Over the Fence

Greetings from Wanganui Vet Services

October 2013 • Issue 17

Quarterly News and Views

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Animal Health Reminders

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- TB Test deer
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- BVD test bulls.

Spring proper is here once again, though it is not as exciting as some years as the winter and early spring have been very kind for farming anyway. The drought of last summer is just a distant memory as stock are all well recovered now.

The weather we are enjoying does mean that although the scanning percentages were back this year, lamb survival from birth has been excellent and thus docking percentages should still be similar to last year. Similarly our dairy herds have had a very good start with few problems and the weather resulting in excellent pasture utilisation such that some early silage has already been made.

Overall we seem to be set for a good season with the very encouraging milk payout news and it looks like lamb prices are on the up. We just need our Wanganui Rugby team to do well and life will be very good.

We vets have had an interesting though worrying month with a new disease outbreak on one farm. We have talked about Theileria alot over the past two weeks and you can read all about it in this issue of the newsletter. We don't know where it will go in coming months but it has the potential to be a huge cost to the country and we are taking it very seriously. We will keep you updated as this progresses.

CATTLE DISEASE DIAGNOSED IN THE WANGANUI AREA FOR THE FIRST TIME

BOVINE THEILERIOSIS:

This disease is prevalent in Northland, Waikato and down to Taupo; but recently we have diagnosed it on one of our Dairy herds east of Wanganui. Since then it has been diagnosed on two neighbouring farms and also on another dairy farm. This is the first time it has been diagnosed in the lower north island. It is also being diagnosed in other areas of the lower north island

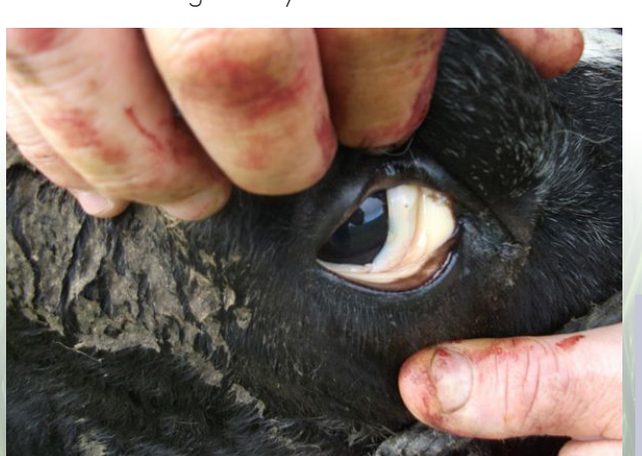
Theileria is a parasite which lives in red blood cells of cattle. To become infected a cow must be bitten by a tick which is carrying the disease. It is not spread by direct animal to animal contact. There have been an increasing number of cases reported in Northland and Waikato over the past 12 months.

Symptoms

Once an animal is infected the body reacts by trying to destroy the parasite. Because it lives in red blood cells, the body destroys its own infected red blood cells to try and get at the parasite. Losing a lot of red blood cells results in anaemia which presents the following symptoms

- Pale mucous membranes i.e. gums, inside the vulva and membranes around the eyes become pale and often jaundiced (yellow)
- Increased rate of breathing
- Rapid heart rate
- Sometimes a raised temperature
- Sometimes bloody urine.
- Affected cows are lethargic, weak, depressed, inappetant with a rapid drop off in milk production.
- They lose condition and look hollow
- In severe cases cows will die.
- It affects cows that have recently calved that are under stress more severely than dry stock

Over time cattle will gradually build up a level of natural immunity to Theileria. The biggest risk is in herds that have never been exposed before such as the 99% of dairy and beef herds in our practice at present so be on the look out and report any suspicious cases to us straight away.



Diagnosis on:

1. History
2. Clinical signs
3. Blood test to examine for the presence of anaemia and the presence of the Theileria parasite

Treatment

- There is quite an effective treatment available overseas but not registered in NZ yet; the active ingredient called'buparvaquone' A special govt dispensation has allowed 2 Vet practices to import very limited quantities from Europe to treat some affected cows.
- Blood transfusions are reasonably effective in severely affected animals. They can in some cases give a big improvement especially in cows that have lost over 50% of their red blood cells.
- Reduce the pressure on affected animals by
  - Once a day milking
  - Minimise handling
  - Let cows walk at their own pace to the shed. No dogs or pressure.
  - Good quality nutrition

Blood Transfusion

Blood transfusions are really valuable in severely affected cases. In order to assess how severe a cow's blood loss is, a blood sample is taken and the packed cell volume is measured. If this is less than 10% then a blood transfusion is necessary to save her life. If the PCV is 10-12% then a blood transfusion will drastically help to shorten her recovery time and will increase the chance of keeping her in milk

A good healthy cow can donate a large volume of blood e.g. 8lit from a 600kg cow without any ill effect. Donor cows are ideally related to the recipient cow however this is not essential. The donor cow is restrained in a head bail and sedated. Blood collection takes about 20 minutes. Blood is collected into a specifically primed bag with an anti coagulant present to stop clotting. This blood is then transfused in to the affected cow.

Many cows have had blood transfusions in Northland and Waikato with often spectacular results. It will get them back grazing and stop them drying off.

Prevention

Best practice is to stop all animal movement from areas where Theileria is present. Easier said than done. Theileria is not spread by direct animal to animal contact in the absence of ticks. Cattle with Theileria in their blood will spread the parasite to new areas only if ticks are present in the new environment. Strategic tick control by treating cattle for ticks before being moved off farm and minimising animal movements into and out of infected areas will help reduce the risk of a Theileria outbreak.

Tick Control

As there is currently no effective treatment or vaccine to prevent or control Theileria, a programme to reduce exposure of susceptible animals to Ticks is essential

Tick control is important during high risk periods. This is commonly mid-August to mid-March but as long as the mean air temperature is above 7 degrees C ticks will be active to some degree. Tick control is also important during periods of stress; e.g. calving and peak milk production.

Bayticol pour on is the gold standard tick control product

- Rain fast within 2 hours after application
- Controls all life stages of ticks including the small nymphs that are hard to see with the naked eye.
- Nil withhold period for meat or milk
- Protects for 3-6 weeks
- Treating cattle before being sold or moved off farm is a good quarantine strategy to get rid of any ticks that might be present.
- Treating cattle on affected farms will reduce tick numbers and the severity of the disease. A repeat treatment 3-4 weeks later is recommended.

Pasture Management

Manage high risk areas including paddocks with or next to short stubby bushes and plants e.g. manuka, rushes, fescue, long rough feed. Ticks love living in undergrowth and then latching on to their hosts when they walk past. Perhaps clean these areas up or use these areas for forages and maize. Wildlife also poses a risk as small mammals and birds can also acts as hosts for ticks. Paddocks that have shorter high quality clean feed pose minimal risk

Other Animals on the Farm

Dogs, cats, horses and deer can carry ticks so tick control maybe necessary on these animals e.g. Frontline plus spot on or spray is a suitable product to rid ticks on cats and dogs.

WEANER BULLS DIE FROM PARASITISM

In the late winter one of our clients suddenly had weaner bulls start scouring followed by a few dying. Faecal samples sent to the laboratory confirmed Yersiniosis. However it wasn't as simple as that because an autopsy on one dead bull showed that it was riddled with worms and the gut lining was severely damaged.

Secondary infection with Yersinia probably finished them off and caused the deaths but the main issue was inadequate drenching. These bulls were well over due for a drench; so the lesson here is to make sure you have a good drench programme in place; be sure you are using an effective drench that the worms are susceptible too, the correct dose and the right drench interval. It can be costly if you get it wrong as in this case. Also there are often other multiple issues when stock become sick and die. In this case worms were the underlying issue and a secondary infection with Yersinia compounded it all.

In other cases we have seen BVD virus has been the underlying cause depressing the immune system followed up by secondary bacterial infections

Also we are seeing more and more cases of liver fluke combined with worms causing ill thrift in cattle and sheep; so get some good advice from us as to the most suitable drench to use on your property. Some laboratory testing may well be advised first to find out what are the issues on your farm so we can sort out the most effective treatments required.

A NEW CAUSE OF BULL INFERTILITY

At a recent veterinary conference new information was presented concerning a new diagnosed cause of bull infertility.

On two separate properties in the Feilding area, it was found that a virus called IBR (Infectious Bovine Rhinotracheitis) was found to be the cause of temporary infertility of all bulls joined. On the first property 4 jersey bulls were joined with 100 heifers and they were semen tested 2 weeks after joining. Although the bulls appeared to be in good health all 4 bulls had no fertile sperm. Further blood and semen testing proved the bulls were infected with IBR virus.

Likewise on another property 8 hereford bulls were found to be infertile before being joined with a beef cow herd. Again IBR virus was found to be the cause.

All affected bulls resumed full fertility after about 5 weeks. It is presumed that the affected bulls initially had a high temperature caused by the IBR virus affecting them which resulted in damaged sperm and temporary infertility.

IBR virus is principally a respiratory virus that causes upper respiratory tract infections i.e. runny eyes and nose, coughing and sometimes secondary lung infections. Its common name is nasal catarrh and a lot of dairy farmers vaccinate their calves to prevent it using a combination IBR and BVD vaccine called Hiprabovis.

To our knowledge this is the first reported cases of IBR virus causing infertility in bulls in NZ. To protect breeding bulls from the effects of IBR virus we recommend that they be vaccinated against IBR and BVD viruses before mating.

TESTING DAIRY REPLACEMENT CALVES FOR BVD VIRUS

BVD virus can have a big impact on fertility of bulls and breeding heifers and cows. It can also have a big impact on young stock causing scouring, ill thrift, mouth ulcers, respiratory infections etc. As well it depresses the immune system very much like Human Aids making calves more vulnerable to other diseases and ill thrift.

An excellent way to ensure BVD PI carrier heifer replacements are not kept is by testing all replacements in the calf shed. Testing can be done from 35 days of age by taking a blood sample or ear knotch. Testing only has to be done once in a lifetime and tested stock will be recorded on MINDA which will be an added benefit if stock are sold down the track.

A good time to do it is at the same time as debudding. By doing this any BVD PI carriers can be identified and culled early before they have time to infect pregnant cows in your herd through the fence resulting in more PI calves being born and before they go out to grazing. Testing only has to be done once in a lifetime and tested stock will be recorded on MINDA which will be an added benefit if stock are sold down the track.

Also its good insurance to vaccinate young stock if they go out to grazing because you can not guarantee they won't get infected from other heifers that might be infected or through the fence from neighbours infected cattle. It's particularly important to ensure heifers are vaccinated before mating to avoid possible foetal losses or the development of PI carrier calves from BVD infection particularly during early pregnancy. (PI's are formed in naïve pregnant BVD exposed heifers when the foetus is 0-4 months of age)

DIB-V A NEW, IMPROVED TREATMENT FOR TREATING NON-CYCLING DAIRY COWS

This spring we are going to dispense with CIDRs and use a new intravaginal insert for treating non-cycling cows and synchronising heifers called a DIB-V. This product has been extensively trialled on New Zealand commercial dairy farms. Veterinary medicine supplier, AgriHealth has undertaken a series of studies involving 4,500 cows across the country. The results of these studies support our recommendation to use DIB-V in your non-cycling cows.

Pregnancy results from repro' programs with DIB-V are equivalent to other intravaginal inserts available in NZ. One of the advantages of the DIB-V are that cows appear less uncomfortable compared with the other inserts. It is commonly reported that cows strain less, appear less irritated and defecate less at milking time with DIB-V compared with the CIDR insert.

A second advantage is that DIB-V inserts were shown in a large independent NZ Study to have less pus when removed from the cow compared to the CIDR. This makes removal of the inserts easier and cleaner as the pus is often flicked off when progesterone inserts are pulled from the cow's vagina.

Finally, retention rates of DIB-V are extremely high. In both cows and heifers, DIB-V inserts are very unlikely to "fall out" or get pulled out by other animals in the herd.

In summary:

1, Blood or skin test all bulls for BVD virus and cull any PI carriers; 2, Vaccinate all bulls twice 3-6 weeks apart at least a month before mating with Hiprabovis vaccine to protect against BVD and IBR viruses. Previously vaccinated bulls will need an annual booster before mating each year

We strongly recommend that you do this as anecdotal evidence strongly suggests that IBR virus may well have been the cause of many bull infertility problems diagnosed over the years.

All the bulls we use on the grazing scheme and hire out to other farmers have been vaccinated with Hiprabovis twice before mating this season. This is how important we think IBR virus is.

Treating your non-cyclers by planned start of mating provides the highest economic benefit. The tangible benefits are that treated cows get back in calf earlier, so have more days in milk next season, and your calving spread will be more compact. Strong scientific analysis has shown that the financial return from treating non-cyclers early far outweighs the cost, with the return on investment over 3:1.

In summary DIB-V inserts are effective for treating non-cycling cows. Using them as the product of choice will also mean your cows are more comfortable during the seven day treatment period.

USE OF ECG IN NON-CYCLING COW TREATMENT PROGRAMS

As well we are going to use an additional injectable hormone called eCG as part of the non-cycling cow treatment program to improve pregnancy rates.

Equine chorionic gonadotropin (eCG) acts on developing follicles in the ovary to increase development, resulting in a slightly larger egg at ovulation. There is also an improvement in the function of the corpus luteum (CL) that forms on the ovary to maintain the pregnancy.

Additionally, cows that do not hold to the insemination at the end of a non-cycling treatment program are more likely to return to heat in the next 24 days, when they have had eCG as part of the treatment program, rather than becoming 'phantom cows' that don't cycle again and end up not pregnant.

eCG programs have been extensively trialled and validated on New Zealand commercial dairy farms in recent years. In a large study undertaken by AgriHealth in spring 2010, over 2,000 non-cycling cows from 15 herds across the country participated. Seven veterinary practices from different regions in NZ conducted the clinical work, to compare the effect of adding eCG to standard non-cycling cow treatments.

Results of this extensive study enable confidence in recommending the addition of eCG in our non-cycling cow programs. Adding eCG to a standard progesterone treatment program improved the 4 week in-calf rate of cows by 7% compared to the other treatment programs in the study.

Treatment cost of the overall 'Plus eCG' program is far outweighed by the additional milk income, as summarised in the table below: Also the return on investment from the 'Plus eCG' program outweighs the return from the DIB-Synch programme without eCG and that is why we are going to use the DIB-Synch plus eCG programme this year on all non cycling cows. There is no advantage in using this programme for synchronising heifers for fixed time AI so the DIB- Synch programme will be used for this procedure.

In summary, due to large scale trials and validation work in New Zealand, we are confident adding eCG to non-cycling cow programs achieves higher pregnancy rates for non-cyclers during the AB mating period. As a result these treated cows calve over two weeks earlier compared to untreated non cyclers; producing another 325 litres of milk per cow treated.

Partial Budget Analysis	Additional income from DIB-Synch treatment	Additional income from DIB-Synch plus eCG treatment
Extra days in milk	15 days	18 days
milksolids per day	1.5 kg	1.5kg
$/kg milksolids	$7.50	$7.50
Additional milk income	$169	$202
Treatment cost	-$42	-$48
Return on investment	$127	$154

Return on investment compared to no treatment, per anoestrous cow treated with a DIB-Synch program, and a DIB-Synch Plus eCG program, when treated prior to PSM.

DRENCH RESISTANCE: THE MAIN POINTS

- Nearly all sheep and beef farms have worms resistant to one or more drenches, meaning drenches may not be fully effective.
- There is enormous variation in the level of resistant worms on different farms.
- Worm species vary in their levels in animals at different times of the year. This means that results may underestimate the level of resistance if a test is carried out when a resistant worm species is not abundant.
- High levels of resistance have been observed on beef farms as well as sheep farms.
- Sheep farms overall, only one third of the farms tested had no evidence of drench resistance.
- Overall 94% of beef farms recorded resistance to at least one of the drench families.

BOTULISM

After all the media hype and reaction from overseas markets the whey protein contamination was eventually confirmed by The Ministry for Primary Industries (MPI) on 28 August not to be caused by Clostridium botulinum. Fonterra saved face although it still has a few political issues to sort out and a few more steps to take to ensure its products fulfil the 100% Pure requirement.

The organism found in the contaminated whey protein was confirmed as Clostridium sporogenes, which is not capable of producing botulism causing toxins, and poses no risk to the public.

Seeing Botulism has been such a hot topic, it may be of interest to discuss Botulism in some detail here so you are informed about what it is, what it can do; the risks to health and how important it really is.

Clostridium botulinum is a spore-forming bacterium with the spores being resistant up to 120 degrees C. The bacteria rarely cause a primary infection. To our knowledge none of our Vets have ever diagnosed Botulism in the practice; that's how rare it is.

C. Botulinum is in the same family as other Clostridial bacteria that cause blood poisoning, pulpy kidney, black leg, tetanus, black's disease, and naval ill.

Cattle of all ages can be affected by botulism. Botulism has been reported in a number of species of birds in New Zealand and rarely in dogs. The disease is caused by a neurotoxin produced by *Cl. botulinum* bacteria, an intoxication rather than infection. This results from cattle consuming toxins in contaminated feed or water. Botulism occurs in cattle in Australia and many other countries where the source of neurotoxins may be:

- Ingesting toxins from carcasses or from feed or water being contaminated by rotting organic matter (eg. dead birds in grain silos or ensiled feeds) or from pica due to hypophosphataemia
- Chicken manure used as fertiliser which may contain chicken carcasses.

Different types of *Cl. botulinum* and clinical signs

Neurotoxins are heat sensitive and are destroyed by boiling. There are seven types of *Cl. botulinum* toxins with different types being more important in different host species. Type C and D toxins are most common in cattle with botulism.

The latent period from time of exposure to the toxin to the development of clinical signs can be 12 hours to 14 days, or longer. Often multiple animals are affected in an outbreak.

Disease types and symptoms in cattle

- *Peracute disease* – where high levels of toxin are ingested: flaccid paralysis and sudden death due to respiratory failure.
- *Sub-acute disease* – the muscles of the head are affected initially with flaccid paralysis of the tongue resulting in the animal being unable to swallow or retract the tongue back into the mouth after it has been pulled out for examination. Flaccid eyelids and dilated pupils can also be seen. The muscles of the hind limbs are then affected before the forelimbs, resulting in muscular weakness, in coordination, staggering gait and recumbency. Affected animals may also have reduced heart rate, decreased rumen motility and constipation. Duration of the illness depends on the amount of toxin ingested and may be a few hours to days to weeks. Usually, a number of animals will be affected.

Differential diagnoses

- Hypocalcaemia (milk fever)
- Other clostridial causes of sudden death
- Hypokalaemia (low potassium)
- Myopathy
- Spinal cord disease
- Organophosphate poisoning.

Diagnosis

Cl. botulinum is ubiquitous so isolating the organism from potential sources is not diagnostic. Isolation requires anaerobic culture and as reported in the media it is very hard to grow it and get a confirmation

Definitive diagnosis is achieved by demonstrating the toxin in suspected feed or serum of affected animals.

SEVEN THINGS YOU CAN DO NOW TO SLOW DOWN THE DEVELOPMENT OF DRENCH RESISTANCE

- Do not drench lambs onto 'clean' pasture.
- Do not drench more frequently than every 28 days.
- Do not treat the whole flock pre-lamb with a long-acting drench or capsule except in exceptional circumstances.
- Do not drench adult animals routinely
- Regularly check efficacy of the drench you are using. At least biannually
- Quarantine drench introduced stock with a triple drench
- Make sure the drench gun is working properly and delivering the exact dose and drenching technique is precise so each animal drenched is getting the right dose and is swallowing it.

Prognosis

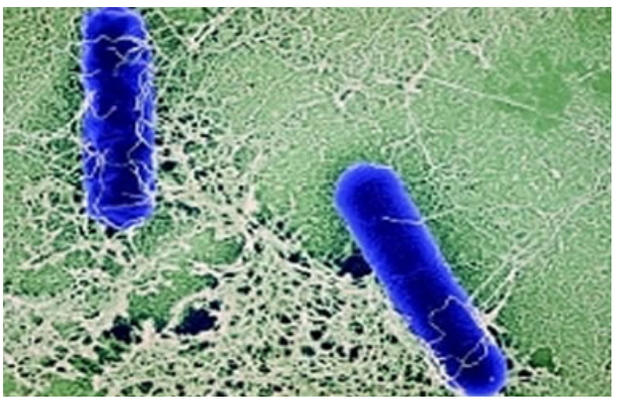
Animals that are only mildly affected may recover. When large amounts of toxin have been ingested and clinical signs develop rapidly and are severe then death is inevitable.

Treatment

No specific treatments are available. Mild cases may recover with intensive support, but recumbent animals should be euthanased.

Animals that die from botulism are a risk for other livestock because the bacteria produces resistant spores and need to be buried with at least three metres of soil on top and in clay or plastic-lined pits and well away from water sources. Off-farm rendering may also be considered.

magnesium levels as low blood Ca levels increases susceptibility to hypomagnesemia.



SEEK VET ADVICE ON TREATMENT.

COCCIDIOSIS IN MILK FED CALVES

Coccidiosis in dairy calves. What are the symptoms? Calves over 4 weeks old straining to pass bloody scours little and often. They hold their tails up like a flag and strain with the anus clenching repeatedly and a pained expression on their faces but little stool being passed. The backs of their hind legs are often stained with faeces and blood. The calves themselves are often surprisingly bright and will still feed but look very unhappy and hunched up

The calves which show a bloody scour are only the tip of the iceberg. Most of the rest of the mob are infected as well although some show very little symptoms if at all. However all infected calves will suffer damage to the lining of their gut. Repairing this damage takes weeks and it is actually this period of reduced feed intake and weight gain that costs the most.

Calves become infected by the faeco-oral route which is a polite way of saying by eating shit. All good calf meals have a coccidiostat added to help prevent this disease but calves need to be eating 1kg each day to get a full prevention dose. There is a gap between the time when calves reach 4 weeks of age and the time they are eating 1kg meal/day and this is when we see coccidiosis.

Coccidia can survive for 2 years in calf pens and the dirtier and more overcrowded your calf pens are the more chance of disease. Another time that we see coccidiosis is after meal feeding stops but by that time the calves are usually spread out over the farm and the environment is cleaner so it is not as common then.

Coccidiosis is under diagnosed in our view. Many calf rearers don't realise that the symptoms described are caused by coccidiosis, mistaking them for other causes of scouring. Left untreated Coccidia can cause a lot of bowel damage, with calves not growing to their potential, resulting in production losses later on in life.

Treating all calves with a one dose only oral product called Baycox C when the first symptoms occur is a very effective treatment and will rid all treated calves of coccidia resulting in healthier calves, with no growth check and better growth rates.

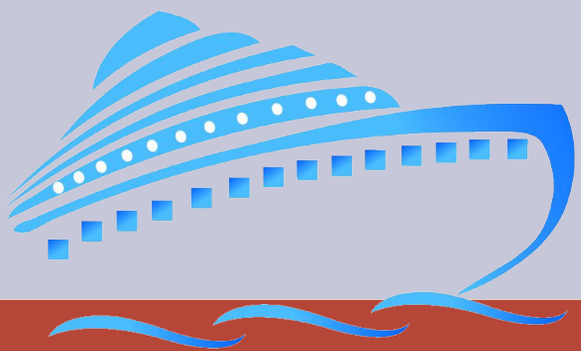
Consult with a Vet to get a diagnosis.

What's Up

Magician on Cruise Liner, is constantly having his tricks ruined by the ships parrot.

Each time he performs a trick the parrot squawks. "It's in his pocket." "4 of clubs." "it's got a false bottom"! The magician hates it.

That night the ship sinks. Magician & the parrot, cling to a piece of driftwood. For 4 days the parrot says nothing at all & just stares at him...On the 5th day the parrot says "ok ya smarty pants, I give up where's the ship"?



VETCARE TRAINING

Our Veterinary Nursing Students are nearing the end of another busy term.

Term three has seen the students involved in First Aid and Hospitalised cases in the clinic, gaining valuable nursing experience with their patients and working closely with the staff here at Wanganui Veterinary Services.

During the last few weeks of September the class have been completing their Surgical Assessments, this requires the students to rotate through several different roles including Anaesthetist, Prep Nurse, Circulating Nurse and Surgical Assistant – Now is the time to embrace the skills they have been learning throughout the year so far!

One more term to go.

Still lots to cover.

Graduation not far away on the 6th December

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