

NITRATE POISONING

New grass, crops, nitrate poisoning and sudden death.

It's that time of the year again and we have already had a few cases reported.

Signs of Nitrate Poisoning:

Cattle generally show signs of poisoning 4 to 8 hours after grazing toxic pasture/crops as the nitrate needs to be metabolised into its toxic form nitrite in the rumen before toxicity occurs. We usually get calls to see affected stock around lunchtime, cattle having been put onto toxic pasture that morning. It often occurs on a dull overcast day where the plant is unable to photosynthesize leading to a buildup of nitrates. We also see cases after a heavy frost in cows put on new pasture.

Affected animals are drunken, weak and staggy and deteriorate rapidly leading to death. They may gasp for breath and have very dirty blue coloured gums and conjunctiva. If you take a blood sample, it is distinctly chocolate coloured instead of the normal dark red. However, most animals are found dead and by then the blood has returned to normal colour for a dead animal.

Animals that have apparently recovered may abort - usually within a week after exposure to high nitrate feeds.

Reducing the risk

Management factors that can help reduce deaths due to nitrate poisoning include:

- Testing new pasture and suspect crops prior to the first grazing. Take a pasture sample in the morning and deliver it to us prior to 10am. We should be able to report the result to you within 24 hours
- Introducing cattle to suspect crops in the late morning or early afternoon. Pastures accumulate nitrate during the night and in dull weather. Sunlight reduces the accumulated nitrate.
- Making sure cattle are not hungry when you put them onto suspect pasture. Provide supplementary dry matter (hay, silage, etc.) before cattle go onto the break.
- Reducing the time period cattle are grazed on suspect pasture. Allow cattle no more than 1 to 2 hours grazing on the suspect feed.
- Check cattle regularly for signs of poisoning. The toxic metabolite peaks in the blood about five hours after ingestion of nitrate.
- Nitrate poisoning is often not so much due to the actual quantity eaten as to the rate at which it is consumed. It's possible that a hungry cow can ingest a lethal dose in 1 hour. Fill cows up on "safe" feed before allowing short periods of grazing the high nitrate feed.

Contact us immediately if any signs are noticed. Cows die rapidly from nitrate poisoning and require intravenous treatment with an antidote A.S.A.P.

NO₃⁻

nitrate



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June 2020

If I'm being honest I have to admit that part of me is missing lockdown. Other than close friends and family my natural state is self-isolation anyway. So driving to work on empty roads and knowing with complete certainty that I'm not going to be ambushed on a Friday night and told that we're going out to visit "friends" has been very enjoyable for me. It's just a shame there wasn't any rugby on because I can already feel in my waters that the first time the Hurricanes play I'll be dragged off to some restaurant where I can't hear what anyone says to have dinner with a bunch of people my wife thinks "we should get to know". As a cousin's husband once said in a speech "to those of you that know me, hello. To those of you that don't, let's keep it that way". Brilliant. A motto to live your life by I reckon.

Seriously though, thank you again to everyone for their co-operation, patience & understanding as we muddled our way through levels 3 & 4. And a huge thank you to everyone at Eltham Vets for getting on board and working brilliantly throughout that period.

As the rest of the world slowly descends into one giant petri dish of plague, we are able to resume a largely normal life and for those of us lucky enough to work in or support primary industry, things haven't changed a lot other than being unable to shake hands and travel, etc. Hopefully, the rest of NZ will be a bit more appreciative of the work you guys do on the farm keeping them fed and keeping our economy ticking over. As someone pointed out, while we were in lockdown and the environment started to clean itself up, there were no planes in the air, cars on the road or people on trains and buses. But there were still exactly the same number of cows & sheep

Welcome to the 2020/21 season and welcome to all newcomers. Please don't ask me to make any predictions on what the next 12 months holds for us. Let's face it; no-one has a clue. All I know is, from a veterinary point of view, cows will still need to be calved and milked, sheep will still need to be shorn and drenched. So hopefully that means you will still need us because we're ready and waiting.

I do know I won't be travelling anywhere anytime soon. The US has turned itself into the world's most affluent leper colony, South America is a basket case, Britain ain't so great all of a sudden and the Asian sub-continent and Africa will most likely be no-go zones for a long, long time.

So we better get used to seeing more of our own country and hopefully, Australia and the South Pacific for the next 2-3 years. I for one, have no great problem with that because the more I see of this country the more I realise just how lucky we are to be living on a beautiful little group of islands surrounded by thousands of miles of ocean in all directions.

Thanks to everyone who took part in their RVM consults willingly. From feedback received, most of you have found it worthwhile and a good refresher on what drugs are used for what and when. There are still a few of you who need a consult before we can set you up for the new season so please get in touch to organise a chat with your vet. Take care everyone, hang in there and let's hope the second half of 2020 is a little less dramatic than the first.

Risk Aversion

Donald Trump goes on a fact-finding mission to Israel. While there he suffers a heart attack and dies. The undertaker tells the American diplomats accompanying him, "You can have him shipped home for \$50,000, or you can bury him here in the Holy Land for just \$100." The diplomats talk amongst themselves for a bit and then come back to the undertaker and tell him they want to ship him home. The undertaker is puzzled. "Why would you spend \$50,000 to ship him home when it would be wonderful to be buried in the Holy Land and for only \$100?" One of them replies "Long ago a man died here, was buried and three days later came back from the dead. We just can't take that risk."

Hi, my name is Alex. I started at Eltham Vets during the lockdown after working at TSB in Stratford and Eltham branches for 5 years. I live on a dairy farm with my husband and in my spare time I enjoy heading to cafes with friends and going for walks at Lake Rotokare. I am looking forward to getting to know you all.

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Problem Solving

Winston Peters & Shane Jones visited a Northland town and asked the locals what their needs were.

"We have two basic needs honourable Sir", replied the local mayor.

"Firstly, we have a hospital but no doctor"

On hearing this, Jones took out his phone. After speaking for a while he told them he had sorted it and that there would be a doctor there tomorrow. Winston then asked what the second problem was...

"Secondly Sir, there is no mobile phone coverage anywhere in this area."



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Control calf scours before they control your life

As we approach another calving season, it's worth reflecting on one of the challenges of rearing calves. Scours is something most dairy farmers have experienced at some stage, and anybody that has been through the unpleasant experience of a severe outbreak will know it is one of the worst experiences in farming. And it can happen to anybody – even the most careful farmers have experienced a scours outbreak. For the first month of life, calves that encounter high levels of “bugs” (viruses, bacteria, or protozoa such as rotavirus, coronavirus, *E. coli* or cryptosporidium) have an increased chance of going on to develop scours. With about 70% of farms positive for rotavirus alone, it's quite likely they will come into contact with at least some of these bugs.

When calf scours occur “damage control” is about all you can do in the midst of an outbreak, so it makes sense to focus on prevention. Good hygiene and facilities will help to limit the number of bugs calves are exposed to, but it's just as important that calves have good immunity to cope with what bugs they do encounter.

The most important factor in calf immunity is ensuring that calves receive adequate, good quality colostrum containing important antibodies for protecting calves against common causes of calf scours such as rotavirus, coronavirus, and *E. coli*. Colostrum produced in the first milking contains the highest levels of protective antibodies. The milk from the following milkings until the cows join the milking herd, is called transition milk. Of course, this is still fed to growing calves, but it doesn't have the same level of antibodies and it should be stored separately from the ‘gold’, first milking colostrum.

Suckling on the dam cannot always be relied on to deliver the volumes and quality of colostrum that the calf needs, and it may be necessary to supplement this by additional feeding of colostrum in the first 24 hours of life. Ideally, every new-born calf should receive at least two by 2-litre feeds of high-grade colostrum within its first 12-24 hours of life. This can be fed either via tube or teat, but tube is often less wasteful and ensures the calf gets the right quantity, quickly. The ability of calves to absorb the antibodies in colostrum declines very quickly during the first day of life. At 24 hours after birth they will no longer be absorbed, so those first hours are crucial.

A Brix refractometer is a useful tool for monitoring colostrum quality objectively. It's a simple and inexpensive tool, and an easy way to ensure the colostrum being fed is good enough. It takes only a few seconds to take a reading and it's easy to see whether a batch is above the 22 percent Brix threshold for Grade 1 colostrum or not.

To ensure that this colostrum gives the best protection against calf scours you can vaccinate the herd with a quality vaccine such as Rotavec® Corona, Scourguard or Rotagal. These vaccines stimulate the cows to produce extra antibodies to rotavirus, coronavirus and *E. coli* which are passed via the colostrum to calves. This provides far greater immunity to calves, increasing their chances of dealing with these common causes of calf scours in the first few weeks of life.

So which vaccine should you use when you have 3 to choose from? Good question. These newer vaccines came in when there was no Rotavec available about 10 years ago and gained traction, which is why we now have 3 of them. **Rotavec Corona**, the original vaccine, is well known and is well proven. But, it is the most expensive. **Scourguard** came in when we couldn't get Rotavec and worked well and was cheaper but needed 2 shots the first year it was used. Both vaccines are backed by large multinational companies and that's always reassuring if something goes wrong. **Rotagal** was initially kept at arm's length because it came through a 3rd party distributor (so didn't have that same amount of back up or research work) also needed 2 shots and caused similar lumps to earlier Rotavec vaccinations. We felt it wasn't needed. However over the last few years it has been used more frequently, more research work has been done and now we are confident it works well. And this year, it has finally got approval for a one-shot regime like Rotavec so can be used in heifers and beef cows without needing to get them back in for a booster. Plus it's cheaper, so for people who wanted a single shot vaccine for heifers but were concerned about the cost, it has become popular.

Our advice is when it comes to choosing which vaccine, talk to us but if you've been using one of these vaccines with good results, don't change unless you really have to and don't feel pressured into using something different if you're happy with the one you've always used. In other words “if it ain't broke, don't fix it”. All cows and heifers should be vaccinated within 3 to 12 weeks of calving. The protocol is slightly different depending which vaccine you use but the principle is the same; boosting colostral immunity a few weeks before calving. Those animals then receive a pre-calving booster shot in subsequent years.

In conjunction with good hygiene, housing and colostrum management, Rotavec Corona, Scourguard or Rotagal will significantly increase the protection your calves have against the major causes of scours. Talk to us about vaccinating to maximise your calf health and income and reduce the stress on you and your family.



GET YOUR HERD PERFORMANCE READY

The pioneer multiple trace element injection in NZ, MULTIMIN® is a unique concept of supplementation for cattle, used by farmers throughout the country.

- Contains copper, selenium, zinc and manganese for immune support.
- Chelated formulation that is safe and tissue friendly.
- Absorbed into blood within 8 hours and transferred to the liver within 24 hours.
- Scientifically proven in NZ conditions to improve calf health and survival.



Get them off to a great start

It's well known that a newborn calf is the most susceptible animal to disease on the farm, and that trace elements are essential for cattle production and immunity. So it makes sense to ensure that every calf has enough trace elements to give it the best chance of fighting off the challenges they'll face in their first weeks of life.

Should newborn calves be supplemented with trace elements?

Most farmers do their best to make sure the herd has been supplemented before calving and assume this will pass on to the calf. However, the cow's own high requirements and variable intake of colostrum can mean calves enter the calf shed with less trace elements than expected, at exactly the time they need them most for growth and immunity. A severe deficiency will reduce weight gains, but even a minor shortfall will result in reduced immunity.

Supported by science

A NZ trial has shown the benefit of treating calves in the first 24 hours of life, despite their dams being fully supplemented prior to calving. In MULTIMIN® treated calves, sickness and death rates due to scours, navel infections or other diseases were halved. Calf health was improved within three days of injection, and this was supported by a second study which showed that white blood cells were rapidly activated and more effective, and that more antibodies to a Salmonella vaccine were produced. These two studies demonstrate the potential immune effects of supplementing calves with MULTIMIN® at birth and at the same time as vaccination, with benefits ranging from less disease and deaths, to improved vaccination response.

Why an injection?

The majority of death and disease occurs in the first few weeks of life, so supplementation to prevent this needs to be rapidly absorbed and given as early as possible. This is best achieved through an injection, as oral supplementation is generally slower and complicated by poor absorption and interference between elements in the gut.

When and how to use MULTIMIN®

MULTIMIN® should be administered to calves (up to 12 months) at birth and at weaning. MULTIMIN® is administered as a subcutaneous or intramuscular injection at 1 ml/50 kg in calves, and has a nil meat withholding period, including for bobbies. To learn more, visit www.performanceready.co.nz and talk to us.

Research shows attractive gains from post-calving drenching of dairy herds

Research published in the New Zealand Veterinary Journal shows dairy farmers could make significant economic gains by drenching animals soon after calving.

New Zealand trials using eprinomectin show that treated cows produced an extra 0.6 litres of milk per cow per day. Additionally first calvers were in calf up to 12.9 days earlier than their untreated herd mates.

The extra milk yield equates to about \$50 per cow per season, generating an extra \$14,000 of farm income for the average herd of 280 cows. (Calculated using a payout of \$7/kgMS)

Dr Justin Hurst of animal health company, Boehringer, believes farmers need to pay attention to this research, which challenges the traditional view that drying-off is the best time for drenching.

“Drenching soon after calving rather than at drying off makes a lot of sense. We know it's far more feed-efficient to improve the condition score of a lactating animal than a dry one, and good condition is critical for cows to get back in calf. Post-calving drenching is likely to yield a production response which will not only pay for the drench but increase the chances of an early and successful pregnancy as well.”

The 12.9-day pregnancy advantage shown by the trials could also generate another \$90 per heifer, based on 12.9 days of additional milk production at a conservative 1kgMS/heifer/day and a \$7 payout. Dr Hurst says traditionally older style drenches were not given around calving because milk and meat had to be withheld. EPRINEX® Pour on for cattle was specifically designed for lactating dairy cows. It not only has nil milk and meat withholding, but with such extensive trial data from NZ and around the world, has achieved a label claim for “increased milk production”.

Additional international trials have also shown other specific advantages of EPRINEX, including increased grazing time of up to 50 minutes per day and a concurrent increase in the consumption of high-quality pasture. With such substantial data, farmers can have confidence that by using EPRINEX they can get results to improve their productivity. Talk to Daniel & John for pricing and more information

Jumping the Queue

There was a long queue of old folks waiting for the doors to open at the seniors only hour at the supermarket one morning. A young man came to the parking lot and tried to cut in at the head of the queue, but an old lady beat him back with her cane. He returned and tried again but an old man punched him in the gut, then kicked him to the ground and rolled him away. As he approached the queue for the 3rd time he said, “If you old buggers don't let me unlock this door, you're never going get in there.”