OCTOBER 2023

Veterinary Centre MoozNews

Milk Urea Nitrogen

Mat O'Sullivan BVSc – VETERINARY CENTRE OAMARU

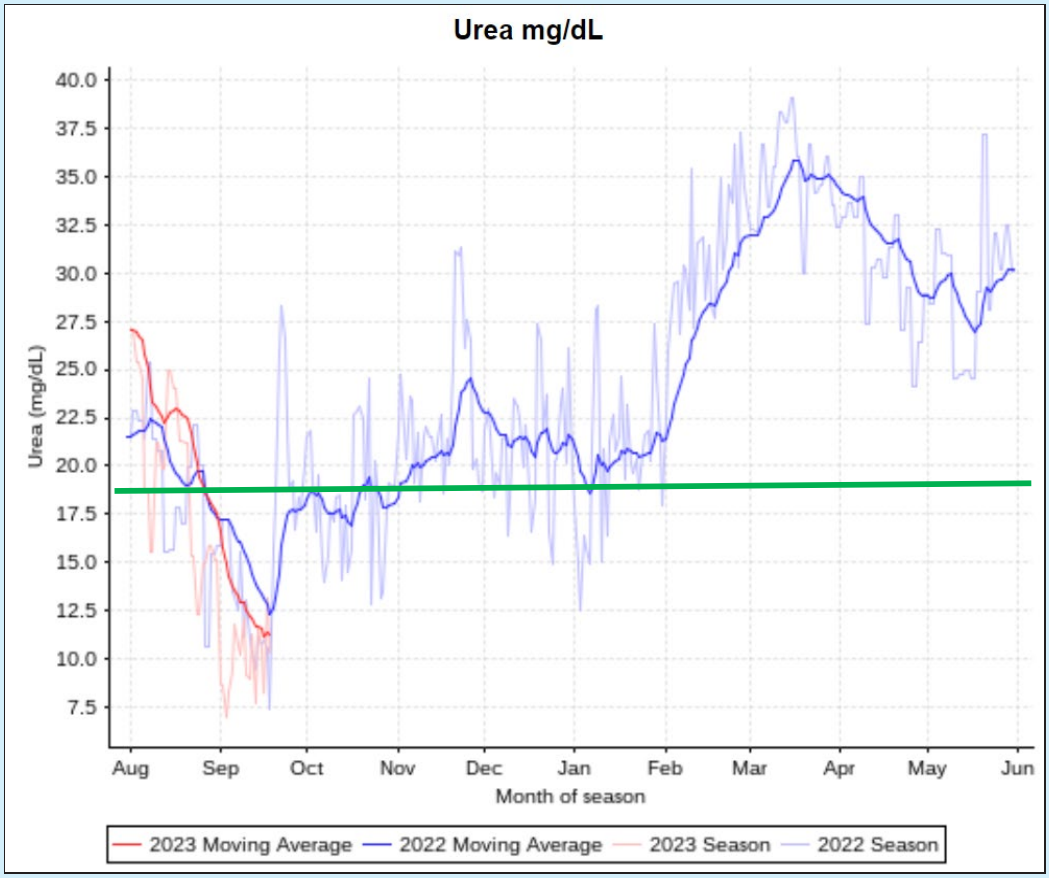
Milk Urea Nitrogen (MUN), provides an indication of dietary crude protein status in a herd. MUN is a by-product of microbial protein/nitrogen breakdown in the rumen. Where there is surplus in dietary crude protein, milk urea will rise. A deficiency will result in a fall in MUN. It is generally considered MUN levels above 15-19mg/dL indicate dietary protein is not limiting for milk production. Above 25-30mg/dL there is a surplus (which will load up nitrogen in the urine).

It is considered in herds where there is no deficit in energy but a restriction in protein, cow production may suffer but weight gain can occur. The exception to this rule will be cows that are genetically programmed to make milk 'at all cost' (e.g. overseas Holstein type breeds). These cows will mobilise muscle tissue to support milk production which adversely affects reproduction.

Before the introduction of the 190 Nitrogen cap, we sometimes saw these MUN levels drop below 15mg/dL towards the end of the first grazing round, but then sharply increase as cows enter lusher second round grass that had significant urea application.

This season the average MUN figures to date look like they have fallen further again in a lot of farms. This begs the question – are our pastures/soils becoming more nitrogen deficient - it has been a dry winter/spring so significant nitrogen leaching is unlikely? Is this low MUN really limiting production? Do we need to be more strategic with N application in spring? Many farms have removed more expensive protein supplements from cow diets this year – i.e. DDG which may be adding to the picture.

To answer these questions the Vet Centre has partnered with Dr Jim Gibbs at Lincoln University and will be sampling grass on these low MUN farms through the season starting with end of first round grass.



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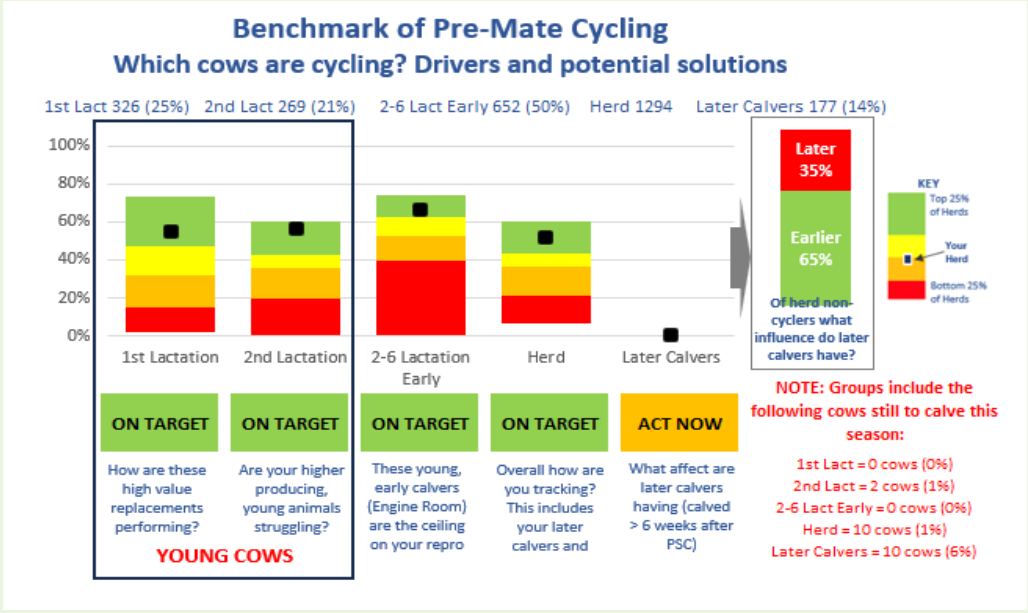
Pre-Mate Cycling Rates –
What can we expect from now until mating?

Ryan Luckman **BVSc (Dist) MANZCVS (Epidemiology) – VETERINARY CENTRE** Waimate

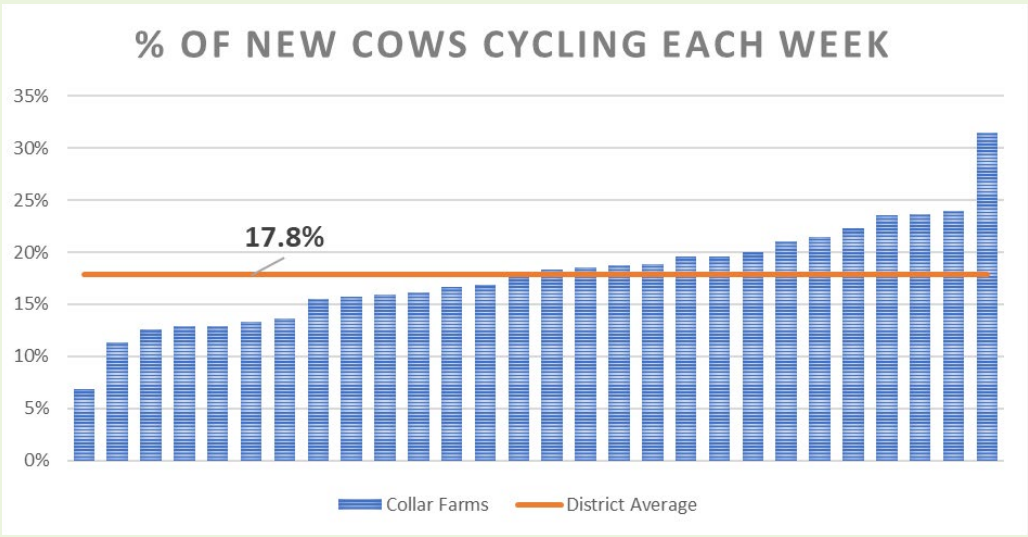
Over the past two seasons we have set up a package to monitor the pre-mate cycling rates of our Allflex Collar Farms leading into mating. These benchmarking packages allow us to compare pre-mate cycling rates, beginning 4 weeks before the PSM, to what our collar farms achieved last year. The benchmarked data therefore contains "real", "achievable" targets and allows farms to compare themselves to their neighbours. The report tracks milk protein % to aid in assessing the energy balance of herd.



One of the interesting bits of information we've been able to look at with the data is the HOW QUICKLY cows are cycling?

The graph (right) looks at the % of non-cyclers that had a heat within the following week across our collar farms.

On average around 1-in-6 non-cyclers had a heat in the following week (17.8%) in the four weeks leading up to mating, however, this ranged from about 1-in-20 (on our worst performers) to 1-in-3 (on our best performers).



How can you use this data without collars?

- First of all, if you record your pre-mate heats you can assess the number of cows cycling within each group compared to our benchmark data above (note the plots above are for 4 weeks before the PSM). Are you on track, or do you need to make some changes?
- Secondly you can look at the number of NEW cows cycling over a week. For example if you have 180 non-cyclers at the start of the week you would expect at least 30 of them (180/6=30) to cycle. More than that you are tracking above average, less and you are below.
- NOTE: This rate (1-in-6) matches the typical piece of advice that non-cyclers should halve in around 3 weeks/ 1 cycle.

Even if you don't have collars please get in touch with your prime vet to discuss opportunities to act now to improve cycling rates. We can help you problem shoot some of the common issues we're seeing, or look at your own data if you have monitored pre-mate heats via traditional tail paint methods.

What are things you can do NOW to impact on getting cows cycling?

INCREASE ENERGY INPUTS

- Priority Mob Feeding
- Consider additional supplements
- Target high quality pasture / lower entry covers
- Split Heifer Mob

DECREASE ENERGY OUTPUTS

- Reduced walking for non-cycler mob
- OAD Mob
- Late Calvers OAD until cycled/mated

MAXIMISE HEALTH

- Metricheck (if not already done)
- Minerals (pre-mate bloods +/- multimin)
- Eprinex / Cydectin Drench
- Monitor Mastitis and Lameness levels

Setting up for Mating 2022

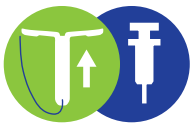
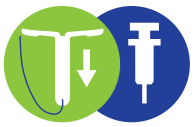
Mat O'Sullivan BVSc – VETERINARY CENTRE Oamaru

The count down to start of mating is moving fast. A lot of the factors which determine the success this year are already in motion. If you haven't already, make sure that bull requirements have been calculated, sourced and are certified BVD free (we have seen 4 herd breakdowns already this season). Trolleys and facilities for AI techs and drafting gates need to be in working order. Heat detection training and consistency to approach when more than one staff member detecting (we offer heat detection training). To improve conception rates, look at the strategic use of Multimin (or the Marks-Min (think Multimin plus B12). This should be given 3-4 weeks before PSM (heifers and cows).

Everything should be done to promote the pre-mate cycling rate. Identify light cows (cows under BCS 4 and heifers under 4.5) and look at improving energy balance by either OAD milking for 3-4 weeks and/or preferential feeding these high-risk cows. We often see restricted intakes in early October while second round covers are below optimal – ensure supplements are available and calculate requirements to fill deficits. Where iodine deficiency exists (most of our farms that don't use iodine based teatspray), look to supplement (Stock iodine) over the next four weeks.

Achieving >90% submission rate is paramount to improving 6 week in calf rate. Once within 9 days of mating take action with early calving non-cycling cows (essentially these are your August calvers). The later September calving non-cyclers should be treated 10-11 days into mating to ensure they are still mated within 3 weeks. To set this up it is important to be able to identify August versus September calvers (cows should be calved a minimum of 40-45 days before treatment). Pre-mate tailpaint needs to be on for a minimum of 21 days before intended CIDR insertion to accurately identify non-cyclers.

Anoestrus Cow Treatment and Synchrony

Day -10 AM	Day -3 AM	Day -1 PM	Day -0 AM
• INSERT CIDR • Inject GnRH	• REMOVE CIDR • Inject PG • Inject eCG	• Inject GnRH • Mate cows on heat	• Fixed time AI 8-20 hours after GnRH Injection
			

Cows observed on heat prior to the final GnRH injection should be mated and removed from the programme.

How is your herd tracking pre-mate?

Count cycling cows.

Aim for ...

- **Day - 15 – 70% cycled**
- **Day - 10 – 75% cycled**
- **PSM – 85% cycled**

Best Practice Setup for Non-cycler Intervention

10-5 Days BEFORE MSD
- Treat non-cycling cows calved more than 45 days.

5-10 Days AFTER MSD
- Treat remaining non-cycling cows calved more than 40 days.

24-26 Days AFTER MSD
- Examine all cows that are yet to be mated.

Bull Mating Requirements

Start sourcing bulls NOW. These should be blood tested free of BVD and vaccinated against BVD.

A 700 cow herd with an average reproductive performance – i.e. 82% 3 Week Submission Rate and 52% Conception rate and a 65% 6 Week In-Calf rate,

- if doing a 4 week AI period would need 14 sound bulls in the herd at all times, plus another 14 to rotate and possibly 5 to back up.
- if doing a 6 week AI period would need 8 sound bulls in the herd at all times, plus another 8 to rotate and possibly 3 to back up.
- a good idea is to run a marker bull – e.g. a Hereford with the mastitis/lame mob throughout the AI period to minimise the need to heat detect in this small mob.

BVD Bulletin

Andrew Muir BVSc BSc (Hons) - VETERINARY CENTRE Oamaru

We are getting to the time of year when you want to break the cycle of transmission of BVD in your stock. There are number of important things that are happening.

- Bulk Milk BVD results are starting to come through. If there is any virus (PI) found in your herd we will contact you directly. You want to get onto this ASAP to remove it prior to the planned start of mating. Having BVD around lowers pregnancy rates and cause more PI animals to be formed.
- Ensure that all bulls that are going to be used over heifers or chasers in the herd are blood tested negative and fully vaccinated. This is one of the most likely ways that virus enters a herd, especially with heifers.
  - Ask to see a certificate that shows bulls have been blood tested negative.
  - Fully vaccinated means 2 injections of BVD vaccine given 4 weeks apart.
- If you start mating a bit later and your therefore your BVD testing is a bit later, there is still an opportunity to put your herd on a BVD status pack. The pack tests every cow at herd testing that doesn't have a negative BVD result recorded next to her in MINDA. This means that if there is a PI in your herd they are found quickly before mating starts.
- If is also a good opportunity to test a sample of your yearlings to see if there is any virus in them before mating starts. This can be done very inexpensively with testing 10- 15 animals.
- If you BVD vaccinate your herd or heifers, they should be getting their booster vaccination now.

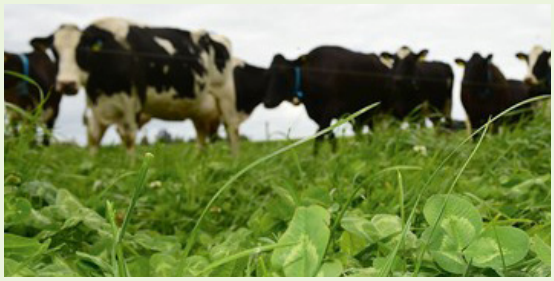
Bloat season is here right now

Mat O'Sullivan BVSc – VETERINARY CENTRE Oamaru

This is due to the grazing of rapidly growing high protein, low fibre second round pasture which generally has an increased clover content.

Risk factors for bloat:

- Pasture swards where clover content is greater than 30%.
- Dew or rain often increases the risk of bloat due to a reduction in saliva production which increases the viscosity or stickiness of the rumen fluid.
- Short swards.
- Warm windy conditions, especially in the evenings.
- Jersey cows.
- Young cows.
- Potassium to sodium ratios in pasture greater than 20 (this can easily be tested for at Feed Labs - known as the bloat index).



Factors which will reduce bloat risk include:

- Feeding longer length pasture, having higher pre and post grazing residuals
- Feeding fibre such as long chopped silage, hay, or straw before introduction to a new paddock or break.
- Preferentially grazing the older herd on at risk pastures - older cows have adapted grazing behaviour i.e., they do not gorge themselves as readily.
- Feeding salt at 30gm per cow per day.
- Consider using Ionophores such as Rumensin and Rumenox. These products provide bloat protection with the bonus that the animals feed conversion efficiency increases, enhancing milk production, improving daily weight gain, and conserving more body condition for the same feed intake. There are a number of forms available including water additives and capsules, so they are very versatile.

- Water trough treatment with bloat oil is usually effective at controlling bloat. However, it does carry some risk as it relies on the regular intake of water by cattle. Water consumption is reduced during wet conditions just when pasture is more likely to cause bloat. Also, bloat oil stains the water so cattle will preferentially drink from alternative water sources.

Heifer Mating – Getting the best bang for your buck

Ryan Luckman BVSc (Dist) MANZCVS (Epidemiology) - **VETERINARY CENTRE** Waimate

AB vs. Bulls

AB and natural mating are two options for mating heifers. Yearling heifers represent the highest genetic merit cows in your herd so mating them to AB is one way to speed up genetic gain.

Having the right infrastructure and facilities to manage heat detection are key when deciding if heifer AB can work for you.

If using AB, consider one of the synchrony mating programmes below:

- **Single-shot PG** – Mate to detected heat until day 6. Inject all unmated heifers on day 6. Mate to detected heat for a further 5 days. Cost approx. ~$3.60 +GST/heifer (Single Shot is based on average price for a group if just 70% are injected).
- **Double-shot PG** – 1st injection 14 days prior to start of mating. 2nd injection day before mating. Mate to detected heat for 5-6 days. Cost approx. ~$10.20 +GST/heifer.
- **CIDR Synchrony** – 9 day CIDR programme. 3 x yardings involved. Fixed time AI on day 9 (usually around lunchtime). Cost approx. ~$31 +GST/heifer.

Cow BCS Going Into Mating

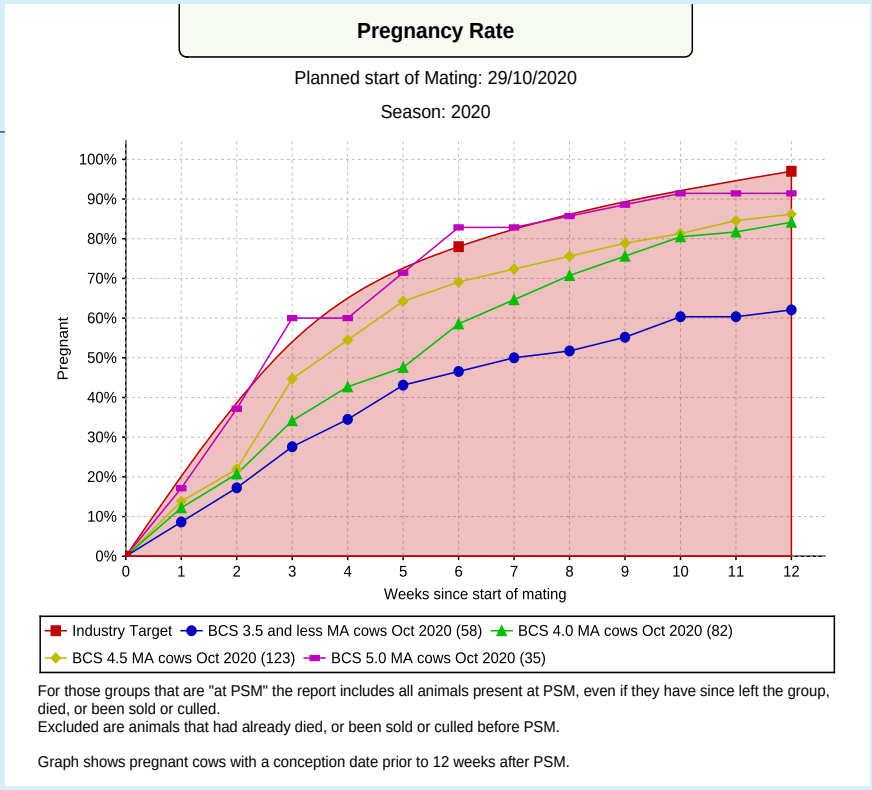
Mat O'Sullivan BVSc – **VETERINARY CENTRE** Oamaru

Cow BCS going into mating is one of the biggest determinants of mating success. The greatest factor governing herd body condition going into mating is the condition at calving.

We know that from DairyNZ studies and from the National Herd Fertility study (conducted locally), that optimal reproductive performance will be achieved in mature cows with a BCS of 4.5-5.0 and in first lactation heifers with a BCS of 5.0-5.5. Aim to have no more than 15% of cows below BCS 4.0 at mating with an ideal average score of 4.7.

The herd profile below, came from a local herd and would be ideal going into mating.

In the next month concentrate on improving the bottom end of your herd. Cows below 4.0 and heifers below 4.5 should receive preferential feeding. Do you know your herd profile?



For those groups that are "at PSM" the report includes all animals present at PSM, even if they have since left the group, died, or been sold or culled.
Excluded are animals that had already died, or been sold or culled before PSM.

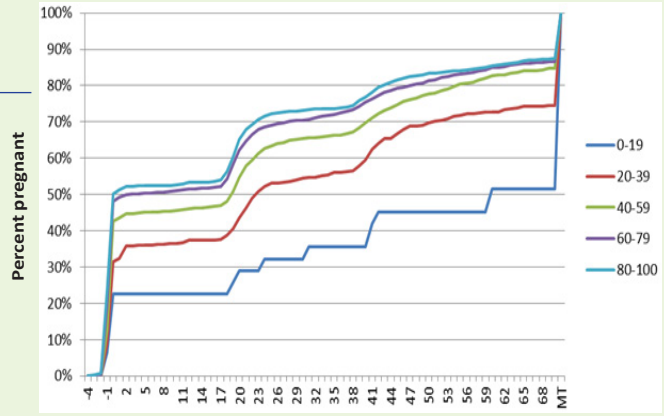
Graph shows pregnant cows with a conception date prior to 12 weeks after PSM.

Backing Winners – Which Cows Should Be Treated with a CIDR?

Our Veterinary Centre research team examined 8,500 non-cycling cows treated from 64 farms in our practice.

This is the biggest single study conducted in NZ on CIDR outcomes at a commercial level. From this study we were able to identify the optimal number of days-in-milk when treated, best time to treat relative to PSM and the optimal age of treatment. Overall the average first service CR was 47% which is extremely good for cows being mated on the first oestrus for the season. Cows under five years had the best response. Optimal first service conception rate occurred from cows >45 Days in Milk (DIM)and optimal MT rates in cows >40 DIM.

Relationship between Days since calving at treatment and Reproductive Outcome



Animal Health – Tips Post-Weaning

Lucy Cameron BVSc BSc MANZCVS (Rumin. Nutr.) – **VETERINARY CENTRE** Waimate

As we get closer to weaning calves there are a few things to consider over the coming months:

- **Clostridial disease** – most calves should have had their first shot of Covexin 10, make sure they have a booster within 4-12 weeks to protect against sudden unexplained deaths in their first year.

Multine 5-in-1 Plain ACVM A000934 – Multine 5-in-1 B12 ACVM A011311
Multine 5-in-1 Selenised ACVM A000935 – Multine 5-in-1 B12 Selenised ACVM A011766

Covexin 10 ACVM A009028

- **When to wean** – calves should have reached minimum target live-weights e.g. 70kg for Jerseys; 80 kg for XB; 90 kg for Friesians – but these will depend on the rearing system used – importantly they should be consuming an average of 1kg/day of good quality calf meal. Keep weaned calves eating 1-2 kg for at least 2 – 3 weeks before slowly decreasing the amount of meal fed.

- **Worms** – as calves begin eating pasture they are exposed to infective larvae – set up a drenching plan to start once pasture has been a significant part of their diet for 3 weeks. Oral drenches at 4 week intervals are preferable, and always use combination drenches with levamisole to avoid problems with resistant Cooperia. Lungworm can become an issue in summer but is susceptible to most drenches. Discuss with your vet whether a triple or double drench will be suitable – or a coccidia targeting drench such as the combination Turbo Initial. Take care with drenching milk fed calves – don't add drench to the milk or pull them off the feeder to drench. This can lead to drench by-passing the rumen and potential toxicity. Make sure you know how much your calves weigh so you can dose accurately, and wait till calves are 100kg+ before using abamectin drenches.

- **Minerals** – copper, selenium and B12 are all important minerals for young growing calves. Copper can be given by bullet or injection – for younger animals a 10g bullet in January is a safe option and will give 3 – 4 months of copper supplementation.

CopperMax ACVM A009469
CopaCaps 10g ACVM A005259
Prolaject B12 2000 plus Selenium ACVM A006903

Selenium and B12 can be given in combination e.g. 2ml Prolaject B12 2000 + Se in December, followed up with a long acting selenium injection in 1-2 months to cover calves through autumn and into winter.

- **Coccidiosis** – this parasite can decrease growth, cause scours & deaths from one month of age, especially on paddocks used for calves for several years. Calf meals contain protective coccidiostats – but calves must be consuming 1kg/d. Toltrox is a one off oral drench solely for coccidia that could be used as calves are weaned off meal, or earlier if the property has a history of coccidia, particularly if the calves are not consuming enough meal.

Toltrox ACVM A011401

- **Monitoring growth rates** – regularly weighing your calves (every 1-3 months) and responding to those not meeting targets is the best way to ensure they continue gaining weight post-weaning, and are on track to reach targets as they enter your herd in two years time. At 6 months of age they should be 30% of their expected mature liveweight, at 9 months 40%, and at 12 months of age 50% of mature liveweight.

Hamish Newton BVSc PhD
Veterinary Centre Oamaru

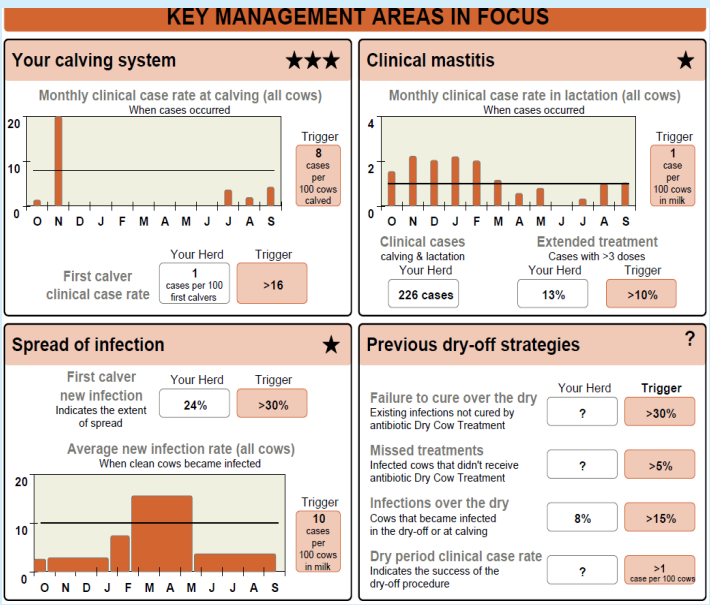
UdderNEWS

With the majority of calving all over now and more and more of you recording your mastitis treatments into MINDA it appears that the Spring has been kind with calving mastitis rates low.

Of the 112 farms that are recording mastitis cases into MINDA that we can see via InfoVet, the average number of clinical mastitis cases recorded per 100 cows up until 30 days in lactation was 5. This is a great result when the "Trigger" value on the Mastitis Focus Report is 8 cases per 100 cows within 14 days of calving. If you have not seen your Mastitis Focus Report it is available on MINDA, or InfoVet (ask your Prime Vet for a copy). This report, like the Fertility Focus Report, looks back at the last 12 months of data from the date you run the report. I encourage you to have a look at your one and use the data about what has happened previously to prepare for the next few months. Now that calving is all but over you should aim to be finding and treating less than 1 case per 100 cows per month. For reasons that are not 100% clear we will, unfortunately, likely see a rise in the monthly case rate in November and December on many farms This rise coincides with both peak production and AI occurring and while it may not be caused by either of these events there are some plausible reasons why this rise may occur.

- Cows on the yards for longer?
- Drafting leading to longer row times and over milking?
- Is there less emphasis placed on teatspraying?

Screen shot from a Mastitis Focus Report.



Tracecheck Feedback

Mat O'Sullivan BVSc
VETERINARY CENTRE Oamaru

Over the last few weeks many of our clients have blood profiled their herd for trace mineral leading into mating.

Three brief observations;

- We often see seasonal variability with Vit B12 levels. The B12 levels tested in the last week have been a lot lower this season than last year. As we head into the lusher, high protein, rapid growth phase of second round grass this will tend to drive levels lower again. Where farms are testing low, a strategic injection of Prolaject B12 at the start of October will lift levels for 4 weeks. Also consider using the new Marks-Min injection which contains B12, Selenium, Copper, Zinc and Manganese.
- Low Zinc levels have been seen in a large percentage of farms. Zinc is both important in cow immune function (i.e. slow clearing of uterine infections) and successful conception. Additional supplementation of chelated Zinc or strategic use of Multimin 2-4 weeks from mating may improve the reproductive odds.
- Low Iodine levels are being seen in many mobs, especially those that no longer use Iodine based teat sprays. The best way of supplementing Iodine is using 10% Stock Iodine, added daily to your dos-a-tron at 25mls/100 cows. Iodine is an important part of driving healthy metabolism and is key for producing good heat expression, conception and early embryonic survival.

Minimising Coccidiosis Outbreaks

Jess McKenzie BVSc(Dist.) – **VETERINARY CENTRE** Waimate

Coccidiosis is a parasitic disease which primarily occurs in young cattle between 3-8 months of age. Occasionally the disease is seen in animals as young as 4 weeks. Coccidia are widespread in the environment, however disease only occurs if large numbers of the parasite are ingested or if their resistance is lowered due to stress, poor nutrition, concurrent disease, or heavy worm burdens. Coccidia can survive for long periods on pasture - grazing calves on the same paddocks each year increases the risk due to significant build-up of oocysts on paddocks, especially in wet conditions.

Calves present with diarrhoea typically containing mucous and blood. They frequently strain to pass faeces, swish their tails, are often off their food and appear uncomfortable and unhappy. Faecal staining on the back of the thighs is often evident. Affected calves lose weight rapidly due to gut damage and growth rates can suffer for months after the disease. Most calf meals contain a coccidiostat which prevents the infection becoming established – however the protective effect relies on calves consuming about 1kg of meal/day. Often mobs are eating more than this **on average** but there are always some calves that eat less than others.

Treatment is with Toltrox (as a single oral dose) or injectable Amphoprim (antibiotic) and are usually effective, especially when instigated early in the disease. History and clinical signs are often enough for a presumptive diagnosis, however faecal samples are required to confirm and are relatively quick and cheap to perform.

Turbo Initial is also a good product to keep in mind – a dual action double combination drench (Eprinomectin and Levamisole) with added Diclazural for coccidia control. Post-weaning off calf meal, some calves will become very susceptible to coccidiosis. Calves at risk can be strategically treated with Turbo Initial once at 18-20 days after weaning off meal. This allows them time to establish an infection and gain some immunity, then treating the infection before it can cause disease.

Product of the Month
TURBO® Initial

Turbo® Initial is an oral drench specifically designed for weaned calves. It provides broad worm parasite coverage as well as helping to protect against coccidiosis. This bridges the 'susceptibility' gap after calves come off coccidiostat-treated meal and before they develop natural coccidiosis immunity. Turbo Initial ACVM A011703

Active ingredients:

- 2g/L Eprinomectin
- 80g/L Levamisole HCl
- 10g/L Diclazuril
- 4.4g/L Cobalt (min. 33.6g/L Cobalt disodium EDTA)
- 1g/L Selenium (2.4g/L Sodium selenate)

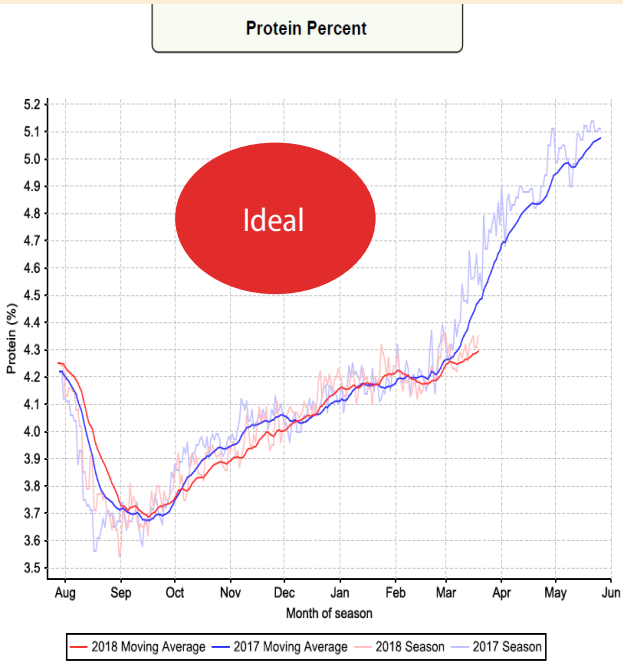
Dose rate:
1ml/10kg

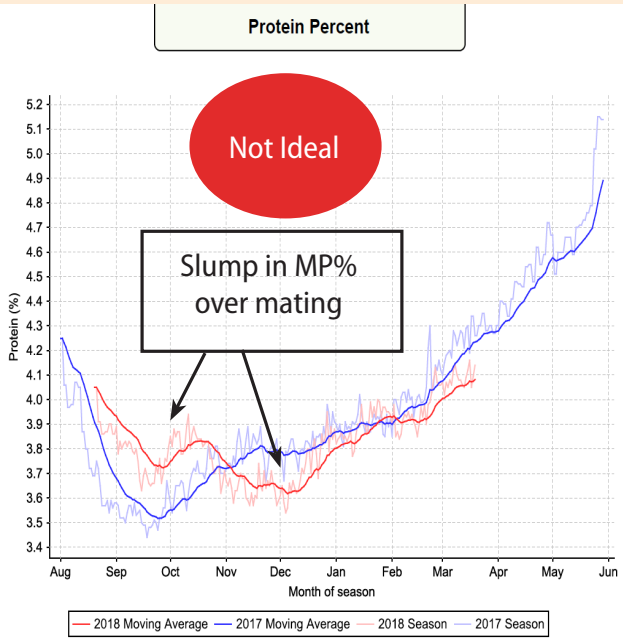
Withholding periods:
35 days meat.
Not to be used on bobby calves.

2.5L $749 Incl GST
$2.35 plus gst per 90 kg calf

Having cows 'on a rising plane'

At a herd level your milk protein percentage is quite a good indicator of energy status of the herd. For most herds the lowest point in milk protein % is seen in mid/late September and from here ideally you will see a steady gradual rise through the rest of the season (referred to as the Nike tick). A curve going down or with wild fluctuations in October/ November indicates cows are likely to be in periods of negative energy balance and this will have a harmful effect on mating. Ensure that cows energy requirements are met daily over the next two months.





Tailpaint Regime for Identification of Non-Cyclers

Mat O'Sullivan BVSc – VETERINARY CENTRE Oamaru

Getting the best results takes good planning. Where applicable back the cows likely to give the highest returns. From our studies the best return comes from non-cycling cows calved at least 40-45 days before treatment. The following is a tail paint regime to best set up a non-cycler programme.

- Planned Start of Mating (PSM) for cows - 24th October
- Mark all cows (as they calve) with a Yellow stripe over the hips that calve after the 4th of September. If they calve after the 25th of September give them **TWO** Yellow stripes.
- 35 days before the PSM (~19th of September) all cows that had calved up to the 4th of September (Blue and Green Hip Stripe cows) to get Red Tailpaint on Tailhead.
  All cows that calved after this date get Yellow Tailpaint on the Tailhead.
- Touch up every 5 days. As cows cycle repaint them in Green
- 9-5 days before PSM all remaining Red Tailpaint cows are eligible for CIDR treatment
- 1 day (24hrs) before PSM repaint all cycled cows with Green.
- As cows are mated paint them Blue
- 8-11 day into mating all remaining Yellow Tailpant cows with **ONE** hip stripe are eligible of CIDR treatment
- 21 Days after the PSM all second-round inseminations to be painted Orange.
- 24 days into mating all outstanding non-mated cows (including the Yellow **TWO** hip stripe – very late calvers) are eligible for hormonal treatment.

Using hormones isn't natural!?

Did you know - all healthy cows that re-enter a cycling state require the same orchestrated sequence of hormones that are used in a CIDR programme. Hormonal programmes just assist those anoestrus cows back into the 'normal state' of their herd mates.