryegrass pasture. Risk factors which increase the likelihood of development of clinical or subclinical ruminal acidosis in dairy cattle, include:

**1. Concentrate feeding.** The fermentation rate of carbohydrates in the rumen depends on the type of carbohydrate fed and its physical form. For example, wheat is fermented more rapidly than barley. Also heating and rolling cereal grains increases their rate of fermentation.

**2. Inadequate fibre content of the diet.** The risk of acidosis is increased when cattle are fed forages and concentrates high in sugars and starches with a low effective fibre content, such as clovers, young lucerne and ryegrass. Feeds with ineffective fibre levels fail to stimulate adequate rumination and salivation,

which are natural buffering mechanisms of the rumen.

**3. Sudden changes from low quality to high quality pastures.** A sudden dietary shift from high fibre, poorer quality dry cow pastures, to lower fibre, higher concentrate milking cow diets, coupled with a decrease in feed intake by approximately 30% during the week prior to calving disrupts rumen function

**4. Slug feeding of concentrates.** For practical purposes, most dairy cattle are fed concentrates twice daily, at or around milking. This method of feeding, can increase the likelihood of acidosis development, particularly if concentrates are un-buffered.

### What are the signs?

Clinical acidosis symptoms range from a mild appetite reduction, indigestion, rumen shutdown, decreased milk production and scouring to the more severe: depression, dehydration, toxemia, coma and death. Clinical acidosis generally only affects a few cows in a herd. Additional problems associated with clinical acidosis include low blood calcium, laminitis, polio (brain signs), inflamed rumen and liver abscessation.

Sub-clinical acidosis causes decreases in milk fat content, feed conversion efficiency and feed intake. It can also cause laminitis, which leads to increased incidences of lameness; liver abscessation, digestive system disorders and scouring.

### How is it prevented?

**1. Provision of adequate fibre.** Good quality hay should be offered and distributed so that all cattle can get access. Dietary fibre increases gut transit time and physically stimulates chewing, increasing the production of salivary buffers.

**2. Transition feeding** eg lead feeding before calving. Cattle should be introduced gradually to concentrate rations over a period of about 3 weeks, beginning with a mixture of less than 50% concentrate with roughage.

**3. Rumen buffers, modifiers and antibiotics.** Eg. rumensin, causmag, sodium bicarbonate.

## Not-in-Calf Rates

Most dairy herds have now completed their pregnancy testing so will know their not-in-calf or empty rates. The empty rate doesn't provide us with detailed information on the herd's overall reproductive performance (submission rates, conception rate, 6 week in calf rate etc) but if we know the length of mating (AI & bull) we do have some means of bench-marking the herd as shown in the table below extracted from The InCalf Book for Dairy Farmers (page 29):

Length of Mating	Achievable Not-in-Calf Rate	Problem - Seek Help
6 weeks	29%	>40%
9 weeks	20%	>28%
12 weeks	13%	>21%
15 weeks	10%	>17%
18 weeks	9%	>13%
21 weeks	8%	>11%

Some factors which influence the not-in-calf rate include: previous calving pattern, body weight/condition of heifers at calving, herd nutrition, heat detection, bull power, abortion rate etc. In other words, if your herd falls into the problem category the reason may be multi-factorial and require more detailed investigation.

**Changes of Address or contact details** – at this time of year there are often a few farm sales and changes in owners or staff. Sometimes (not often!) we are the last to find out. If this applies to you could you please remind our office staff of your new address, farm location or details when booking in jobs or ordering goods – at least for the first part of the calving season.

## Worm Egg Counts in Young Stock

Traditionally, cattle have been and are still drenched for worms when they are obviously scoured (too late) or when the farmer or vet feels they should be done. Often the decision is based on valid reasoning but not always. The end result can be either under or over treatment both of which have associated costs. A better way to control worms in young cattle is to use a strategic approach based on worm egg monitoring. This means counting the actual number of worm eggs per gram of faeces from a sample of animals in the mob. Depending on the drench product previously used and the risk assessment for that mob or farm, worm egg monitoring may begin from 2-3 weeks to 4-5 weeks after the last drench. Egg counting is a guide only to the level of worm infestation and is more reliable in young cattle up to about 18 months of age. We are able to perform this relatively inexpensive testing at the clinic so if you are interested in perhaps reducing the quantity of drench you use, or using it more effectively please feel free to ask us for more details. All you have to do is to provide 5-10 fresh faecal samples.

### Risk factors for Worms

- 1) Age – newly weaned cattle and those less than 18 months of age are high risk
- 2) Body condition – BCS of 4 or less is considered high risk
- 3) 'Stress' - any stress factor eg calving, under-nutrition is high risk
- 4) Pasture

- i. Pasture cover of less than 1200kgDM/ha is considered high risk.
  - ii. Pasture cover of more than 1500kgDM/ha is considered a low risk factor
- 5) Paddock history
- i. Paddocks previously exposed (3-6 months) to calving cows are considered high risk
  - ii. Weaners or high FEC (faecal egg count) cattle are considered high risk as are set stocking systems.
  - iii. Conversely, paddocks rotationally grazed or pasture previously grazed by older stock is of lower risk
  - iv. Low risk cattle, grazing sheep or cropping will reduce pasture contamination and lower the risk.
  - v. Paddocks cut for silage or hay will also be at lower risk.

### **Weekly Times Countdown Downunder Milk Quality Awards.**

Congratulations to the 17 Circular Head farmers who were recognised in these awards announced last week. Using data for a minimum of 9 months, monthly averages are used to calculate the annual bulk cell count for each farm. Farms are then ranked nationally and the winners are the 5% of farms with the lowest BMCC in Australia.

### ***COCCIDIOSIS***

**Coccidiosis is a contagious disease caused by a parasite that is ingested from feeding areas or pasture. It is a condition usually seen in calves less than 1 year old but occasionally can be seen in older animals at times of high stress.**

**Clinical Signs** - The parasite invades the gut lining causing bleeding and damage to the bowel wall. As a result the animal scours. Straining and blood in the faeces often accompany the scours. Dehydration can occur quickly. Death may occur.

**Diagnosis** – Most cases can be diagnosed by clinical signs combined with *a cheap faecal float test performed at the clinic*. This test involves looking under the microscope for the tiny parasite eggs.

**Treatment** – if coccidiosis is confirmed by the faecal test Sulpha drugs can be used effectively in conjunction with ELECTROLYTES. It is a self limiting disease so animals may be infected and show little or no clinical signs or recover from disease without treatment. As natural immunity develops only stressed or calves with reduced immune status will show clinical signs.

**Prevention** – Coccidiosis is a highly contagious disease so infected animals should be isolated. Avoid overcrowding, regularly rotate calving paddocks, keep supplementary feed off the ground and avoid placing claves in areas where build-up of faecal contamination occurs. Eggs can survive for up to 2 years and become infective under moist conditions. Circular Head has the perfect climate for the development and persistence of this parasite.

**If you suspect this disease in your calves or young stock then please speak to a vet as whilst this is an easy disease to diagnose many other diseases have similar clinical signs.**

## ***COLOSTRUM***

Calves (and all animals) are born with an immature immune system. They rely on their mother's colostrum for protection against disease until their own immune system and resistance to disease has developed. Calves absorb the protective proteins found in colostrum through their intestines but this can only occur in the first 24 hours after birth and absorption is greatly decreased after 6 hours. Colostrum is also high in nutrient value containing higher levels of energy, protein, minerals and vitamins than milk. It is a calf's kick start to life!

Some points to remember:

- Feed a minimum 10-15% bodyweight in the first 6-12 hours after birth e.g. A 40kg calf requires a minimum 4 litres of colostrum
- Use colostrum from mature calves – not heifers or introduced cows
- Use only colostrum from first milkings
- Colostrum can be stored at room temperature for up to 12 weeks (stirred daily and out of sunlight) or rapidly frozen to minus 20°C in a household freezer for up to 18 months. Remember that stored colostrum is superior to whole milk as a feed source.
- Handle hygienically to prevent contamination by bacteria etc.
- For herds that have been vaccinated with the Bovilis S vaccine for *Salmonella* it is vital that your calves receive adequate colostrum and that it is fed for at least 5 days after birth to provide protection

**Whilst it is essential to a calf's immune system that it receives colostrum it must be remembered that intake does not provide complete protection from all diseases. If you wish to monitor colostrum intake of calves we can take random blood samples from calves at approximately 3-7 days old and test antibody levels at the clinic. Speak to a vet for more information.**

**Booking in jobs** - For fear of sounding like a broken record we remind you of the following. When you book in a job, please tell us exactly what you will be presenting for us. As you are well aware, calving season can be mad at times and planning our schedule (meaning getting to you as soon as possible) relies on working on what farmers book in. Any extras presented when we arrive will delay us for the next farmer which could be you the next time. Unless an emergency we may need to return to do the extras at a later time or date.

If you have been given an approximate time and we have not arrived by half an hour after this time, we would ask that you phone the clinic to check on our progress. It is preferable for you to ring us rather than we ring you and leave messages that we don't know whether you've received etc.

**Prescription Drug Orders** – Legal requirements are that all prescription medications must be approved by a veterinarian. Our staff are not allowed to dispense them if there is not a vet there or contactable if you come in unannounced. To avoid frustrations and as the season heats up we would ask that you pre order your S4 medications by phone. Our staff will make every effort to have your requirements approved and be ready for when you arrive at the clinic. As a general rule there will not be a vet at the clinic between 12.30 and 1.30 so please do not expect to have an order filled for S4s in this time if you have not preordered. Thank you for your understanding.