

Dairy News

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When is the right time to dry off cows?

With this dry weather, the condition on some cows may be taking a hit. Most herds will have some cows that run out of time in the next few weeks. If cows miss target condition next calving season, they'll produce less milk and are more likely to be non-cyclers, have lower conception rates, and are more likely to get sick or lame. Setting yourself up for next season sometimes means making tough decisions.

Let us help you take the guesswork out of deciding appropriate dates for drying off cows (or selecting batches) based on body condition and expected calving date.



We've developed an interactive tool to test different scenarios to help you plan when to intervene, so that you can achieve optimum performance next season.

If you're interested, contact your primary vet.
ACT NOW
before it's too late!

Our aim is to significantly reduce the amount of plastic going into landfills and to support a healthier, more sustainable environment.

Heifer teat seal is well underway, and Team Titties has hit the ground running for the 2024 season. The RVC vet technicians are again recycling teat seal tubes at each job, making sure there are dedicated bins/rubbish bags for the tubes and caps suitable for collection.

In 2023 we recycled
83,117 tubes

Which were re-purposed into products such as fenceposts, cable covers and drainage pipes!

This year we aim to recycle even more! So we have some awesome prizes on offer to help us achieve this goal! The farm that recycle's the most (measured by weight) of TEAT SEAL ONLY tubes will win a brand new stoney creek gun bag and other goodies! *The weight will be measured by the number of teat seal tubes weighed to number of animals on farm to make it fair.*

Simply collect your used (clean) teat seal tubes, label with your farm name and Matt Lawrey will collect from your farm.

Please note:

- Due to unknown plastics being used in other products, no other brands or products can be recycled through this scheme i.e. antibiotic dry cow therapy tubes.
- If other products, or contamination of other materials, such as gloves, teat wipes or rubbish are found in the bag, the entire bag will be disposed of and the bag will not be suitable for admission into the promotion.
- Teat wipes are 100% farm and home compostable.



WIN



Thank you for playing your part in creating a sustainable future and for your dedication to diverting waste from landfills.

Why do we use Dry Cow Therapy?

Dry cow therapy is used as a mastitis control strategy that includes the use of intramammary antibiotics at the end of lactation to aid in the cure of existing subclinical infections. It should be noted that any good dry cow therapy programme includes the use of an internal teat sealant as a preventative as well.

During the dry-off period, cows require extra energy to support maintenance (especially during colder months) and BCS gain during pregnancy. Drying cows off for a period will ensure all cows achieve the recommended BCS targets pre-calving and have the best possible start to their lactation.

Dry cow antibiotics can only be authorised following a milk quality consultation with your vet. It is handy to collect herd test data and culture results (if available) prior to the catch up to assess the herd level risk of mastitis. Vets must be able to justify an individual animal's treatment plan to support the need for using dry cow antibiotics.

Cows that are considered "at risk" of infection and should therefore receive antibiotic Dry Cow Therapy include:

- Cows treated for clinical mastitis in the last dry period or in current lactation.
- Cows (and heifers) 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 which may reduce the efficacy of internal teat sealants.
- Culture results indicating a major pathogen.

Planning for Dry Cow

There is a lot going on at the end of the season, the earlier you start planning, the better! If you are wanting to book anything in, don't hesitate to contact the clinic, your vet or Kellie as spaces fill up fast.

Planning for dry off early can significantly impact how the new season will begin for your milking herd. We want to ensure you and your farm team have a smooth and efficient dry off process as it can be a daunting prospect, especially if you are changing the way you plan to dry off your herd or are working with staff that haven't been through the process before. RVC vets and techs can assist with drying off large mobs or offer training for farm teams to safeguard both cows and the team for the next season, promoting efficiency and animal well-being. An effective and successful drying off is the best way to ensure that mastitis during calving stays at a low, manageable level.

Here is a practical and helpful checklist to consider in the coming weeks as we prepare for Dry Cow treatments and administration:

- Arrange with your vet an RVM/Milk quality consult and plan to order teat seal and dry cow products (At least 1 week before your dry-off date if not many more).
- End of year herd test or culture: to give you the best idea of which cows require which treatment. A herd test within 60 days of drying off is necessary to give you the correct information to make an accurate drying off plan.
- Mineral status for overwintering: Be it livers or bloods, it is best to figure out and give them what they need before winter, to give them the best chance at a great start next season.
- Arrange with Kellie to complete a whole herd pre-dry off BCS. Individual scoring is far superior to mob scoring, as we can then determine which cows need longer to obtain our BCS targets pre-calving.
- Have a sit down with your team to ensure everyone understands the process of correct administration of intramammary dry cow antibiotic and internal teat sealant. If you are wanting our tech team to assist with drying off or you would like a vet to give advice and training to your team for drying off, now is the time to book this in.
- Plan to walk cows back to a clean, dry paddock, and walk them slowly. This reduces the risk of loss of product from the teat on treated cows before the teat ends have closed. Avoid having cows walk long distances and especially prevent them from running! There is nothing worse than watching your money in the form of dry cow therapy being sprayed around the lanes as the cows take off.
- Keeping cows on farm (no trucking) for at least 48 hours post dry off to avoid treatment leaking from teats.
- Post treatment, cows should be checked at least daily for any signs of mastitis infections.
- Many hands make light work! It is always helpful to have plenty of staff available (if possible) to assist on the day of dry off to help things run smoothly.

PREPARATION OF DAIRY COWS FOR TRANSPORT

Preventing Down Cows

Follow these 3 steps **before** your cull cows get on the truck:

Step 1

Stand them off pasture (green feed) for 4-12 hours prior to transport.

Step 2

Provide roughage/dry feed and water while they're stood off.

Step 3

Supplement with *CALCIUM* (lime flour), as well as *Magnesium*. Add to roughage, dry feed or as an oral drench.



Why do I need to read this?

MPI records show approximately 1000 cull dairy cows go down during transport, or at the saleyard/slaughter plant each year, this is a significant animal welfare issue and it poses a risk to the reputation of the dairy industry. This metabolic crisis is principally due to low blood calcium i.e., hypocalcaemia (milk fever), brought on by the stress of feed withdrawal, transport and yarding.

Cows which go down on the truck are at risk of being trampled by their pen mates. They can suffer injuries such as broken bones, lacerations, bruising and even death. They can also bring down other cows in the pen. Some plants may treat 'down cows' with a metabolic solution. If they respond and gain their feet they can be processed, but only to restricted markets. If they do not respond (or are not treated) they will be euthanased with a total loss to the supplier.

**BOOST CALCIUM
BEFORE TRANSPORT**



What do I need to do?

It is vital that dairy cows are prepared adequately before transport to saleyard/slaughter. Even though the risks are greater for lactating cows, dry cows can also suffer from low levels of blood calcium. Therefore, **all cows** should be prepared properly regardless of lactation status, using the guidance on the back of the page:

Dairy cows should not be starved.

Stand off pasture for 4-12 hours before transport BUT provide roughage/dry feed and water until loading on the truck.

You can then add *CALCIUM* and magnesium to the hay/baleage/palm kernel.

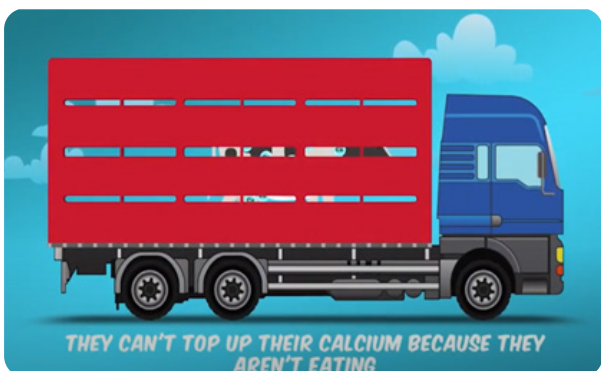
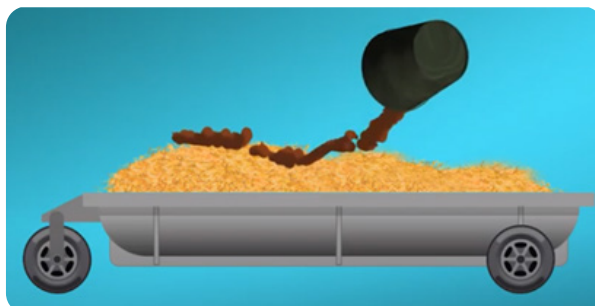


1. Add 100 grams of lime flour per cow to feed during stand off (4-12 hrs before transport).

This provides each cow with 35g of *CALCIUM*. An alternative supplement can be used but it **must** contain the equivalent amount of *CALCIUM*.

2. Also give 60 grams Causmag. Note that this contains Magnesium not *CALCIUM* so is not a substitute for Calcium supplementation.

The extra *CALCIUM* could be given as an oral drench, or a slurry poured over dry feed. If no roughage is on hand it is possible to mix with dry feed/meal in troughs in the yard/shed. Use the same rates as for colostrum cow supplementation.



In summary it is essential for the welfare of your cows that they are prepared for transport and receive *CALCIUM* as well as magnesium supplementation. Good preparation will also maximise your potential economic return.

More information can be found here: www.dairynz.co.nz/transport

Alternatively, seek advice from your vet.

Are your cull cows fit for transport?



Make sure she's fit for transport

If you're unsure, seek advice from your vet.

Transportation is particularly stressful for dairy cows. If they are not prepared for the journey they may go down during transportation. So, preparation is important.

MPI verification services veterinarians at slaughter plants assess all animals for their fitness for processing and to identify animal welfare issues. Any welfare issues are recorded in a national database and a recent review highlights some trends in cull dairy cows sent to slaughter.

Cull dairy cows transported from farm to slaughter still remains a significant animal welfare concern for MPI verification services. Data from the last 5 years shows there has been a slight decrease in the number of down cows during transport, but still remains a major concern, posing a reputational risk to the dairy and meat industries.

A study conducted at 5 slaughter premises showed 80% of down cows were due to milk fever. In the majority of these cases, the farmers had milked the cows and were then sent direct to slaughter without any preparation.

Many cull cows go down during transport due to low blood calcium, brought on by the stress of feed withdrawal, transport and yarding. Constant movement during transport quickly uses up the supply of calcium to muscles to the point where muscles can no longer function properly, resulting in the cow going down.

Minimising the risk of cows going down during transportation can be managed by ensuring calcium intake is optimised prior to transport. Dairy NZ recommends giving each cow 100 grams of lime flour and 60 grams of magnesium (Causemag) as an oral drench, or administered as a slurry over hay prior to transportation.

Dairy cows should not be starved and should have access to water until they are loaded. The stand-off period from green feed is at least 4 hours (but no longer than 12 hours) before transport to reduce effluent spilling onto roads. But, hay or baleage doesn't need to be withdrawn, so provide access to roughage right up the point of loading.

Data for the last 5 years is as follows:

2019:

762 cases of recumbent female cattle from 1,471,800 processed

2020:

889 cases, from 1,533,156 processed

2021:

812 cases, from 1,550,674 processed

2022:

667 cases, from 1,462,153 processed

2023:

632 cases, from 1,425,110 processed

DID YOU SEE on the previous pages the guide from Dairy NZ for preparing cull cows for transport?

Copper Supplementation

RVC has undertaken research on two dairy farms in the North Canterbury region to provide further insight into the effects of using injectable copper supplementation in mixed aged dairy cows.

We wanted to understand;

- What is the likely response in raising liver copper levels from a standard 2mL injection of a copper product (Copperguard)?
- How safe is a 4mL injection of copper to avoid risk of copper toxicity?
- How long do these injections persist to guide re-treatment recommendations?
- Is there a difference between formulations, Copperguard and MultiMin products?

With support from Virbac (suppliers of MultiMin & Copperguard) and EpiVets (research partners) a research study was designed to monitor changes in liver copper levels over time. To do this required collecting nearly 600 liver biopsies over several months. On each farm, we compared the effects of 4 different treatments;

- 1) 2mL Copperguard
- 2) 4mL Copperguard
- 3) 5mL MultiMin
- 4) No treatment (Control group).

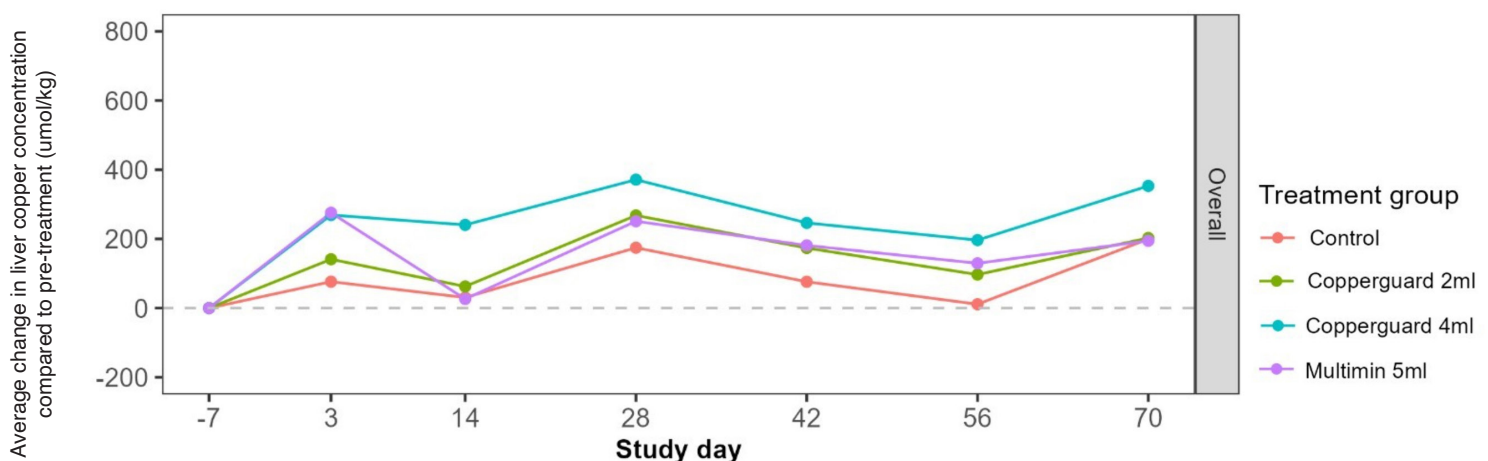
Each treatment group was further split into two age groups, 3-5 and 6-10 year olds to determine if there was an age effect. A liver biopsy was collected prior to copper supplementation to determine a baseline, then cows were treated, then a further 6 liver biopsies were collected on the same cows for 70 days after injection. Changes in liver copper over time were then compared to the pre-treatment baseline to see what effect each treatment had on raising liver copper levels and also comparing these to untreated controls.



What were the results from copper supplementation by injection?

The graph below shows the average increase in liver copper across the two farms.

- Statistically significant increases in liver copper were only seen on one farm. On the other study farm, there was no difference between copper products or dosages compared to untreated controls.
- Increases in liver copper following an injection with either 2mL Copperguard or 5mL MultiMin were similar, as these doses contain similar concentrations of copper (100mg and 75mg copper respectively), but this was not statistically significant when compared to untreated controls.
- A 4mL dose of Copperguard significantly increased liver copper for 42 days after treatment when compared to untreated controls.
- A 4mL dose of Copperguard is unlikely to cause negative effects unless animals are already close to a toxic threshold. This highlights the importance of knowing baseline liver copper concentration before treatment to avoid copper toxicity.



What can we conclude from this research study?

- Overall, there was **wide variation in responses to copper supplementation** across the two farms. Determining appropriate copper supplementation will be different for each farm and depends on baseline liver copper concentration. There is **no 'one-size-fits-all' approach**.
- There were **no age differences** in response to copper supplementation within the milking herd, 3-5 year olds responded to supplementation in a similar manner to 6-10 year olds.
- Cows with a **lower baseline liver copper experienced greater increases** in copper after treatment.
- On the same farm, there can be wide variation in how individual animals will respond to copper supplementation. Consequently, it is important to **collect enough samples** to establish the baseline to confidently estimate average responses to supplementation. And knowing the 'starting point' is important to determine if supplementation is necessary and to avoid toxicity.
- In animals with **sufficient stored liver copper, a standard dose of either 2mL Copperguard or 5mL MultiMin may not provide much elevation** in liver copper, so there may be diminishing returns from supplementation as liver copper levels increase.
- In copper **deficient animals, a 4mL dose of Copperguard can be given to significantly boost copper storage levels**.
- **Other on-farm factors can contribute to variable responses** to copper supplementation. For instance, high levels of molybdenum and sulphur in pastures can act as dietary antagonists and limit the amount of copper absorbed through the diet, thereby depleting liver copper reserves more quickly.

How should you monitor copper levels?

It is important to regularly monitor copper status within the milking herd, at least twice yearly.

Determining copper status is not as straightforward as collecting a blood sample, and it helps to understand how copper is stored in body. Copper is absorbed from the diet into the bloodstream, and any excess is stored in the liver. The liver releases copper into the blood as required, keeping the blood levels reasonably constant. So, **blood tests alone won't show the level of reserves in the liver**. If we want to determine if there are sufficient copper reserves in the tank, then samples of liver are required. Samples of liver can be obtained either from **cull cows** or by **liver biopsy**. Please contact your primary vet to arrange liver biopsies or to obtain a slaughter collection form.

Sending cows to slaughter?

Organise to have some samples of liver collected from cull cows for monitoring copper and selenium levels.
Contact your primary vet for a slaughter collection form.

The copper content of pasture changes through the season, with higher levels seen over late-summer/autumn and lowest levels during late winter/spring. A cow's copper requirements are highest in late pregnancy and during peak production, at a time when copper availability from pastures is at the lowest. Over winter, cows will utilise some of their stored liver copper, so it is crucial cows have enough liver stores leading into winter to meet these peak demands later.

Therefore, monitoring liver copper levels in **autumn** and prior to this expected decline will ensure cows have enough copper to last through winter and spring. Sometimes copper supplementation may not be required, but if you don't measure, then you won't know.

Copper in youngstock

- Young cattle require relatively higher levels of copper for growth.
- Supplementation should start from 4 to 5 months of age and continue to include autumn and early spring periods.
- Contact your primary vet to develop a trace mineral programme as regular supplementation will be required.



We're committed to local research so we can add value to your dairy business and the wider veterinary industry.

The outcomes from this research will be presented at the national veterinary conference and a world cattle congress later this year.

Lepto Update:

HOW DOES IT SPREAD?

Leptospirosis thrives in **wet conditions** and can survive for up to 6 months in damp soil, stagnant water, streams, ponds, boggy areas and can spread rapidly after heavy rain or flooding. Livestock become infected by contact with water or grazing pasture contaminated with urine from infected animals. When cows are close together, they can infect each other via urine, particularly in the milking shed.

In humans, **exposure to urine** presents the highest risk. Bacteria can enter the body via cuts and abrasions, or contact through the mucosa of eyes, nose and mouth. It is not only people directly in contact with stock that are at risk or developing infection, but also the family members of those people also.

HOW BAD IS IT?

Leptospirosis is a serious disease and causes debilitating illness in people. Rates of leptospirosis in NZ are high by international standards.

Symptoms can range from mild flu-like sickness to life threatening kidney and liver damage. Approximately 50% of lepto. cases end up in hospital with a quarter of these in ICU. Many people have severe ongoing illness, including chronic fatigue. If you would like to hear a personal story of the health effects of lepto, have a chat with our vet John.

YOUR RESPONSIBILITY

Under the 'Health and Safety at Work Act', employers have a responsibility to manage the health and safety risks on their farm, this includes taking preventative measures for leptospirosis. The most effective ways to achieve this on farm is by providing staff with **adequate PPE** when working with stock (gloves, waterproof overalls, waterproof footwear and suitable handwashing facilities), **educating staff** about leptospirosis; what it is and how they should take precautions to prevent exposure, and **vaccinating stock**.

VACCINATION

There are a couple of options available when it comes to vaccinating our cattle against Leptospirosis. Historically, a two or three-way vaccine has been used (such as Zoetis Leptosshield or 7in1 vaccine) and this year a four-way vaccine has been developed which is expected to provide protection against a further strain of Lepto called **Leptospirosis Pacifica**. This is a novel strain of Lepto. that has been identified in New Zealand.

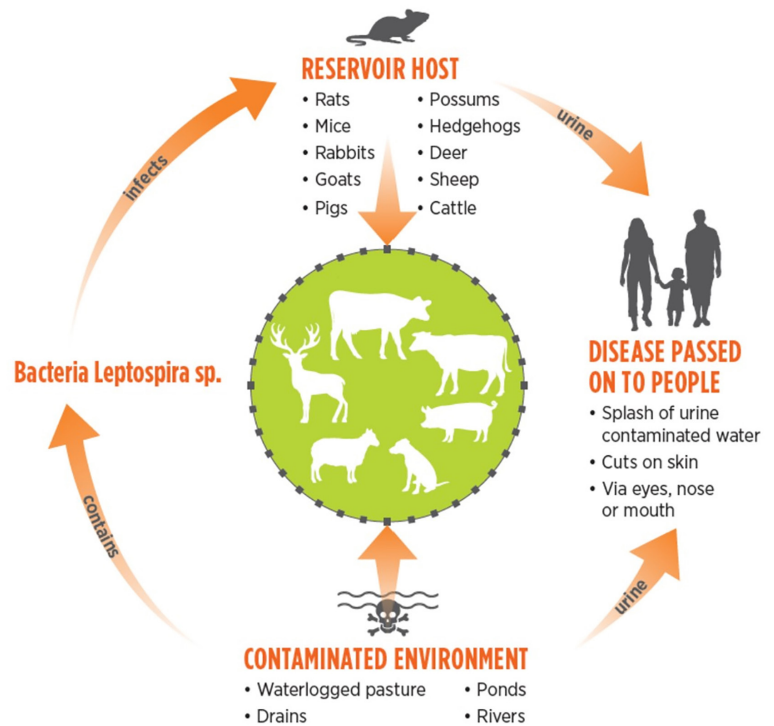
The most important things to consider when vaccinating is:

- Adequate handling and storage of the vaccine
- Correct administration of the vaccine (i.e. correct dose) to **all animals**
- Following the recommended vaccination protocol for all classes of stock (**annual boosters** for all stock)

If you decide to implement the four-way vaccination on your farm, then it is important to remember that all animals will need to be sensitised to the Pacifica strain, so this means that each individual will need to receive two doses initially (4 - 6 weeks apart) followed by annual boosters.

If you have any questions about Lepto, vaccination options or if you'd like to **discuss the new vaccine** available, please contact your primary vet. **We are here to support you with making the best decision for your farm, animals, staff and family!**

LEPTO LIFE CYCLE



Pregnancy Test Results 2023

Usually, the seasons roll over into one another seamlessly and sometimes the contrast between seasons is drastic. When averaged out over all of our dairy farms the pregnancy results reflect this. Usually the average bounces around 1-2% change per season.

I think everybody can agree that last season was tough and a 3% decrease on the previous season's pregnancy & conception rates, reflected this.

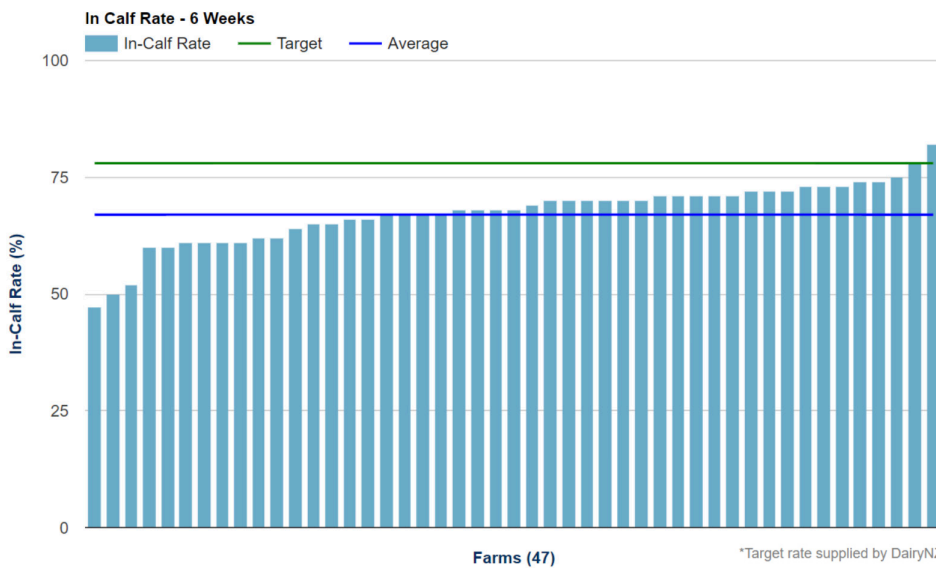
This season brought different challenges, including disappointing milk prices. Thankfully, it looks like on average repro results weren't one of these challenges.

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

On average the 6-week-in-calf rate of RVC clients was up 4% on last year!

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



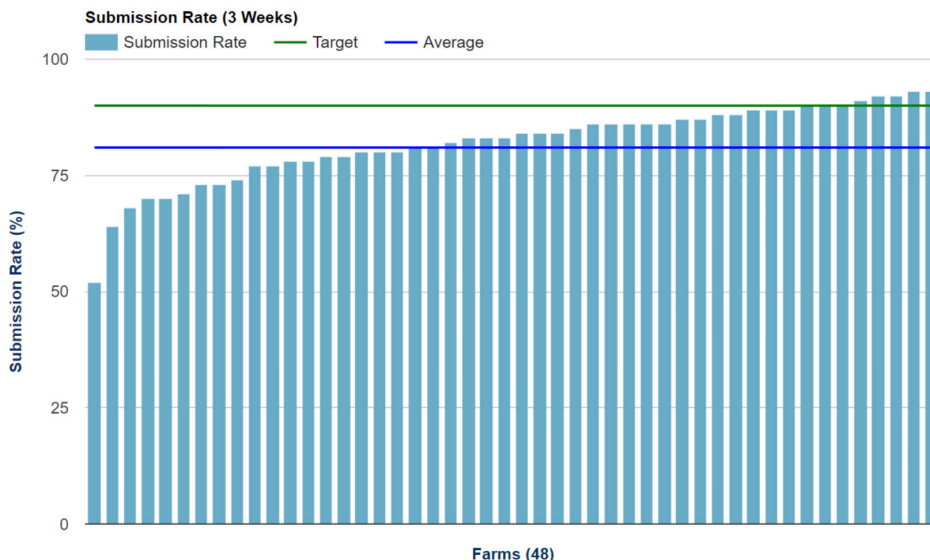
6-Week-In-Calf Rate

The blue line 67% is our clinic average 6-week-in-calf rate across 47 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.
- 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 (left) shows a summary of 3-week submission rates for MA cows (not heifers) across the district. The average 3-week submission rate was 81% 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.