

## Welcome to the September edition of our newsletter

This month heralds the beginning of Spring. To most of you the season has 'sprung' into calving and lambing. The weather conditions has brought the usual mix of expected health issues – this months newsletter underlines some principles of good management for calf rearing, especially tips on prevention, treatment and expected organisms based upon age of calf. An interesting case of stray voltage in a Dairy shed and the preparation of your herd and staff toward mating. The projected economic outlook should not translate into reduced investing into a successful mating- it can take 3-5 years to condense a spread calving pattern! Don't forget our Spring special for a double action injectable drench. Enjoy

### Stray Voltage is lurking...around cowsheds



A recent case of diagnosing stray voltage in a cow shed highlights the need to evaluate your shed for stray electrical leakage from time to time.

This herd of 170 cows had approximately 86 milking cows. The new contract milker had observed that the herd was particularly 'flighty' during the dry period when cows were brought through the shed. Heifers in particular seemed worse- in fact it was assumed they had been 'dogged' when at grazing in a remote area. When calving came around the last two weeks seemed particularly worse- especially when drenching and trying to get cows/heifers from the yard onto one side of the bail in the herringbone. Cows were defaecating in the yard/bail profusely.

What prompted an investigation? The owner was reluctant as the new contract milker was 'new' and the shed was historically not easy on the 'wall' side. However, when a staff member received a shock when locking the backing gate to the outside rail with a chain one wet day, then it was obvious to call in an experienced electrician to help.

The outcome was 1.8 Volts of AC current between the outside yard pipe rail and herringbone pipe at the entry. The drench gun had a potential difference too, as well as the vet race and other breast rails- they were called 'floaters'. This is the result of an earth peg not functioning properly (placed in a dry area) and unearthing parts or areas of the shed. This was a shed >30 years old.

The result after earth remedying was a progressively smoother milking within three days- in fact heifers were queuing up the wall side! Somatic cell counts were 200,000 cells/ml at the beginning of the week reduced dramatically to 115,000 cells/ml by the third day. The contract milker was less stressed and noticed less manure in the herringbone bail.

Research shows that cows will show adverse

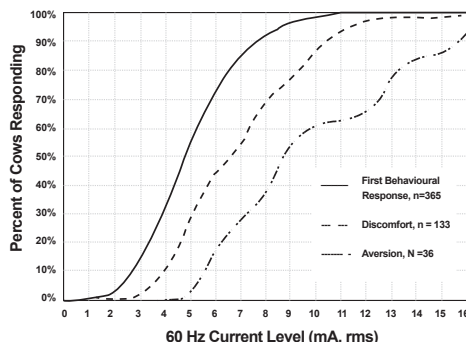


Figure 1. Behavioural response of dairy cows to current exposure

responses to two volts or more. See graph. The magnitude of stray voltage is a result of voltage drops from neutral wires and the degree and location of earthing on the farm. Variable frequency motor controllers have raised concerns about their contribution to stray voltage problems in recent years, along with electric fence energisers. New sheds and older sheds are both likely to be at risk for stray voltage.

Some things to consider:

#### Do cows:

- urinate and defecate excessively?
- milk out poorly (due to interrupted milk letdown)?
- sniff the ground or the platform and back away /show reluctance to enter the platform?
- sit on the backing gate, mill around, stampee?
- kick at the cluster and the milkers?
- react when an electric motor is switched on?
- dislike crossing certain races or gateways? e.g. bunching up and then running across.
- lap at water rather than drinking (water can be live due to electric fences or electrolysis from the metals in the water)?

#### Do you:

- have to repeatedly leave the pit to bring cows into the dairy?
- get shocks when you touch the bulk milk tank or milk stand door?
- notice that cow behaviour is worse in very wet or very dry weather?

### Treating non-cycling cows: A cost or a good return on investment?



Is it worth treating non-cycling cows? NZ research shows that treating non-cyclers prior to the start of mating (day -10) advances their calving date by 16 days compared to no treatment. This means an extra 16 days in milk the following season and a healthy return on investment.

What about low dairy pay-out seasons like this one? The return on investment of CIDR treatment is realised in the following lactation, so we need to consider the expected 2016/2017 season pay-out. But even using this season's low expected pay-out, we can demonstrate that when the cost of extra feed and treatment are accounted for, CIDR treatment is still profitable for most dairy farmers. If you want to see for yourself and you have access to an iPad, we recommend downloading the free CIDR ROI app from the App store. Or talk to one of our vets and we

will walk you through it. Is there another way we can deal with non-cycling cows?

A number of options have been trialled. These include:

1. Once a day milking: If done correctly, once a day milking can improve cow condition and fertility, but this comes at the cost of milk production. A DairyNZ study showed that OAD milking for either 3 or 6 weeks at the start of lactation temporarily improved cow condition but had no effect on number of non-cycling cows or any of the fertility measures. At the same time, the short period of OAD milking reduced whole season milk production by 8 – 12%.

2. Separation and preferential feeding of non-cycling cows: A NZ study demonstrated that separating non-cyclers out 10 days before planned start of mating and feeding them more actually decreases their 1st service conception rate and 28 day pregnancy rate.

3. Use of vasectomised (teaser) bulls: No studies have been able to show a reproductive benefit from using teaser bulls to get cows cycling (aside from being excellent heat detectors).

4. OvSynch/PG programs: These programs are designed to synchronise cycling cows. NZ non-cycler research found that these programs are less effective and less economical than CIDR programs.

5. Waiting until the end of the first round: Delaying treatment until the end of the first round means you have fewer non-cyclers to treat. But at least 31 days of mating have passed by the time they are inseminated and treatment does not advance conception date compared to untreated non-cyclers by as much as early treatment. So delaying treatment to the second round costs less but is uneconomical. Again, NZ research has shown this to be the case.

Evidence shows that CIDR treatment of your non-cyclers before the planned start of mating is the most effective option. CIDR treatment buys you an average of 16 days extra milk for next season, improves your calving spread and is still cost effective in a low payout year.

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## Scouring Calves



Scouring calves are a challenging part of spring farming and the best management plan is prevention.

### Prevention

- Colostrum - 2 to 4L of good quality colostrum in the first 4 to 6 hours of life is important to give your calves the best possible start. The first colostrum from middle aged cows will generally have the highest antibody levels. If you want to assess the quality of colostrum on your farm this can be done using a Brix Refractometer. Contact the clinic about ordering one today.
- Vaccination – cattle can be vaccinated during pregnancy to help boost the antibody levels in their colostrum and subsequently in the calves. Scour-guard or Rotavec corona vaccines provide increased protection against rotavirus, coronavirus and E. Coli. Talk to your veterinarian about adding these to your animal health plan.
- Hygiene – isolate any scouring calves as quickly as possible and keep them separated until scouring has stopped to reduce the spread of disease. Also remember that several causes of calf scours can be caught by humans so keep you and your family safe this spring. Regular use of disinfectant in the calf shed is good practice so have a chat to one of our staff about the best option for you. Despite best efforts, scours may still occur in which case knowing the cause is important.

**Causes** There are many different causes of diarrhoea in calves and certain causes (pathogens) are more common at different ages.

Agent/weeks of age	0	1	2	3	4	4+
E.coli (k99)	■					
Rotavirus/Coronavirus		■	■	■	■	
Cryptosporidium			■	■	■	■
Salmonella				■	■	■
Attaching-eficacy E.coli				■	■	■
Coccidia					■	■
Yersinia						Rarerly < 3 months

Contact the clinic to arrange a vet visit to collect faecal and blood samples as knowing what pathogen your farm is dealing with is important. We can add pathogen-specific protocols to your farms existing scour treatment plan.

### Treatment

Isolation and fluid therapy are essential to managing a scour outbreak. The following general protocol can be used when treating calves on farm:

- On day one of diarrhoea feed 2 litres of an oral electrolyte three times per day.
- On day two feed 2L of oral electrolytes in the morning and evening and 2L of colostrum/milk at midday.
- On day three feed 2L of colostrum/milk twice a day and one feed of oral electrolytes.

Remember that electrolytes and milk can't be fed together! Electrolytes will reduce the digestibility of the milk and may worsen the scour. Separate feeds by 3-4 hours.

If your calf is looking really dehydrated contact the clinic and we may be able to treat your calf with additional intravenous fluid therapy. This helps to correct metabolic imbalances caused by diarrhoea. Remember that prevention is better than treatment and we can help you along at every step.

Holly Rabone

## Good Heat Detection



Good heat detection programmes can have a major impact on overall herd reproductive performance. The key to ensuring semen is not wasted and cows conceive at the right time is accurate heat detection. The cost of a missed heat to you can be conservatively estimated around \$150-200.

The first step to getting better results is to see if your current heat detection practices need to be improved. There are two types of errors that occur during heat detection. You can miss a cow actually on heat; or you can misinterpret the signs shown by a cow and think she is on heat when she's not. If you miss a lot of heats, the submission rate of your herd will be low. The submission rate is a key driver of the 6 week in calf rate. You are aiming for high submission rates, but you don't want to achieve this by inseminating cows that are not on heat! The time when a cow is on heat (in oestrus) is defined as the period during which a cow will stand to be ridden by her herd mates or a bull. It occurs every 18-24 days in non-pregnant cows and lasts on average 14-15 hours. This time can vary from 2-30 hours. Their first heat after they calve is not as fertile as subsequent heats and the time between the 1st and 2nd heat is often shortened i.e. 8-12 days later. The average interval from calving to 1st heat is 35-45 days but this is very dependant on body condition and feeding levels in the NZ situation. This interval is about 10 days longer in heifers and is also longer for induced cows as a rule.

It is recommended to do paddock checks as well as using some other heat mount detector e.g. tail paint, kamars etc. to improve heat detection. Heat behaviour is most obvious at the cows' quietest time and thus it is best to observe them from a distance. Try not to disturb the cows when doing paddock checks and carry a notebook for recording. The heat behaviour often starts at night and the cows are busiest in their sexually active groups then. It is better for only 1-2 dedicated workers to do the paddock and shed checks for heat detection to attain consistent results. The optimum time for paddock checks in order of preference is late in the evening, briefly

before collecting cows for milking in the morning, mid morning and before evening milking. Ovulation (the release of the egg so that it can be fertilised) occurs 25 – 30 hours after the cow comes on heat. Therefore, cows observed on heat at morning milking would ideally be inseminated that afternoon, and those on heat in the afternoon would be served the following morning.

Quick check - A good way to check heat detection skills on your farm is to obtain the 3 week submission rate for early-calved (>8 weeks calved at mating), mature cows (>4yrs old). Farmers with great heat detection skills will achieve a 3 week SR of 95%. If your SR is less than 85% then there could be a problem with heat detection. It is important to remember when doing this check that a large number of non cycling cows at mating can also generate a SR <85% in this group of cows.

### What to look for in a cow on heat – she is likely to be on heat if

- she is standing to be mounted by other cows
- her tail paint is removed
- her heat mount detector is triggered

A cow may be on heat if

- she attempts to mount another cow
- tail paint is rubbed but not completely removed
- she is restless or bellowing
- has poor milk let down
- there is mucous present around the vulva

The second lot of examples are considered weak signs of a heat. In this situation you need to educate your staff to go to the current mating records before you decide to inseminate her. If there are no records for this cow having been inseminated since calving then go ahead with insemination. If the records suggest the cow is due for insemination i.e. previous insemination/heat was 18 to 24 days ago then also go ahead with insemination. If the last insemination/heat was less than 18 days ago then look for more signs of heat before inseminating. Make sure these cows with weak signs of heat are marked with a "?" on their AB records. This will help make future decisions if the cow was not truly on heat.

Good management at this early stage in the mating period will help to achieve successful results down the line so it is worth investing the time and effort into good heat detection.

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## CHECKLIST REMINDERS

- Clostridia vaccination for calves/lambs.
- Preweaning lamb/calf drench-talk to your vet
- Mineral profile and/or supplementation pre-mating
- Tailpaint and record pre-mating heats into MINDA
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**We hope you have enjoyed this latest edition of the Tauranga, Katikati, Te Puna Vets and Papamoa Village Vets newsletter**

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