

Dairy News

APRIL 2023
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Introducing our new vet Dr Andrew Weir PhD

I started work as a mostly dairy vet in 2000 after graduating from Massey. After 20 years at Eltham vets in Taranaki, I moved to Canterbury (2020) & joined the Selwyn – Rakaia Vets team in Dunsandel, before moving to RVC in Jan 2023.

I have a practical interest in research and stats as a tool for better decision-making which led me to get a post-graduate diploma (with distinction) in veterinary epidemiology, and then a PhD to help answer the question: what should we do about BVD in NZ? I've been a member of the BVD steering committee since 2007 and am currently the Chairperson (so if you have any BVD questions, I'm your guy).

I was also a member of the editorial board for the NZ veterinary journal for 5 years. I'm a member of the recently

formed Endemic Disease Forum which was set up to get a handle on what we can do to reduce the impact of the diseases we already have in NZ. I've varied from 100% clinical practice (dairy focussed) to 100% research at various times.

Recently I've been doing mostly clinical work for 4 day's week and using the other day doing industry good activities (like the BVD steering committee and the Endemic Disease Forum). I've been married to Kath for 24 years and we have 3 kids (2 adult, 1 at home).

I enjoy clinical vet work and getting out on farm, but I'm especially excited about the opportunity to do more with the increasing amounts of data we have access to. I have a (long) list of ideas for ways we can make the data more useful to you and help us to help you. I'm always interested in ideas



you have too, so feel free to make suggestions or raise questions that I might be able to help answer. I look forward to meeting you next time you need a hand with something!

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www.rangioravetcentre.co.nz Em: rangvet@rangvet.co.nz



Pregnancy Test Results 2022 / 23

Sometimes you can't catch a break. While a couple of farms have managed to achieve fantastic results this season, this has been the exception instead of the norm unfortunately.

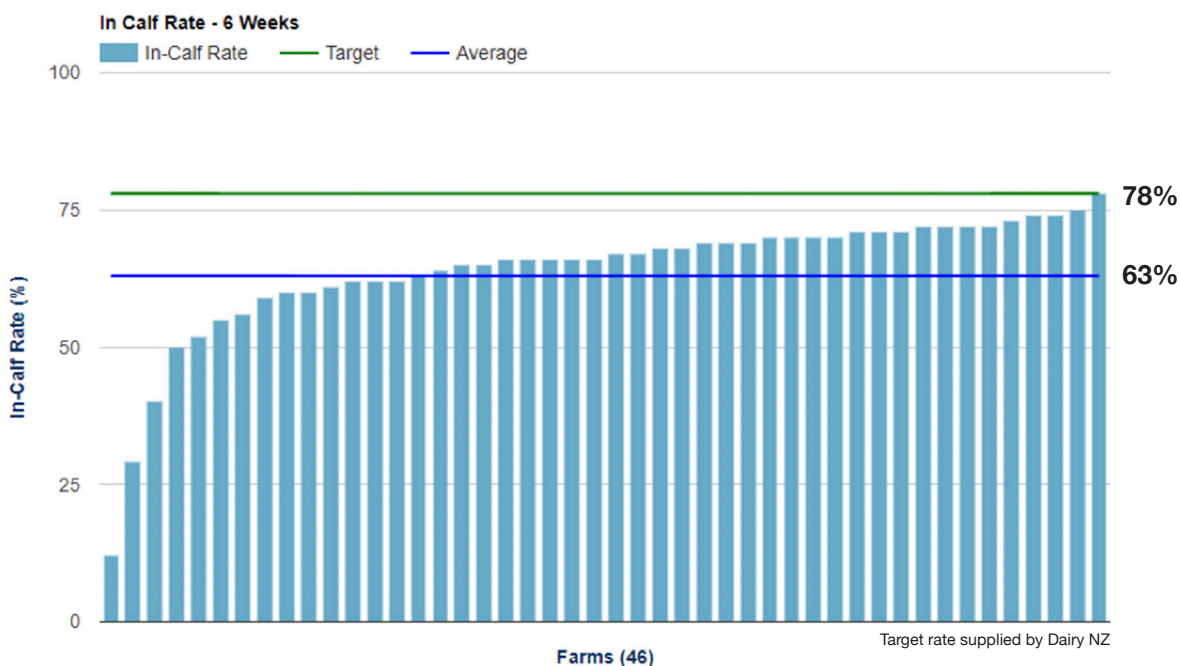
Across the farms the cows tended to come out of the dry period with good condition and then it sort of stalled there. Lack of sunlight, cooler weather and quality pasture which lead to lower than optimal milk production and as a follow-on effect disappointing repro results. And then if that wasn't enough "horrific fresh sexed semen conception rates" a quote from VetSouth Balclutha veterinarian Dan Cragg, reported in the Otago Daily Times.

Our results showed this as well, with the 6 week in calf rate 3% down on last year.

Below is a graph comparing the 6 week in calf rate for farms across the region using Infovet.

While there is a lot of focus evaluating reproductive performance using the key metrics, 6-week-in-calf rate and not-in-calf rate, top performers tend to do well across a number of areas;

- growing youngstock well and regularly monitoring performance
- minimising BCS loss between calving and mating
- looking after first-calving heifers in their first lactation
- monitoring pre-mating heats to determine what early interventions are required
- implementing reproductive programs such as CIDR/Why Wait early
- keeping on top of heat-detection throughout the mating period
- early-aged pregnancy scanning to determine if further interventions are needed, for example, the use of short-gestation semen to tighten calving patterns





6 Week In Calf Rate

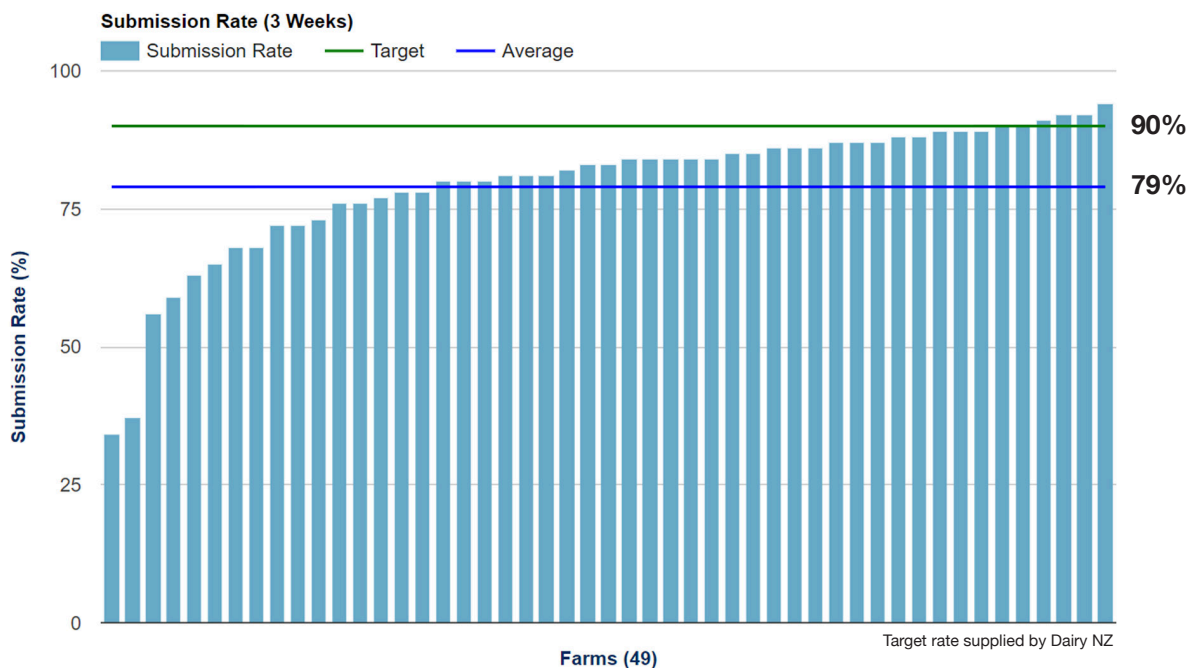
The blue line (at 63%) is our clinic average 6 week in calf rate across 46 farms with detailed records, whilst the green line (at 78%) is the target 6 week ICR for herds according to the Dairy NZ InCalf Programme.

As you can see there is a lot of variation, with more than 25% difference between some results.

For a cow to get pregnant there are two key points that must happen;

- she must have a heat and be put up for mating (Submission Rate) – see graph below.
- and
- she must hold to that mating (Conception Rate)

Submission Rate & Conception Rate are the two key drivers of the 6 week in calf rate.



The graph above shows a summary of 3 week submission rates for MA cows (not heifers) across the district. The average 3 week submission rate was 79%, and most conception rates are sitting in the 43-55% range.

With a wide variety of ranges there are farms performing very well despite the season and others that may benefit from a boost in performance. If you are looking to improve your repro results, our large animal vets are all In-Calf trained and can go through your farm specific results to tailor a plan to help lift your repro performance.

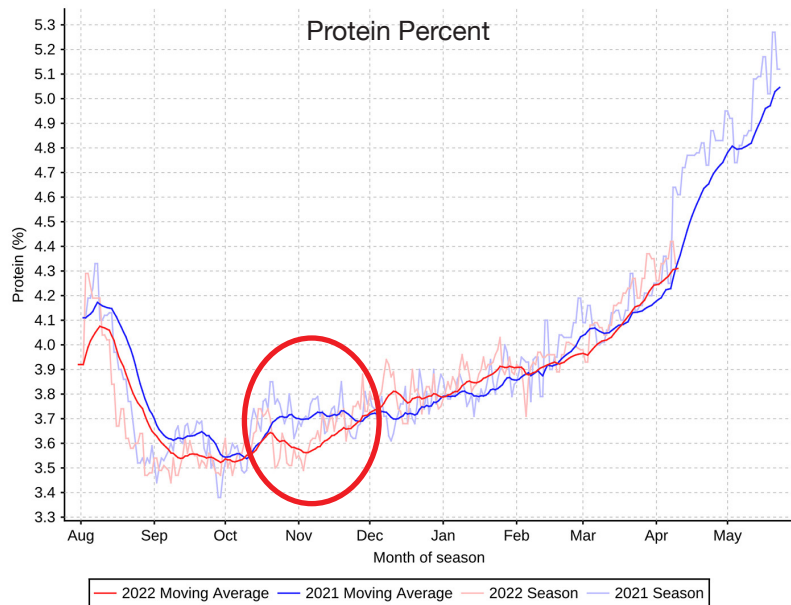
Nutritional influence on reproductive performance

Reproductive performance is influenced by a wide range of factors. There is no magic bullet and achieving good results requires doing many things well. Nutrition is a key player and there are critical time periods where good nutrition or changes in nutritional status can impact on reproductive performance.

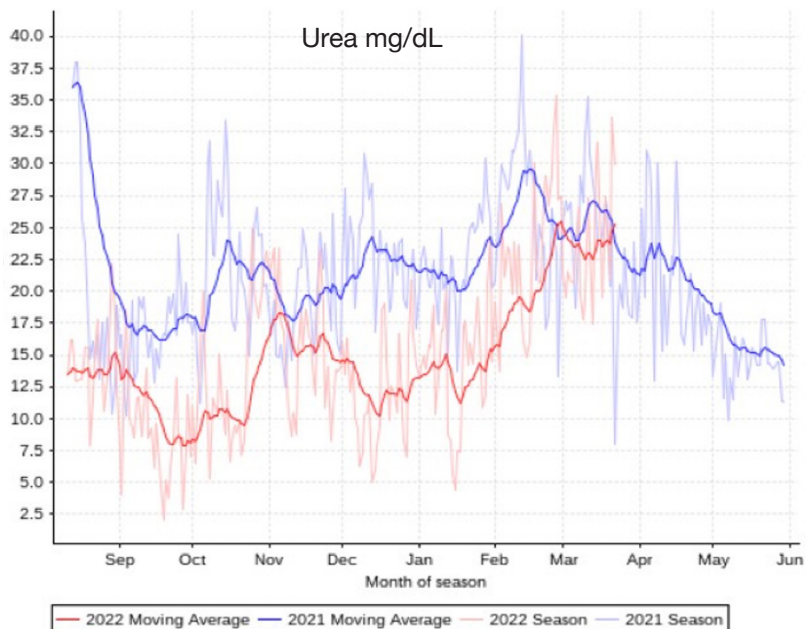
It is likely some repro results this season may have been influenced by seasonal conditions and feed management at calving and during mating. If we reflect back towards the start of the season, it was less than ideal – spring essentially came a month late after a wet calving period. Pasture growth was slow due to a lack of sunshine and warmth. Consequently, some farmers reported a reluctance to open cows up for higher pasture utilisation.

Following calving, cows should be on a rising plane of nutrition to reduce losses in body condition. Body condition at planned start of calving and at mating are good benchmarks, and minimising loss in condition between calving and mating will improve conception rates. Loss in condition after calving means the cow has a more severe negative energy balance which can delay (or stop) cycling, reduce conception rate, and increase the rate of early embryonic loss.

Many farmers reported good 3-week submission rates, indicating cows were cycling well. However, it is likely cows went “off the boil” during the mating period due to pasture quality changes. After a few warm days, the grass took off, producing a good amount of bulk. But even though cows may have been full, they may not have been getting the right nutrition during the mating period as pasture bulk limits the amount of grass a cow can physically eat.



▲ Milk protein can be used as a proxy to evaluate the nutritive value of feed consumed. This sample graph from one farm shows protein percentage from this season (red line) compared to last season (blue line). During the first 3 weeks of mating, there is a steady decline in protein from mid-October into November.



▲ Milk urea indicates the amount of protein in the cows diet. The graph of milk urea shows a similar trend around mating time. According to Dairy NZ, during early lactation milk urea levels of 25-40 are appropriate when pasture is a major component of the diet. Milk urea values less than 20-25 can indicate insufficient protein in a cow’s diet and dietary protein may be limiting milk production. This may explain why many farmers reported cows struggled to reach peak milk.

Keeping on top of pasture management and supplementary feeding to fill shortfalls in nutrition is crucial to achieving high conception rates right through mating.

Weight Watchers: Body condition scoring edition

The days are getting shorter and the mornings colder. Suddenly it will be dry off time and the herd's body condition score may not be where you're hoping it would be. Now is the time to assess your herd's BCS so we can make meaningful decisions for winter.

In Autumn body condition of the herd takes priority over production; we will obtain more benefit from preparing our cows for next season now, rather than trying to get as much out of them as we can before Winter hits. April/May is a balance between production, meeting cow BCS targets and achieving winter minimum feed cover targets.

Feeding for weight gain is a priority in autumn. Lush autumn grass with a low DM% and high protein is a bad diet for weight gain. Addition of supplements like quality silages, grain and starch-based feeds and crop help to gain condition.

If your herd has not been on grain or high starch feeds, how they are introduced to these feeds is critical to maintain feed conversion efficiency and get the most out of your supplement. The milking cow gains condition more efficiently than the dry cow, but enough total feed and the

right kind of feeds need to be consumed to achieve this.

Trace mineral deficiency (particularly copper and cobalt) can also reduce weight gain this time of year. Selenium levels also need to be raised during the dry period to reduce problems with retained foetal membranes and uterine infections post calving. With that in mind now is an excellent time for blood and liver tests to determine if extra minerals are necessary.

With all this in mind; Now is an ideal time to body condition score the herd!

Body condition score data is a good tool to be able to split the cows into groups to help you achieve the weight gain needed to reach ideal dry off targets. Strategic weight gain during late lactation gives the cows more time to adjust and grow and excessive weight gain during dry off may cause issues at calving. Contact Kellie or the office to organise your pre-dry off BCS or discuss with your vet at your RVM consult.



Time to get serious about SALMONELLA

Over the past few years, there has been an increasing number of salmonella infections among dairy cattle and calves in North Canterbury mostly occurring before and during calving. Infection strikes without warning, spreads quickly and places you, your farm workers and family at risk.

What should you look out for?

On the 1st day, the cow is 'just-not-right' and usually has a high temperature. Sick animals usually separate themselves from the herd, are dull, have reduced appetite and a sudden drop in milk production. By the 2nd day, a profuse, smelly, watery scour will appear and may contain blood, mucous or pieces of tissue from the lining of intestines.

Infection can occur following severe weather, onset of calving, sudden changes in diet, overcrowding or high stocking rates. Survivors can fail to come into milk. And in severe cases, there can be significant stock losses and lost milk production.

Carrier animals are the main source of infection and these can exist in the herd without showing any clinical signs. Infection remains hidden in lymph nodes and can flare-up during periods of stress, shedding large numbers of bacteria and catching you off-guard.

What to do if you suspect an infection?

Veterinary attention is essential and earlier treatment results in better chances of survival. Death may occur within 48 hours in untreated animals as they become quickly dehydrated and lose weight rapidly.

There is a risk of spread into the calf sheds, so separate potentially infected animals to prevent further spread to other animals. Clinically affected animals excrete large numbers of bacteria in their faeces and can also shed bacteria in urine and milk.

In the event of an outbreak, vaccination may reduce stock losses, so act promptly.

Risk factors for infection include;

- Feeding from continuous troughs
- Feeding palm kernel meal
- High stocking density increases risk of transmission and exposure so if infection does occur, spread cows out across the farm.
- Using pelletized magnesium oxide (Mag supplementation above 30gm/cow/day can cause changes in rumen pH and promote the survival of salmonella bacteria leading to a higher risk of infection.

DON'T FORGET TO PROTECT YOURSELF!

Salmonella is highly contagious and humans can become infected through contact with sick animals. Contracting salmonella around calving is not an ideal period to have time off-work.

- Avoid eating, drinking, smoking near cattle.
- Don't drink untreated milk.
- Wear PPE and gloves when handling cattle.
- Maintain good standards of hygiene with regular hand washing.

What can you do to prevent infection?

Whole herd vaccination is the best option. Salvexin+B is the only licensed vaccine that provides protection against the 3 most common strains of Salmonella (Typhimurium, Brandenburg, Bovismorbificans).

Two vaccinations are required, a sensitizer followed by a booster injection 4 weeks later. From then on, an annual booster is required.

What is the best timing for vaccination?

Infection commonly occurs during winter due to increased stress, so a pre-winter vaccination program around dry-off or early winter will provide protection against an outbreak. We also know that the Salmonella vaccine can transiently reduce milk production in dairy cattle due to the energy that the immune system consumes in responding to the vaccine. This can actually be helpful at Dry-off time to reduce milk production at the time of drying-off!

It is not advisable to delay vaccination until the first signs of disease occur. Alternatively, vaccinating so the second dose is given 3 weeks pre-calving will provide protection during the stress of calving and give protection to calves via colostrum.

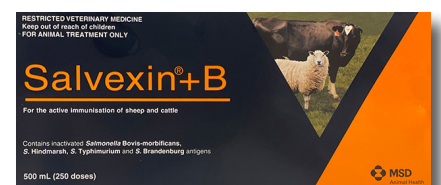
After vaccinating, animals may be slightly off-colour for up to a week as the vaccine stimulates an immune reaction to produce antibodies to provide ongoing protection. Vaccinating during dry-off will have the least impact on milk production.

Don't do at the same time as other vaccines/copper injection.

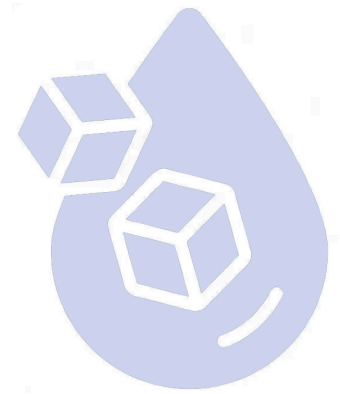
How much does vaccination cost?

Vaccinating against Salmonella is very cost effective and is even **cheaper than vaccinating for Leptospirosis**.

Salvexin+B	250mL	\$163.46 ex gst	125 doses	\$1.50 per dose
<i>Dose 2mL</i>	500mL	\$312.87 ex gst	250 doses	\$1.44 per dose

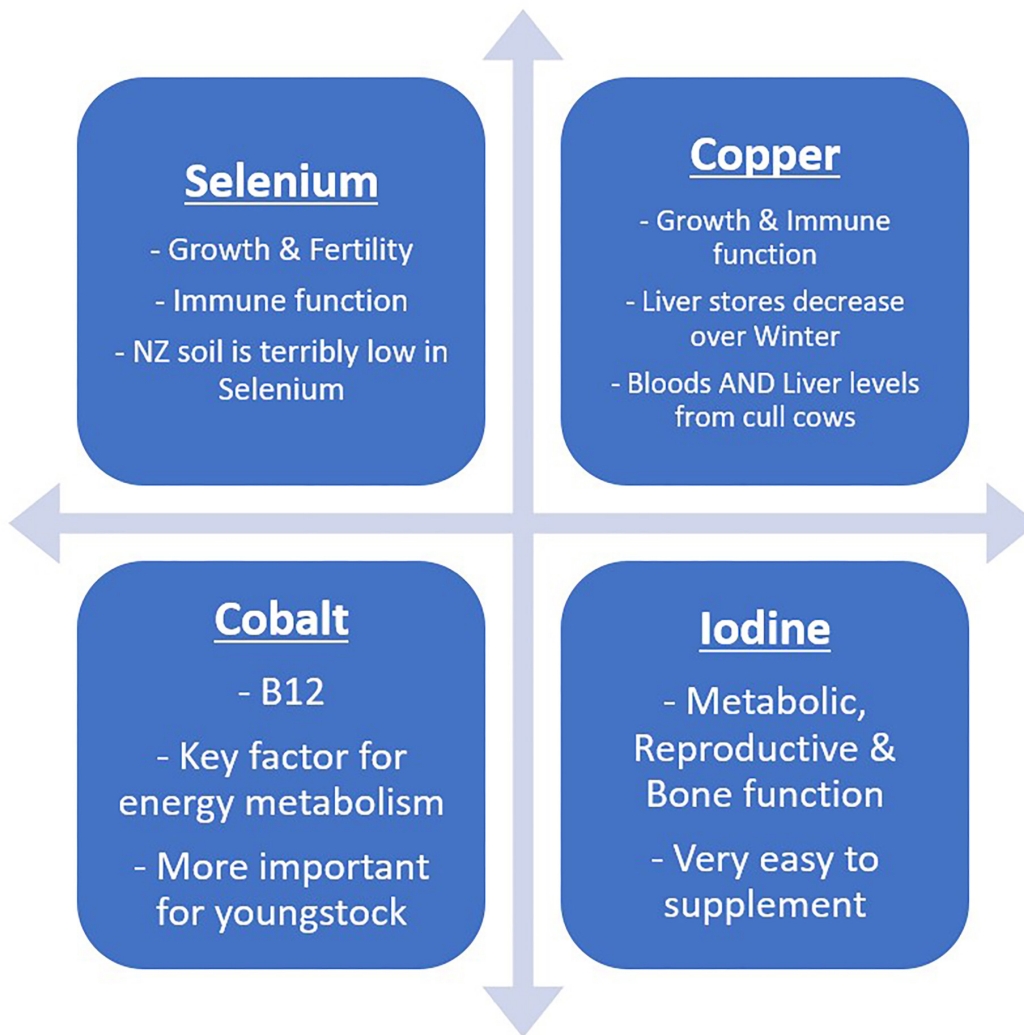


Minerals; the highs and lows



Next on the list of preparing for Winter; Minerals!

This is a timely reminder to perform some pre-winter mineral testing. The four key minerals we like to think about at this time of the year are Selenium, Copper, Iodine and Cobalt.



We used to think that there were two levels of minerals: normal or deficient.

However, recently trial work has unveiled that there is a higher, third level; optimal.

While a normal level prevents the animal from suffering from any of the negative effects of deficiency, an optimal level helps the animal perform at the next level.

Keep this in mind when testing or supplementing animals, especially moving into Spring.

Bloods are a quick and easy way to assess mineral levels but sometimes do not correlate exactly with what is going on in the body. Copper for example is stored in great amounts in the liver so the blood levels will remain relatively constant until the stores are depleted.

Liver samples for testing can be taken from cull cows at the works, contact our clinic to get the forms to request these tests.

Selective Dry Cow Antibiotic Treatment

The phase out of blanket dry cow therapy has been talked about for some time now which had previously been put on hold due to COVID disruption. This season, rules come into effect (see below).

“Authorising veterinarians should have clear justification to prescribe the use of dry cow antibiotics” (Veterinary Council of New Zealand)

Why is reducing dry cow antibiotic usage important?

Dry cow antibiotic therapy represents a large proportion of the total antibiotics used on dairy farms. And worst still, a large proportion of dry cow is going into cows that do not need it. Overuse to prevent disease in healthy animals can accelerate the development of antibiotic resistance. Reducing our reliance on antibiotics can help preserve their effectiveness into the future.

The adoption of selective dry cow therapy and reducing usage of antibiotics in general is not unique to New Zealand, it is a global initiative. In fact, the World Health Organisation has identified antibiotic resistance as one of the biggest threats to global health, food security, and future development. Antibiotic drug-resistant bacteria has become the leading cause of death in humans. In 2019 alone, 1.27 million people died because of antibiotic drug resistant bacteria. Although the proportion of deaths linked to antimicrobial resistance in animals is unclear, this phenomenon poses a threat to all species and we all need to play a part in reducing reliance on antibiotics.

To discuss drying off plans for this season, contact your key vet.

Ways to reduce dry period mastitis?

Current recommended best practice is to ensure cows are protected by some form of treatment over the dry period – either teat sealant or dry cow antibiotics.

Dry cow antibiotics will treat an existing intramammary infection and antibiotic levels will persist in the quarter for a short period to reduce the chance of new infection. But at some point the antibiotic cover will run out, leaving an open teat canal prone to new infection. Without teat sealant there is increased risk of acquiring mastitis at calving time. For cows with a low risk of having an intramammary infection at the time of dry off, teat sealant alone provides sufficient protection - they do not require dry cow therapy.



Dry cow antibiotics should only be used in cows considered “at risk”. This includes;

- Cows treated for clinical mastitis during the current lactation
- Cows with an individual cow SCC above an agreed threshold (i.e. between 150,000 and 250,000 cells/ml) in the current lactation
- Cows with visible teat end damage

Methods of reducing mastitis over the dry period include;

- Using diagnostic tools such as DairySmart milk cultures to guide decision making on which cows are sub-clinically infected and become candidates for dry cow therapy.
- Hand-stripping cows at the last milking prior to dry-off to visually identify any cows with new infections and need treatment.
- Preparing cows for dry-off by adjusting nutrition (reducing protein and energy) to help turn off the milk tap and reduce milk volume in the udder.
- Ensuring hygienic teat disinfection and administration of intra-mammary products such as teat sealant.
- Ensuring people inserting teat sealant are competent and properly trained.

NEW Dry Cow Rules

RVC has a fully trained team of veterinarians and technicians to assist you in administering teat sealant and dry cow therapy.

- Dry cow antibiotics can only be authorised following a veterinary consultation.
- Blanket dry cow therapy isn't justified unless the herd has a high mastitis risk.

Indicators of a high risk of mastitis include;

1. seasonal BMSCC >250,000 cells/mL
2. 2 or more clinical mastitis cases / 100 cows over the dry period
3. 10 or more clinical mastitis cases / 100 cows in the first month of lactation
4. More than 25% of the herd with individual SCC >150,000 cells/mL in early lactation
5. >15% of cows have an increase in SCC from below 150,000 cells/mL to above 150,000 cells/mL over the dry period

(Note: for herds to be eligible for blanket dry cow therapy, all 5 criteria need to be met)

- Internal teat sealants should be used in preference to antibiotics to prevent new infections over the dry period.
- Veterinarians must be able to justify an individual animal's treatment plan to support the need for using dry cow antibiotics. This includes using herd test results, diagnostic milk cultures, or PCR testing.
- For herds not using herd testing, alternatives such as rapid mastitis test (RMT) or conductivity meters can be used to define infection status.
- The authorising veterinarian must ensure all people administering drugs are competent to do so.



Dry Off 2023

Every year Teatsealing creeps up on us and this year is no different with Team Titties cracking into the job for a couple weeks already. If you haven't already, give us a call to book your heifers in so they can have a great start to their milking career!

To help things run as smooth as possible follow the checklists below and get in touch with Kellie if you have any questions.

Heifer Teatsealing Checklist:

Book in with Kellie or your vet for heifer Teatseal if you haven't already

- Check yards are suitable for heifer Teatseal
- Provide a minimum three people to help on the day
- Hold Heifers off pasture over-night (no one likes dirty techs!!)
- Provide rubbish bins for the trailer
- Provide facilities to wash trailer once job is finished

Once heifer Teatsealing starts it's only a matter of time before dry off arrives so best to get your ducks in a row earlier rather than later to avoid the rush at the end of May.

End of Season Checklist

- **RVM/Milk quality consult with your vet**
- Pre-Dry Off BCS with Kellie (whole herd is best)
- Vaccinations: Lepto and Salmonella (Herd, R1s and R2s)
- Order teat seal and dry cow products
- Trace element testing for heifers and milking herd – talk to your vet
- Dry off pregnancy testing (catch those mid-term losses now)
- Order winter minerals trace elements as required
- Farm staff training for new seasons staff
- Start thinking about calf health and shed hygiene



HOOF TRIMMING AS FOUNDATION

An average cost of a lame cow in New Zealand is around \$250. A cow will have lower milk yields, reproduction problems, poorer body condition, cost of treatments and on top of this, she will likely end up as a cull cow.

Prevent lameness by frequently trimming

The basic objectives of hoof-trimming are to balance the weight bearing between the inner and outer claws, correct the altered displacement of weight from heel to toe in overgrown claws, return the claws to normal shape and proportions, and to find and correct early lesions. The hind outer claws carry more weight and as a result are more prone to lameness. Trimming the back feet on a regular basis will make a difference in your lame mob. It is also recommended bringing these claws into shape two to three months before calving to prevent lameness in early lactation. The right trimming used for the correction of the claws will get the cow to a successful start of her lactation.

Own trimming or a professional hoof trimmer

The performance of preventive trimming can be done yourself or by a qualified hoof trimmer, in an appropriate cattle crush preferably with a hydraulic system to save time and energy. Important for sustainable success is having the right training and knowledge. Incorrect trimming will do more damage than good, therefore it is especially important to be a competent trimmer. A good trimming method will save time and money. A decent foundation means a good start to the new lactation season and less stress for everyone. Other benefits include fewer treatments, cows are seen to perform better, and an overall improvement on animal welfare.

Four Peaks Hoof Trimming is happy to assist you with giving your cows a good quality foundation.



Four Peaks **Hoof** Trimming

You draft 'em, we craft 'em'.

021 034 30 91