



The magazine of Cambridge Vets *treating all animals large and small*

June 2016

OPEN DAY

We held our Official Opening Day and Clinic Open Day on Saturday 28th May. Waipa Mayor Jim Milchreest kindly unveiled the plaque and addressed the crowd, following a speech given by Cambridge Vet Club Chairman John Fisher. We would like to thank both of them for their kind words, and for all the members of the public who came to share our enthusiasm about the new facilities. The building tours, sausage sizzle, helium balloons and spot prizes were all popular, but we had to admit defeat with the bouncy castle when it threatened to blow away in the strong winds!



SPRING SEMINAR

We will be holding our annual Spring Seminar on Tuesday 5th July at our new clinic! This is an ideal seminar to up-skill new staff or a great refresher for old hands! It is free for Vet Club Members, but numbers are restricted, so please phone the clinic to book a space.

Topics we will cover include:

- Calving
- Calf Rearing and Health
- Metabolics
- Mastitis



Check out our website for more detailed articles about calf health, metabolics and rearing for Ag. Day!

www.cambridgevets.co.nz



Strep Uberis Mastitis

A recent study (NZVJ 64 (4) 2016) used 4 different strains of *Streptococcus uberis* obtained from cows in the Waikato and Wairarapa. *Strep uberis* is the common environmental infection that causes most of the mastitis around calving. The 4 strains were infused into the udders of some crossbred cows. The different strains were associated with different clinical results:

- How quickly mastitis developed
- How many quarters developed mastitis
- Somatic cell count
- Being able to culture the bacteria in the milk

It was interesting to see how the individual virulence factors of a strain had such an impact at the cow level, and at the testing level. Additionally, the prevalence of mastitis was associated with a strain's virulence, rather than the infective dose - we may see this on farm when a tiny amount of contamination can cause a major issue with mastitis, but conversely sometimes not!

COPPER AND FACIAL ECZEMA

As you are no doubt aware, it was a horrid year for Facial Eczema even with preventative practices in place.

Many animals suffered a setback or drying off early, and even deaths.

One of the ongoing effects is the potential for compromised liver function. This may manifest as animals not putting on weight, or crashing after calving. My current concern is the increased risk of copper poisoning if copper injections are given to cattle with liver damage! This can manifest as abdominal pain and diarrhoea, or jaundice, redwater and death (from red blood cell breakdown).

However, copper levels are often low over winter, and the prolonged supplementation of zinc over the FE summer period will have exacerbated this. So what are the options? Firstly, samples from liver / blood / feed will tell us what the levels are, and if there are antagonists such as Molybdenum or Iron which decrease its availability.

- Copper sulphate in the water / feed: economic but not recommended during the FE period, and avoid drenching as it can cause oesophageal groove closure, bypassing the rumen.
- Chelated copper in the feed / water (eg Cu-EDTA): a much debated option, may or may not be superior to copper sulphate.
- Copper oxide bolus (copacaps): slower release, liver levels peak around 3 months
- Copper-EDTA injections: 70% of the copper is transferred to the liver within 7 days
- Copper glycinate injections: copper takes about 21 days to transfer to the liver
- The 2 injections deliver 100mg of copper and adequate levels are maintained for between 20 and 175 days depending on dietary copper, antagonists etc! They can also cause a transient milk drop and decrease in fertility if given near mating.
- Copper sulphate top-dressing. Clover takes up copper better than grass. The usefulness of this for addressing deficiency in stock depends a lot on molybdenum levels.

MILK QUALITY CONFERENCE—HIGHLIGHTS!

I recently attended the Milk Quality Conference, even though it was held at Claudelands! Here are some tidbits / highlight points:

- 85% of the dairy industry's use of antibiotics is for mastitis, half of which is Dry Cow
- The use of dry cow and teat seal was examined on farms feeding fodder beet over winter, and utilizing barn-housing. No treatment gave a higher risk of intramammary infections and raised cell count, but teat sealant was as effective as combination therapy for low scc cows.
- A cut-off of 250 for cows was used, rather than 150, with little difference.
- The average annual BTSCC is just below 200k, and is gradually dropping. High BTSCC herds are more likely to grade as they have more variation in cell count.
- Cell Sense is an automated RMT system, which allows you to monitor cows' SCC daily
- There is a lot of noise about the need to develop rapid tests for infections in human and veterinary medicine, to determine if a patient needs antibiotics, & which type. This would help fight resistance. The Mastatest may help with this...
- There is a link between animals and humans when it comes to bacteria and antibiotic resistance, but it is not simple! For example, it appears that one type of MRSA CC8 was spread from people to horses! Another type of MRSA CC398 can be contracted off animals on farm, but causes only a temporary infection, with very limited spread. In NZ in 2014, of 1067 MRSA infections, only 2 were CC398 (animal origin). However, the implications of increased resistance leading to life-saving antibiotics being rendered useless for future generations is too serious; we need to use antibiotics judiciously in both human and veterinary medicine. There are types of antibiotics (e.g. fluoroquinolones) we will not be using much any more to preserve their effectiveness for serious human use.

Peter Briston

Protein Expression in dairy cows with and without subclinical hypocalcaemia NZVJ 64,2 March 2016

A team from China took blood samples from a Holstein dairy herd on the day of calving, and analysed the protein content. They compared the results for cows that had normal calcium levels with those of low calcium levels (but no signs of milk fever).

The results from this study identified 2 proteins that were lower in sub-clinical hypocalcaemia (apolipoprotein A-II and serum amyloid A) and 4 proteins which were higher:

- Albumin (transports hormones and calcium in the blood)
- Fibrinogen alpha chain (this is converted into fibrin using calcium and plays a role in inflammation)
- Amyloid beta A4 (whose metabolites may regulate calcium signalling / homeostasis)
- Neurosecretory protein VGF (linked to nerve inflammation)

The authors suggest that apolipoprotein A-II, neurosecretory protein VGF and amyloid beta A4 may be potentially used to identify cows with sub-clinical hypocalcaemia. This could be useful because although these cows do not display the signs we associate with milk fever, they may manifest loss of appetite or muscle weakness, and are predisposed to ketosis, dystocia, RFMs, LDAs, prolapse, metritis and mastitis.

ANIMAL WELFARE

After the intense scrutiny of the treatment of bobby calves last year, there have been a raft of proposals for animal welfare standards review. The NZVA has put forward a proposal including that calves must be > 120 hours old, able to walk and fit for transport, fed within 6 hours of collection, and pens must provide adequate room and shelter. MPI may have new regulations out by October, so keep an eye out for any new or updated requirements. Someone on the farm must have appropriate training for calf euthanasia, such as rifle or captive bolt – remember, blunt force trauma is no longer permissible.

METABOLICS & MILK FEVER

The cow undergoes a huge metabolic shift as she calves and comes into lactation.

Her demand for energy and minerals shoots up, often faster than the diet and body can allow for.

The classic **Milk Fever** is a deficiency in calcium. As this is required for the functioning of muscles, the cow is often wobbly, or down and unable to get up. She is recumbent, and looks all floppy, often with an S-bend in the neck. Cows are most susceptible to this at the time of calving and for a few days after; by this time the body has normally adapted through increasing the circulating levels of calcium.

Treatment: Is the administration of calcium, either in the vein or via an oral drench. Prevention normally consists of supplementing the herd with magnesium from a month before calving, as this is an essential catalyst for the mobilization of calcium. Options include water treatment, pasture-dusting, boluses or drenching (Moremag is a drench that lasts for 10 days).

However, magnesium can be a primary deficiency in the form of **Grass Stagers**. These cows may also be recumbent, but they tend to be twitchy, often with tremors, but care needs to be exercised as their nervous system is excitable and they are prone to charging!

Treatment: Is with administration of magnesium under the skin or as an oral drench. Intravenous magnesium may cause heart failure, so caution is advised to say the least! Affected animals may even start convulsing or paddling.

Both Milk Fever and Grass Stagers can be fatal, and the longer the animal is down, the more muscle damage she suffers, and the lower her chances of recovery.

The other two components of metabolic issues are **low phosphorous** and **ketosis**.

Low phosphorous may complicate milk fever, and the distinguishing feature is that it initiates a haemolytic anaemia leading to redwater (although there are also other causes of red urine).

Ketosis is when the cow does not have enough energy for the demands of lactation; the body produces ketones as a short term energy source, but as these levels rise they cause her to become slow and dopy. This can be a big problem for the herd as a sub-clinical picture, leading to reduced milk yield and a gateway to follow-up diseases & reduced fertility. We can check the herd for ketosis about 2 weeks after calving with a cow-side test.

For details on supplementation & treatment, please see our website or one of our vet team.

In the spring time, prompt treatment and good nursing are essential.

KETOSIS

Ketosis is a deficiency of energy, leading to fat mobilization, which makes the cows feel dopey and causes reduced production and is a gateway disease to metritis etc.

CALF HEALTH

Ensure calf pens are clean, disinfected, dry and warm with a separate isolation pen. Colostrum intake is so critical; ensure systems are in place to get adequate volumes of Day 1 colostrum into day 1 calves on Day 1!

METABOLICS

Dry cows should be getting magnesium, and this needs to extend to calved cows through spring. Options are dusting / feeding causmag (80+g mag oxide depending on wastage), Mag chloride or sulphate through the water (max 60g per cow daily). Colostrum cows may benefit from limeflour (150g) or a starter drench. Maize silage helps lower the DCAD, but anionic salts can also help for the springers. If maize is being fed, extra magnesium, limeflour and salt may need to be added as it is low in these. If Fodder beet is being fed, phosphorous may need to be added.

SPRING PREPARATIONS

MASTITIS

With an industry focus on reducing antibiotic use, it is really important to minimize mastitis: get the milking plant serviced by MPTA, address any challenging areas of mud, get heifers teat sealed, train staff up on the importance of teat spraying and mastitis detection by stripping / RMT.



The 6th of May saw our Golf Day (otherwise dubbed as 'Cambridge Vet's annual drought breaker') well attended.

We had around 100 people enjoying the day despite the clouds threatening to rain. The food was hot, the beer cold and the golf skills as varied as usual, but we still had fun. It was nice to get to socialize with our clients, so a big thank you for your support this last season, and for joining us for the day!



Faceguard Promotion Winner!

Congratulations to Jewel Trower, the winner of our Autumn Faceguard promotion. We hope you enjoy your fantastic prize of a \$500 Hunting and Fishing voucher.



Pre-Lamb Vaccination of Ewes

Pre-lamb clostridial vaccination of ewes is one of the best investments you can make. Clostridial disease such as pulpy kidney, tetanus and navel ill are important diseases of lambs; pulpy kidney in particular will often strike the biggest, healthiest animals in the mob with little or no warning. Often the first indication of an outbreak is dead animals. Ewes should receive two doses 4-6 weeks apart at a young age followed by an annual booster within 4 weeks of lambing. The pre-lamb booster will trigger production of colostral antibodies giving protection to lambs against clostridial diseases for up to 12 weeks. Lambs born to unvaccinated ewes should be given tetanus antitoxin at tailing. For lambs born to vaccinated ewes this is unnecessary and they can begin a 5 in 1 or for extra protection Ultravac® 6in1 programme. Lambs should begin their vaccination programme well before maternal protection ends. The administration of an appropriate 5 in 1 / 6 in 1 vaccine at docking with a booster 4-6 weeks later or at weaning will minimise the risk of a potentially lethal protection gap between the decline in maternally derived antibodies and the lamb's immune response to vaccination.



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- Look after yourself, your family and neighbours.
- Eat well, sleep well, exercise and spend time off the farm doing things you enjoy.
- Help is available – just ask.
- Get your advisors around the same table to work together for you – farm consultant, banker and accountant.
- Always phone 111 in an emergency for you or someone else.

Keep the Rural Support Trust number handy – you never know when you or someone you know may need a leg up



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