

**Special points of interest:**

- Spring Triage seminars for new staff will be in July - look for a letter in the mail or just ring the clinic
- We can test your feed for nitrates at the clinic— bring a small but representative sample, i.e. leaves stem and roots
- Please do your PAR consults before the start of calving –this allows staff to organize drugs for you even if there are no vets who are contactable

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## Macromineral metabolic disease

Milk fever is often associated with the calving season. 75% of cases happen within 24 hours of calving but milk fever can happen intermittently through the season if there are any sudden changes in calcium intake versus calcium demand. For example, dairy cows on new pasture in January may be ingesting high quantities of yarr and fathen which is high in oxalates. These oxalates bind up calcium, which combined with the fast growing new grasses being low in magnesium can compound, causing cows to develop milk fever.

Blood calcium concentrations decrease at the time of calving due to the sudden demand on the relatively small pool of readily available calcium. The cow's total calcium is in three portions; storage calcium, in bones, and free calcium in blood and in the udder. The calcium content of an udder full of colostrum is equivalent to the cow's total free blood calcium. Hence when you fully milk out a freshly calved cow, you have removed half her free calcium. This means that if the cow does not have well established calcium absorption pathways from both gut and bone then she will succumb to milk fever.

Free calcium is derived from both dietary intake and resorption from bone. Parathyroid hormone moderates the urinary excretion of calcium as well as the resorption of



calcium from bone. Vitamin D activates the resorption of calcium from bone as well as the active absorption through the gut.

Additionally, calcium is absorbed passively across the gut membrane. During the dry period, high calcium diets (such as kale) will supply such high levels of calcium that the cows total calcium need can be met by the passive absorption of this calcium. This results in the active transport across the gut and resorption from the bone becoming extremely depressed. This means that come calving, without a good transition timeframe and transition diet, the cow is unable to supply the sudden increase in calcium demand.

High potassium levels also suppress this calcium absorption across the gut and resorption from the bone as do other alkalinizing agents. High phosphorus will increase the risk of milk fever as high phosphate levels inhibit activated vitamin D synthesis. Low phosphorus will also predispose to milk fever as phosphorus is an important part of the phosphite molecule that helps calcium dissolve in the blood.

Low magnesium reduces the

secretion of parathyroid hormone as well as making the tissue less sensitive to this hormone. Magnesium also needs to be present for Vitamin D to work. This double effect of suppression markedly reduces the cow's ability to both absorb calcium across the gut and also resorb it from the bone. Hence magnesium chloride is a very effective tool to reduce the incidence of milk fever as it both supplies magnesium and passively acidifies both the blood and urine of the cow.

For the above reason, the vitamin D injection given to induced cows to prevent milk fever is only effective when the diet has sufficient magnesium.

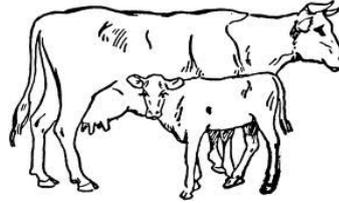
Generally a herd has a milk fever problem if more than 3% of calving cows require treatment for milk fever and cows four years of age and younger are affected with milk fever. Blood testing cows pre-calving for magnesium and phosphorus can help predict the herds pre-disposition to milk fever but many other management factors must also be brought into consideration i.e. high roughage, good quality hay, low potash, care with introducing grain into the diet, calcium content of the pre and post calving ration etc will all help in reducing the incidence of milk fever. For advice on milk fever prevention in your herd, please ring us at the clinic.

## Managing Abortions

*When gathering aborted materials, it is important to wear gloves.....*

As calving approaches, we are seeing more cows which have slipped or aborted. We have more cows identified as having slipped towards the end of pregnancy, probably because we're more likely to find the calf! The biggest concern with abortions is that they may be the tip of the iceberg. Some causes of slips in cattle can lead to outbreaks, and some can cause problems far into the future genetics of the farm. For this reason it is essential to get a diagnosis, or at the very least, rule out some of the worst scenarios.

An abortion investigation begins with an examination of the cow. Some causes of abortion can make the cow sick, or even kill her, and her vital signs can give an idea as to the cause of the abortion. Many cows that abort retain their cleanings, and some can get severe uterine infections. Any cow that has a foul smelling discharge from their vulva should be checked and may require antibiotics. The higher rates of endometritis and metritis in



these cows means they are less likely to get back in calf. Therefore all cows that have aborted should be metrichecked at least three weeks before mating.

An examination of the calf and cleanings is also important. Sometimes, the gross appearance of the calf and placenta can give us clues as to the cause of the abortion. However, more often, we need to take samples from the fetus and placenta and send them to the lab for microbiology, viral assay, or microscopic examination. When gathering the aborted materials, it is important to wear gloves, as several causes of abortion can infect humans, including leptospirosis and Salmonella Brandenburg. The aborted material can be dropped off at the clinic for post mortem

examination, but if a cow is sick after aborting, it is important that she gets veterinary attention quickly.

After a cow has aborted, remove her and the aborted materials from the healthy cow mob as quickly a possible. Infectious causes of abortion can spread through a herd very quickly, and cows are likely to lick a fetus which is left on the ground. Additionally, dogs scavenging the fetus can become infected with some of the organisms causing abortion, and keep the cycle going. If the cow was close enough to calving that she is in milk, or you wish to send her to the works, be cautious about withholding periods from dry cow antibiotics.

Cattle abortion is frustrating, and abortion storms can be devastating. With early identification of the cause, you are in a better position to stop the spread and cut the loss of cows from your herd.

## Shed and Track Changes



If you are looking at spending some money to improve your laneways or changing the flow in your shed, you want to make sure that the changes will have the desired effect.

Changes are costly, so before you solidify your plans, please

contact one of the clinics and we can help to identify the most cost effective way to improve cow flow. We have several vets who have advanced training in cow behavior and flow in cow sheds who are able to help you get the most value from the money you have to spend.

We often see farmers who have built new sheds or changed lanes or shed design with the intention of improving cow flow and decreasing lameness, but have not had the outcome they wanted. It is much easier to get some advice before construction begins!

## Oddspot — Hydrops cow



This cow (obviously not from Southland) is showing signs of a condition we see in several cows each year. She has hydroallantios (hydrops) where one of the foetal membranes fills with fluid, causing the cow to become excessively large. Eventually she will no longer be able to stand up. The huge amount of fluid in her abdomen (several hundred litres) will prevent return of

blood to her heart, and she will eventually die. The cow will continue to become bigger until this point.

Cows with this condition generally become obvious 4-6 weeks prior to calving. They are unable to eat due to the lack of room in their abdomen and quickly lose condition.

We are able to treat these girls. Depending on the severity of

symptoms, we can induce the cow, for medical reasons, or we can remove the fluid by making an incision into the uterus and allowing drainage. This is then stitched back up and she is induced. We may need to repeat drainage before she calves, to allow her to come into milk fully first. If you suspect that you have one of these cows, please ring the clinic as soon as possible.

## Cryptosporidium in calves

Quite a few cases of Crypto infection were seen in calves around the area last spring, so we thought we'd give you some more information to help you gear up your defences for next season.

### The bug:

Cryptosporidium is a type of protozoa, which is like a large bacteria. It produces eggs which we call 'oocysts' and these are quite resistant in the environment. Crypto is a significant cause of scours in young calves and is transmissible to people. Infected animals pass oocysts through their faeces, which then contaminates the environment and cause further infections. To put it in perspective, a sick calf can shed more than ten million oocysts per day, and only one oocyst is needed to infect a person or animal (*World Health Organisation 2011*). Crypto oocysts can survive for months in water or soil, but are less likely to persist in calf sheds from one season to the next than bugs like Rotavirus.

## BSure Testing

The BSure milk test is now up and running. A quick recap of the test is that it gives us a measurement of the amount of antibodies that the cows are producing to the gut worm *Ostertagia*. Because adult cattle have immunity to worms, egg output is suppressed and is no longer a good measurement of parasite burden. The question that drives the BSure test, is whether there is sufficient worm burden for there to be an economic gain from drenching adult dairy cows.

All of the studies that have been done on this test were run overseas, where cows are housed partially or fully indoors. The studies have also involved cows that calve all year round or in the autumn – this is important to consider when we interpret the trial results because cows respond differently to drenching at different times in the season. One study was done in NZ in 2001 that assessed milk production response to drenching at calving time, without doing an

antibody test – it was found that there was a small (on average 0.03kg MS/day) increase over the lactation in the cows, which equates to \$51/cow over a 285 day lactation at \$6/kgMS payout. There was no increase in production in first calving heifers.

### So how does Crypto get into my calf shed?

Moisture is a key ingredient for Crypto's survival – drying out and disinfecting help to kill oocysts in the environment. Crypto can be carried in the faeces of adult cows, so some calf contact with the oocysts is hard to avoid. Calves will be able to resist disease if they have good immunity, supplied by good colostrum feeding and a warm, dry environment. Any stressors in the calf shed will lower their defences. Once a calf gets sick, it then acts as a major source of Crypto for the other calves. A key risk factor that we have identified is calves defecating into their drinking water. This allows an overwhelming load of oocysts to invade the calves when they drink. So make sure your water (and meal) feeders are above tail height!

### What does it look like?

Crypto scours show up in calves from 4 days till 4 weeks of age. Spread amongst a group is fast

and scours can look yellow and watery (like Rotavirus) or grey and slimy. The scours can last from a few days up to 2 weeks, and death doesn't usually occur unless a secondary infection occurs on top of the Crypto.

To diagnose Crypto we need to send faecal samples to the lab, as most calf scours look pretty similar in the pen.

### Treatment and control:

The main treatment for Crypto scours is **Kryptade**, which is a type of oral electrolyte. As well as containing the salts and sugars needed to keep the calf alive, it also has an anti-Crypto drug which helps fight off the infection. If the infected calves are very flat or have bloody diarrhea, then antibiotics will also be useful.

Prevention of Crypto is centred on good husbandry practices: keeping pens dry, keeping feeders raised up and clean of muck, feeding good colostrum from birth, and separating out any sick calves as soon as possible.

Our client's test results from the autumn period this year showed a range of antibody levels from 0.7 to 1.1, with most herds falling at about 0.9. While there is a risk of development of drench resistance if adult stock are repeatedly drenched, one drench a year is not likely to impact on the genetic selection of parasites for resistance. Therefore it should be safe from a resistance point of view to drench adult cows once a year, and the best time to do this for an economic production response will be in early lactation.

shown the greatest treatment effects to be in cows with the lowest antibody levels (<0.5) as well as those with the highest (>0.84) levels. This unusual variability in response may be because there is a lot of variation in worm burden between cows in a single herd and also the fact that there are many factors which influence milk production, other than parasites.

*“Crypto can be carried in the faeces of adult cows..”*

## *A bit about Vetco*

Vetco is a locally owned and operated veterinary practice offering a comprehensive range of veterinary services and a complete range of animal health products.

Vetco operates two clinics located at Edendale and Kennington. We currently employ a staff of comprising of 11 veterinarians, 3 trained vet nurses and 14 administrative and merchandise personnel. The clinics are open 8.00am – 5.00pm Monday to Friday, with veterinarians rostered for emergency after hours and weekend work. Our Kennington clinic is also open until 8.00pm Thursday evenings.

During calving and lambing (mid August - early October) both Vetco clinics are open 7 days from 8am – 5pm. This is in addition to the 24 hours emergency service, and deliveries are available on weekends at this time of year.

For all emergency after hour requirements please phone either of the clinics and your call will be automatically diverted to the on call duty veterinarian.

Vetco clinics carry a comprehensive range of animal health products for our farmer and companion animal clients. We offer an on farm delivery service that operates Monday – Friday for all animal remedies that are not PAR classified drugs. There is no extra charge for this service.

Please ring either clinic to place your order. For same day delivery, orders must be placed by 10am. Bulk products e.g. Magnesium, dairy detergent, bloat oil etc are stored at our Edendale clinic and on order will be delivered to your farm free of charge.

- Justin Muschamp and Roger Boyle, owners

## *Our Staff and Services*

Staff are the foundation of any business, and we take pride in our experienced and competent staff.

Our veterinarians have a massive combined knowledge of local farming history, and experience preventing, identifying, and treating animal health issues in the Southland district. We have a good understanding of farming business, and some of us have been or currently are farmers. We provide a broad range of animal health services for both farm and companion animals, and pride ourselves on consistently providing the best, most practical, and current information and options to our clients. We strive to provide a prompt and friendly service, and assist our farming clients in making the decisions that will provide the best outcome for their business. We have veterinarians with extra training or special interests in: mastitis, lameness, reproduction, mineral management, nutrition, and preventative animal health programmes, and experience in providing these programmes. On the small animal front, we have several very experienced clinicians, who will be able to prevent or treat any problems with your pets.

## **Vetco Ltd**

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Kennington Clinic  
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Kennington  
**(03) 230 4689**

**We're on the  
web!**

**[www.vetco.co.nz](http://www.vetco.co.nz)**

### Veterinarians

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Glenn Dean BVSc BAgrSc

Danielle Dunn BVSc

Claire Hunter BVSc

Terri McCurdy BVSc

Jill Smyth BVSc

Lisa Stuart BVSc (dist)

Yvonne Winn BVSc

## *A brief history.....*

The Edendale Vet Club started as the Lower Mataura Valley Veterinary Club in 1951. The local farmers together formed the club and acted as guarantors for the business. The first veterinarian was Mr. Sweeney, an Irish vet, after whom the current Sweeney St. was named. He operated out of his house on Brydone Street for two years. Then the clinic was moved to Seaward Rd in 1955, and in 1967 the farmers financed a clinic at the current site on Sweeney St. This clinic has been changed extensively since then, with two major upgrades, the last in 2003. Over time, the EVC joined with the Kennington Veterinary Club. The Kennington clinic has always been at the same site, but has also had many upgrades, the last in 2009. In 2001, Vetco Ltd was formed, and contracted to the club to provide services to its members and the community. The Edendale Veterinary Club is still in operation, and one of the founding members, Dugald McKenzie of Seaward Downs, is still sitting on the Board. The veterinary club regularly donates money to community organizations, including schools and the local rescue