



The magazine of Cambridge Vets

*treating all animals large and small*

February 2019

## Facial Eczema

The FE season has started a bit slowly around Cambridge, but that may mean it is extended later into the year. Keep an eye on the spore counts (published on our Farm Services Facebook page and website), and don't stop the zinc too early.

Cattle, sheep, deer and alpacas are all susceptible to liver damage from the spores of *Pithomyces*. Zinc can help protect against the toxin if given at the right dose, but it can also cause toxicity if given in excess. The organs are sensitive to heavy metals, and zinc can cause anaemia and damage to the pancreas, leading to very sick, thin looking animals and death.

Cause anaemia and damage to the pancreas, leading

to very sick, thin looking animals and death. Too low

a level of blood zinc is also a common issue, and then protection is not seen and FE becomes a risk. So:

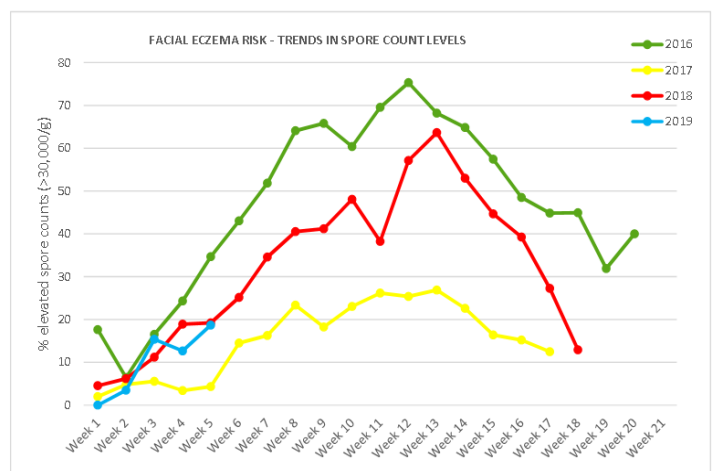
- Administer zinc according to spore counts
- The risk is getting high above 30,000 but persistent exposure to lower counts can also be a problem
- Paddocks vary enormously, especially in hilly areas, so drop in grass samples from your own farm
- Check your dose rates and accuracy of scales / drench gun
- Don't administer cracked boluses
- Check blood levels of zinc

Zinc options include zinc sulphate through the water for dairy cattle, zinc oxide in the feed (zinc pellets are available for alpacas), drenching zinc oxide, or administering zinc boluses (often the best option for youngstock and small blocks. Less yarding is needed than drenching, and their water intake if treated is variable). Dose rates can be found on our website. Alternatives to zinc include pasture spraying with a fungicide before spore counts rise (e.g. Mycotak), grazing low-risk pastures such as chicory, and breeding genetic resistance (resistant rams can be purchased, or bulls).

If you are seeing the clinical signs in animals with lesions on white hairless skin (sunburn, peeling or swollen faces), seeking shade and showing sensitivity to sunlight or with milk drop and weight loss, there are probably 10 times as many animals with liver damage and a sub-clinical impact.

It is important to offer these animals shade, and sunblock and pain relief may be appropriate. They may need drying off (especially if the teats are sensitive), supplementary feed and a boost of vitamins.

FE RISK - National trends in spore count levels (% elevated above 30,000 spg)



## BVD Free Challenge 2019 – "What would you do with \$4,000?"

Bovine viral diarrhoea (BVD) is an infectious disease that costs New Zealand's 25,000 beef farmers and 12,000 dairy farmers more than \$150 million per year in direct production losses, or about \$4,000 per farm. Several European countries have successfully eradicated the disease, bringing big benefits to their cattle industries.

From February 1st 2019, the BVD Free New Zealand project is challenging farmers and veterinarians to get involved in determining how much impact BVD control could have on their herds. The "BVD Free Challenge 2019" includes a number of challenges designed to help farmers build and budget in BVD management plans for their herd while helping to build the business case for permanently eradicating BVD from New Zealand.

Every challenge completed before 31st December 2019 will earn additional entries with prizes worth a total of \$15,000. The first 500 eligible beef farms to enter will get free blood tests for calves.

A research review has highlighted a few new and interesting points:

- 56% of beef farms showed evidence of BVD exposure
- Spread of BVD in extensive beef herds is too slow for natural immunity to fully protect cows before mating
- Determining if a beef herd has been exposed to BVD virus can easily be assessed by taking bloods from 15 youngstock (10-18 months) and doing a pooled test
- Sheep can catch BVD from cows and experience reproductive losses
- Sheep are unlikely to be a significant reservoir of infection back to cattle

## Heat Stress

At the time of writing, we were seeing plenty of cows showing signs of heat stress, including open-mouthed breathing, panting and drooling. DairyNZ released a funky little video on FB showing:

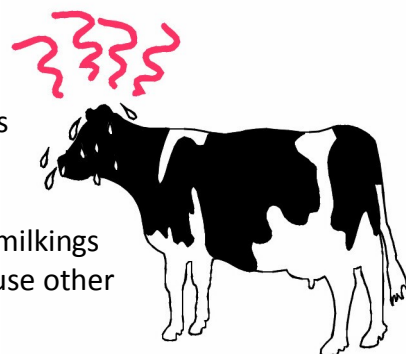
- Cows' comfort zone is 5-20°C
- Heat stress causes reductions in comfort, appetite, milk production, health and fertility.  
Yes it affects in-calf rate!

Some simple interventions can help:

- Increase the shade available (trees, shade cloth or roof)
- Increase the water available (more troughs, bigger troughs, sprinkler systems in yards or sheds)

Hamilton registered 105 days too hot for comfort!

Some farmers are also shifting milking time into the cool of the day, even trying 3 milkings per 48 hours. Fungal toxins in the pasture can exacerbate heat stress as well as cause other problems....



## Rye Grass Staggers and DON

Rye grass staggers can also be a major frustration over the summer, with calves, lambs, alpacas and adult cattle affected. A wider syndrome of Perennial Ryegrass Toxicosis is recognized, where animals show head tremors and incoordination worsened by exercise, plus ill thrift, diarrhoea, hyperthermia and reduced feed intake. The cause is a variety of toxins (particularly Lolitrem B and ergovaline) produced by a fungal endophyte with the new name of *Epichloe festucae lolii*. This endophyte lives inside perennial ryegrass.

Options include to sow endophyte-free ryegrass or avoid grazing risk paddocks and feed supplement instead. Treatment is tricky; there is not much field trial evidence but some farmers have reported success with supplementing toxin-binders in feed.

DON is a fungal toxin associated with *Fusarium*, that may be found in grains, especially if stored wet and warm. I have seen cows affected by contamination of maize silage and palm kernel, where after eating it they showed a refusal to eat, rapid loss of body condition, dramatic milk drop and the rumen not working.

The only option that worked was dumping the whole bunker of feed, but they were challenging cases to diagnose and involved sending off samples to AgResearch.

# Antibiotics

As part of the One Health initiative, we are trying to reduce and refine antibiotic usage in the veterinary / livestock sector. Not only will this save farmers money, but it will reduce the pressure on antimicrobial resistance. No-one wants to see such a valuable tool fail.

NZ farmers are already one of the lowest users of antibiotics in the world, so we are focusing on mastitis and especially dry cow therapy programs, testing and monitoring milk, and on using the Traffic Light System.

Red Light antibiotics should be reserved for cases proven resistant to other treatments. These include Excede / Excenel, Tylosin and Marbocyl injectables, and oleandomycin in Mastalone. Green antibiotics are the first line of products where resistance is of less concern, and include penicillin and oxytetracycline. Yellow antibiotics include ampicillin, clavulate, cboxacillin and lincomycin.

*Strep uberis* is the most common cause of mastitis in NZ and causes 63% of all mastitis cases in the first month of lactation (when most mastitis occurs). Although *Staph aureus* does not cause as many cases numerically, it replaces strep as the most likely agent thereafter.

These are both gram positive cocci. *Strep uberis* does not display any significant resistance to penicillin (McDougall 2014), so this is the product of choice. This also fits with the concept of choosing narrow focus antibiotics. Broad spectrum ones kill a wider range of bacteria including ones you are not really targeting, so the risk of creating resistance is greater.

*Staph aureus* however can produce  $\beta$  lactamase which confers resistance to penicillin in about ¼ of all isolates. Cloxacillin is the preferred treatment, with little resistance demonstrated in the lab but the cure rate in the cow is low because (amongst other mechanisms) the bacteria can remain dormant within macrophages (white blood cells). Tylosin can address this being a drug that penetrates these cells. Extended therapy will also improve cure rates and this is seen with DCT.

Extended therapy gives an improved cure rate for other bacteria too but will increase the volume of antibiotics used, contrary to the principle of Reduction (NZVA 2018).

Hillerton (2002) found that injectables did not give a superior result and it used 14 times as much antibiotics, while the best cure rate was from aggressive intramammary treatment (twice a day insertion).

Several authors suggest an improved cure rate with combination intramammary and parenteral therapy, but this is contentious. If prescribing combination therapy, it is logical to choose ingredients that work together; check this with your vet.

McDougall, Bryan, and Tiddy (2009) showed that using both anti-inflammatories as well as antibiotics for clinical mastitis resulted in a lower SCC and lower culling risk compared to antibiotics alone.

Another option is not to use antibiotics for selected cases. While only about 20% of mastitis undergoes self-cure, *Staph aureus* has a low cure rate despite treatment, and coliform infections are often cleared by the immune system within hours, negating the need for antibiotics. Taking milk samples for us to culture overnight can tell you which bug it is. Finally, cæ selection is also important. A cure is less likely if the cow is older, has a higher SCC, has had the infection for a long time or in multiple quarters. Culling may be a better option in these cases.

# Worms

I have seen a few worm burdens this year from calves despite being drenched. Generally the worms are Cooperia, and the calves have had a pour-on. Most pour-ons are abamectins, which do not kill cooperia, and moreover, the topical application process seems to be a less effective method for calves. At this stage I would still recommend using an oral combination drench containing levamisole, which covers cooperia. There are injectables containing it too, but the calves have to be big enough so there is no risk of an overdose.

I have also seen a lot of lungworm, and this can have a life cycle as short as 14 days in a conducive environment (The Waikato!). So calves with a dry cough may require a longer acting drench, such as dectomax injectable.

We are now entering the risk period for barber's pole in sheep, especially youngstock which have not developed resistance. They will often be seen weak, pale in the gums, or even dead. Triclabendazole gives 42 days protection against Barber's pole but has a longer meat with-holding so may not be suitable for very late prime lambs.

Sheep with daggy tails are more likely to get fly strike, so tails should be trimmed of dags at drenching and a fly product applied if necessary.

As with all drenching, it is important to minimize the risk of resistance:

- Drench to weight (do not under-drench by dose)
- Consider leaving the top 10% un-drenched to act as Refugia; these animals will dilute any resistant worms
- Do not drench too often but according to faecal egg counts
- Consider doing a Faecal Egg Count Reduction Test to confirm efficacy / resistance of a drench. Take faecal samples at drenching, then take a second set of samples from the same animals 10 days later. The reduction in egg count should be > 95%.
- Reduce worm burden by co-grazing different species, or by following youngstock with older stock.



A Bayer Initiative



# Worried about antibiotic resistance on your farm?

We'd like to help!

DAIRY ANTIBIOGRAM

Talk to your vet to find out more.

[www.dab.bayer.co.nz](http://www.dab.bayer.co.nz)

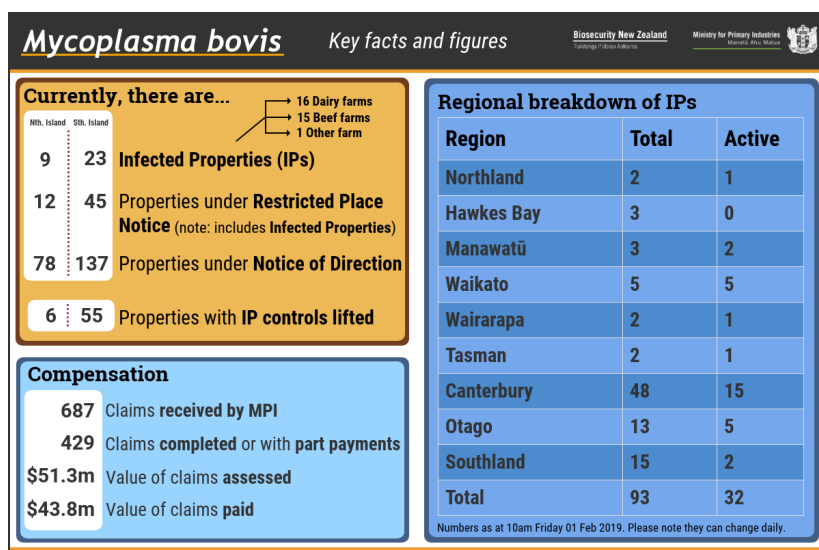
Bayer New Zealand Limited, 3 Argus Place, Hillcrest, Auckland 0627, New Zealand.  
[www.bayeranimal.co.nz](http://www.bayeranimal.co.nz) | 0800 927 733

Dairy AntibioGram is a new test that shows how sensitive bacteria are to different mastitis treatments. The test is easy to have done as it is performed on bulk milk samples taken from milk processors.

A Dairy AntibioGram test will provide valuable information that will allow farmers to:

- Identify the current resistance status of their herd
- Ensure they are using the most effective mastitis treatments specific to their herd
- Monitor their resistance status and identify any changes over time
- Compare their resistance status with industry benchmarks
- Develop biosecurity plans to protect a good resistance status
- Manage their herd status and make more informed decisions when integrating stock outside their closed system

## MYCOPLASMA UPDATE



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## The latest clinic news



**Congratulations** to Amber & Chris Hannan on the birth of their beautiful daughter Aoife. Born 21st January at 9:47pm, weighing 7 pounds 1 ounce. We wish them all the best!



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