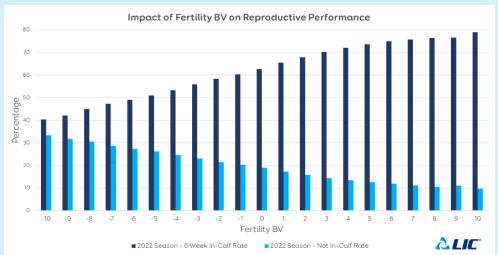
New Fertility BV Metric Proving to Provide a Pathway for Herd **Reproductive Improvement**



Mat O'Sullivan BVSc - VETERINARY CENTRE Oamaru



At the end of 2023, the components of the Fertility Breeding Value were changed (Fertility BV is one of the eight parts that make up the BW). Gestation length and Condition score were removed (these now sit on their own). What remains is the PM21 (presentation for mating in the first 3 weeks), and the CR42 (% of cows re-calving within the first six weeks of PSC) has been substituted for PR42 (% falling pregnant in the first six week). Both the bull and the dam have a Fertility BV based on ancestral, current and daughter performance.

Timely

Reminders

When the national herd was re-analysed with this new metric using the 2022 season data set, a very strong association was found (almost linear) between Fertility BV of the cow and six week in-calf rate.

Genetics are therefore an important determinant of herd level reproductive performance. Choosing bulls of high Fertility BV, particularly if the cows have low fertility BV will result in steady, but long-term performance gain in this area.

- 1. Have you completed your lepto vaccination of all your classes of stock?
- 2. Salmonella is now 3.8 more prevalent now than in 2013..... remember to boost.

Reproductive Improvement Winter Seminars

In this Issue

• New Fertility BV Metric Proving to Provide a Pathway for Herd

- Collar Fertility Review Reports
- Getting Cows to Targeted BCS by Calving
- General Principles of Correct **Fodder Beet Transition**
- Bovine Adenovirus (BAdV) in R1 **Dairy Calves**
- Turning Off the Tap
- · Autumn Dairy Drenching
- Cow Culling & Herd Improvement
- Nitrate Poisoning
- · Johne's Disease
- Copper Supplementation in Young Stock - Heading into Winter
- BVD Bulletin
- Udder News
- On Farm Milk Cultures to Reduce Antibiotic Use
- Management of Dry-off Day



Winter

My Milk Urea Nitrogen (MUN) values are falling year on year during the spring - why and what does it mean and is it limiting cow performance?

This season the Veterinary Centre and Dr Jim Gibbs, Lincoln University have been investigating the cause and effect of low MUN values which are • WAIMATE occurring in greater frequency on many farms. What management strategies are available to mitigate this in the 190 N Cap environment.

RSVP b to events@vet111.co.nz

Where & When **Thursday 13 June**

- OAMARU
- Venues and times to be confirmed.



Dr Jim Gibbs

Collar Fertility Review Reports 2023/24

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

There are a number of tools available that we have used for our traditional Repro Review consults with farmers. Things like Fertility Focus Reports, Infovet Graphs, Milk Protein Data, and Animal Health data offer a valuable insight into potential areas of improvement or success on farms.

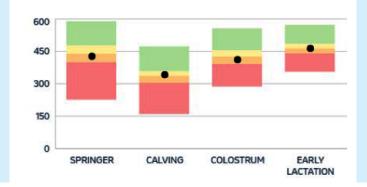
The uptake of Allflex Collars in the practice has meant a huge growth in the data we can assess or analyse when doing these Repro Reviews. We are now 3 years into offering collar specific reports which incorporate collar rumination data, heats, and health events to give a more comprehensive picture of what's happened during the season.

This years reports are now benchmarked against over 400 farms nationwide, so offer highly valuable feedback on how the farm is tracking, and what areas can be focused on for the season. They track the following areas:

- 1. Average Days in Milk
- 2. In-Calf Rate (by round of mating)
- 3. 9-Week NICR (by age group)
- 4. Transition Rumination (peri-calving)
- Transition Health Alerts (by age group) 5.
- Pre-Mate Cycling Rates
- 7. Proportion of Later Calvers in the Herd
- 8. Weekly Submission Rate (by age group) of non-pregnant
- 9. Weekly Conception Rate (by age group)
- 10. Breakdown of Not In Calf Cows (phantom rates, missed matings, never mated etc)

Rumination Activity

Mins/Day for Each Period



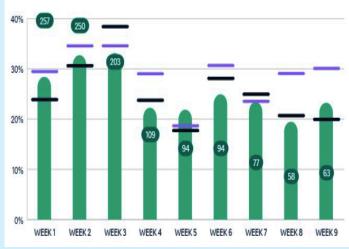
Collar Health Events

% of Group Affected



Weekly Submission Rate %

(of Non-Pregnant Animals)



For any farms wanting to have a Repro Review Consult, please get in touch with your Prime Vet to discuss the report (cost is \$400 for the background reports). We would also recommend booking in a consult to go over the data and how it can be used to improve your performance next season. If you don't have collars we'd still encourage you to discuss the reports with your Prime Vet at your own Repro Review to see if there may be application of some of the findings in your situation.

WHOLE HERD PREGNANCY RETEST

Identifying just 0.5% empties will off-set the preg testing in cow wintering costs.

plus GST

Getting Cows to a Targeted BCS by Calving

Mat O'Sullivan BVSc - VETERINARY CENTRE Oamaru

Getting cows to an optimal BCS by their calving date is a key requirement to achieve good cow health, productivity and reproduction in the following lactation.

The target is to get the greater majority (>70%) of cows to BCS 5.0 and R2 and R3's to BCS 5.5.

Although monitoring the herd average is important, just as important is the shape of the herd profile. Having too many light or fat cows will have negative outcomes at a herd level.

Where a wide range in BCS exists, we recommend that cows be wintered for the month of June based on BCS. Given that many crop yields are a little shy of target this year it is good to identify light cows for preferential feeding and hold back those that have already reached or exceeded target BCS.

Ideally cows will have reached target BCS by mid-July and they can be then drafted into groups based on 'due to calve date'.

Regular monitoring is the only way to ensure that you are on track. We recommend getting a baseline score on the cows after dry-off when cows first arrive at the winter grazing block. A calculated required dry matter intake can then be derived from the current BCS and worked though on a winter feed budget. Key monitoring dates are around the start of June, 20th of June and 10th of July. Contact your prime vet for more details.



General Principles of Correct Fodder Beet Transition

Mat O'Sullivan BVSc - VETERINARY CENTRE Oamaru

1. Measure your yield accurately

- This is particularly important for the area that you will be transitioning on. Get an expert to help and make sure DM % is measured at a lab.
- Rows are generally planted 50cm apart so there are usually two rows per metre square. A 25-tonne crop should contain 2.5kgDM/m2 and 1.25kgDM/linear row metre respectively. Note some drills are now planting 45cm rows spaces.

2. Allow at least 1 linear metre/cow along the face of the crop

 The 1m spacing means all cows can reach the face. NOTE -any time a practice leads to variable intakes (i.e. shy cows unable to access crop, dominant cows eating more than there allocation) then you increase the risk of acidosis.

3. Ensure there is a 6m (minimum) to 10m headland that can be used for transitioning

 The headland provides space for cows to access the crop face and turn (important for less dominant cows). Use a beet bucket to harvest bulbs and create a headland. The headland can also act as an area where supplements can be fed.

4. Start at 1kgDM/day and stay there for 3 days until you are sure all cows are eating the beet and then increase by 1kg every second day

- It takes over 14 days to reach intakes of 8-9kg. Cows which have never eaten beet before may take 21 days to achieve this (A true ad-lib intake is 10-12kg -depends on breed size).
- Cows should not enter the crop already full on grass or supplement. Full cows will not eat their allocation allowing others to eat in excess.
- Train cows to stay and eat their allocation before shifting them back to grass. Even if most is eaten in 20 minutes, cows should stay on the break for 2-3 hours so they all learn that they need to eat. Moving the herd onto a new break (on mass) straight after milking works well.

5. Setting your allocation

- Cows can comfortably graze 18 inches under a wire. Set your fence 12 inches back from the row you wish to graze.
- Keep it simple if you know your tonnage/ha, this will covert to kg/linear metre divided by two. Graze rows lengthwise and calculate the total linear metres required for allocation.

6. Feed a good quality supplement, but do not overfeed this.

- For dry cows, feed about @ 7kg of supplement initially. This should be a good quality supplement (not just Barley straw).
 Keep the supplement levels up around 7kg until the cows reach around 4kg of beet.
- Once at 5kg of Fodderbeet the supplement can be reduced to 4kg (assuming it's not just barley straw!). Then keep the FB climbing
- 2-3kg of a hay or straw should be maintained even with cows at max feeding levels.

7. If you find beet remaining after the allocated daily grazing time during the first day 7s, pull back – you are over allocating!

 You typically see the biggest issues with acidosis and deaths at day 7-10 of transition. Cows which have been shy eaters or unable to access the crop face may suddenly take a liking to the crop at the same time as break allocations increase. Their intakes may suddenly rise exceeding the rumens capacity to deal with acid production.



Bovine Adenovirus (BAdV) in R1 Dairy Calves

Kevin Kearney BVSc (dist), MVSc, MANZCVS (Rumin. Nutr.) - VETERINARY CENTRE Oamaru

HISTORY

We recently had a case of BAdV confirmed in a mob of 140 rising yearling dairy replacements. Five rising yearlings had died over a period of 3-4 days. Unfortunately, four of them had died over the previous 24-48 hours during a very warm spell of weather, and when found were too autolyzed to postmortem. The fifth calf, noticed late the next day, was acutely unwell, and subsequently examined, treated and blood tested/faecal sampled. The calf had a high temperature, dull demeanour, dehydrated, diarrhoea and unable to stand unaided. This calf died overnight. The mob's drenching history was up to date, and unlike a lot of reported cases of BAdV, where the mob has been unwell, the remaining calves appeared in 'good health'.

THE DISEASE

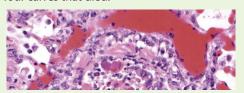
BAdV is a relatively uncommon disease – but was noted as a disease of increasing occurrence in rising yearlings in a national review 10 years ago. It is a viral disease that is mainly seen in 6-12 months old calves. Outbreaks, usually with low mortality rates (1-3%) can occur during autumn, winter and spring months, and often post weaning. It is primarily an acute gastrointestinal disease, but calves may also have respiratory signs.

Adenoviruses are transmitted in nasal and oral secretions and faeces. While many cattle are infected, only a small proportion develops disease, which are animals usually immuno-compromised or have concurrent BVD infection. Common differentials for BAdV are Yersinia, Salmonella, BVD/mucosal disease, GI parasites, and other causes of

acute death – nitrate poisoning, clostridial disease or toxicity.

DIAGNOSIS

Until recently, the main way to diagnose BAdV, has been getting good quality bowel samples and doing histopathology – and seeing the classic inclusion bodies, of this disease. However, a PCR (looking at genetic material) blood test is now available – and markedly assists us with the diagnosis. The fifth calf was positive for BAdV, and it was assumed it was also the cause of the other four calves that died.





Turning Off the Tap

Luke Smyth BVSc - VETERINARY CENTRE Oamaru

May has arrived so cows will start to be dried off. Regardless of what products you are using they will work best if they are applied correctly to cows that are well dried down and have a low milk volume (< 10 litres at final milking)

- A well dried off udder will retain a high concentration of dry cow antibiotic in the udder tissue/residual milk and is less likely to lose internal teat sealant.
- A poorly dried off udder will have high risk of losing teat sealant, delayed teat plug formation and will end up with lower dry cow antibiotic concentration in the udder tissue due to systemic re-absorption.

For cows currently producing > 1.2kg MS/day it can be challenging to shut down milk production. Reducing both the energy and protein component of the diet will have the greatest effect.

7 days out from dry off.

- Drive production down to 1.0kgMS/day.
- Requires 150MJME/day (~12-13kgDM) with <16% CP.
- Stop in shed feeding of concentrates.

3 days out from dry off.

- A big focus should be on abruptly cutting back high protein fresh grass while keeping the cows' content and full. Use ad lib straw for additional gut fill and udder hygiene.
- Consider going backwards on your round into paddocks which have been recently grazed rather than giving the herd a very small break of grass.
- Aim for little to no production by dry-off.
- Requires 90MJME/day pre and 80MJME post.
- This is ~9-8kgDM, with 12% CP.

Quick Figures

Autumn Grass

- 11.5-12MJME
- 20% CP

Fodder Beet – High sugar but low overall protein will reduce milk yield.

- 12.5MJME
- 10% CP
- Feed up to 4 kg/cow/day but watch for acidosis.

Silage

- 10.5MJME
- 17% CP

Cereal Straw

- 7MJME
- 6% CP

Don't restrict water and if in doubt feed more straw.

Cow Culling & Herd Improvement

Mat O'Sullivan BVSc - VETERINARY CENTRE Oamaru

This season the practice average BMSCC has dropped to 141,000 (146,000 last year), despite a wet start to the spring. Three seasons ago the practice average sat at close to 160,000. The Co-operative Difference has continued to be an important driver in keeping this down.

One of the major players in reducing BMSCC is identifying those cows which are likely to be chronically infected and removing these from the herd before the next season.

Many of our clients engage us in identifying and prioritising these cows well before the Milk Quality Consult. This enables planning for works space and consideration of replacement purchases to be made where necessary. Herds with high retention rates of chronic infections will tend to steadily get worse over time and are often the highest users of intramammary drugs. Contact your Prime Vet for assistance.

Business Name	
Region Code & H	
Participant Code	
Report Date	16 March 2021
Season	2021

ISCC Results



/ IIIIIIII TUB	rear born	1,110	20/22/	,,02,	5/05/	20/20/	20/22/	,,01,	4/00/	20/20/		22/02/	Cuii	NBITIO	Expected culting
966	2006	547	1316	1878	2023	1395	2701	1294	1622	1051	1553	20957	Cull	1.24	29/08/2022
979	2007	75	32	34	269	260	35	70	669	74	331	17873	Cull	0.81	MT
164	2013	210	2846	679	953	183	178	195	242	169	597	14049	Cull	2.16	1/10/2022
148	2011	157	170	43	79	12	19	18	20	7869	2105	13618	Cull	1.10	MT
304	2015	23	45	13	14	58	78	84	128	140	50	11734	Cull	1.74	MT
660	2011	74	86	203	186	10	37		199	2036	1761	11515	Cull	1.65	20/09/2022
1420	2018					51	19	20	18	271	11397	10352	Cull	1.27	31/08/2022
1028	2012	12	52	39	47	12	12	11	19	2474	2560	9460	Cull	1.46	1/09/2022
1010	2017	46	85	75	32	46	22	12	59	45	419	8882		1.71	6/09/2022
264	2009	12	19	23	363	152	3333	1361	559	1024	4862	8407	Cull	1.59	17/09/2022
905	2017	16	12	23	58	20	1115	123	15	25	42	7510		1.51	31/08/2022
445	2015	6746	67	190	218	301	29	19	699	25	21	6201		2.03	16/09/2022
488	2013	748	1897	4114	726	175	206	488	459	1710	632	6134	Cull	1.95	6/09/2022
1372	2009	29	25	11945	79	575	542	332	1519	27	30	5757		1.39	7/08/2022
1122	2012	47	941	1719	58	15	11	8	107	592	1888	5189	Cull	1.63	MT
496	2011	179	189	562	201	18	24	20	83	11411	3319	5147	Cull	1.25	11/09/2022
974	2014	28	12474	27	24	25	19	34	365	4139	1953	4848	Cull	1.12	11/08/2022
201	2017	17	55	162	20	242	217	52	29	296	161	4466	Cull	1.32	MT
1212	2017	32	18	9	13	45	137	15	21	257	206	4248		1.98	25/08/2022
486	2011	1978	918	89	2361	8	10	20	588	66	917	4227		1.17	6/08/2022
1085	2009	96	96	85	69	133	237	149	413	62	66	4015		1.69	5/09/2022
1446	2018					12	24	9	24	37	82	3833		1.05	8/09/2022

Autumn Dairy Drenching

- There is considerable national and local trial work that shows drenching lactating dairy cattle is likely to result in an increase in milk solids.
- During the month of May it is a good time to consider removing the worm burden that has accumulated in your dairy cows over the autumn. It has been a very wet autumn with periods of heat which will contribute to high larval challenge.
- Cydectin Pour-On and Eprinex are two of the most effective anthelmintics, both having significant persistent activity against Ostertagia species of 4 weeks of more. They both have nil meat and milk withhold periods
- If lice are problem in your herd over the winter and early spring, Cydectin Pour-On is recommended. We also stock Reflex Pour-on as replacement for Genesis. Please be aware the reflex has both a 35 day meat and milk withhold period so has to be used strategically once culls are gone and the herd is dried off.





Nitrate Poisoning

Vanessa Love BVSc - VETERINARY CENTRE Ranfurly

Nitrate poisoning is due to a buildup of the compound in plants that cattle are grazing or accidental fertilizer ingestion. The nitrate ion in the plant becomes nitrite in the rumen, enters the blood stream and combines with red blood cells. This causes non oxygen carrying methemoglobin to form instead of hemoglobin. Cows are particularly vulnerable.

Clinical signs can occur within an hour of exposure to the toxic feed and include:

- Salivation and frothing
- Diarrhoea
- Abdominal pain (especially if fertilizer is the cause)
- Laboured breathing
- Staggered walking
- · Body tremors
- Blue/grey gums
- · Coma and death

Nitrate poisoning cases usually involve multiple animals. The treatment is methylene blue dissolved in saline given intravenously, which replaces methemoglobin with hemoglobin and if given quickly enough will save the animals life. While waiting for your vet to arrive, all animals that seem unaffected should be moved

away from the toxic feed and monitored closely.

Eye fluid and blood from deceased animals can be tested for nitrate levels, and the blood usually has a characteristic chocolate brown colour.

Plants use nitrates for growth as a protein source, this process requires energy from photosynthesis. Nitrates build up in plants during periods where photosynthesis is limited such as during prolonged foggy weather, low temperatures and during frosts.

When rain breaks a drought, plants rapidly pick up nitrates and commonly become toxic.

The most affected feeds are annual rye-grasses, some new pastures, oats, kale, rape and brassicas. Suspect feeds can be tested either at your local Veterinary Centre clinic or test kits can be purchased for use on farm. The test turnaround time is approximately 40 minutes and only requires two handfuls of the feed. Toxic feeds should be retested at weekly intervals until safe to feed.

Risk can be managed by feeding suspect pastures or crops in the afternoon during winter, and filling cows up on hay before changing breaks.

Veterinary Centre MOOZNEWS EXTRA



Andrew Muir BVSc BSc (Hons) - VETERINARY CENTRE

REMINDERS

- As the end of the season approaches make sure that all the high positive and positive animals have been culled or are scheduled to be culled after dry off. It is worth taking the time to double check that all the cows on the list from herd testing have been accounted for. It is interesting how many cows sneak through to the following season!
- Ensure that all suspects have been blood tested negative before they are kept.

Nitrate Test Kit

- For checking nitrate toxicity in crop or pasture.
- The kit provides for on farm analysis of nitrate levels in at risk crops.

RISKS

- Slowed plant growth caused by cold and cloudy weather.
- Excess Nitrogen uptake in crops following fertiliser application going into winter.



Copper Supplementation in Young Stock – Heading into Winter

Jess McKenzie BVSc (Dist) - VETERINARY CENTRE Waimate

Copper levels in cattle tend to decline the most over the winter months for a variety of reasons including reduced availability, low copper levels in many winter crops and increased foetal demand in late pregnancy (R2's).

R1's

- A 20 gram copper bullet is a safe and effective form of slow-release copper which can be given to R1 calves prior to winter.
- Alternatively, a 2ml dose of injectable copper (Coppermax) may be a more convenient option.
- Coming out of winter, a 2ml dose of injectable copper can be considered.
- Multimin (1ml/75kg) can be given strategically 4 weeks prior to mating (but will not significantly lift liver copper stores).

R2's

 Most R2's will benefit from a 4 ml dose of injectable copper (Coppermax) prior to winter if they have received no other form of copper supplementation in the previous 3-4 months.

Spontaneous humeral fractures in first-lactation dairy heifers is a condition unique to NZ with cases on the rise the last few years. With no overseas data to provide insights as to why these heifers are at risk of fracture, what we have learnt is that the problem is likely multifactorial.

Copper is essential for the proper cross-linking of collagen with regards to bone growth. Low copper levels have been found in many of these heifer fractures hence the timely reminder that supplementation should not be forgotten.

Nutrition also plays an important role. The second winter is a crucial time for R2 heifers as they are still growing and partitioning energy to the foetus. Research indicates that although the second winter may not be the only period of bone development that puts them at risk of fractures, results indicate that it is likely significant. The humerus continues to grow after the first year of life (whereas the bones in the lower leg have largely finished growing). The humerus is therefore sensitive to changes in diet for a longer period than the bones in the lower leg – ie. the first two years of life. Take care not to restrict feeding levels at any time, but particularly during that second winter.

Youngstock wintered on Fodder beet should also have access to a good quality calcium and phosphorus supplement – low calcium/phosphorus can cause a condition which can also predispose to fractures.







Everyone will have received

their final BVD bulk milk results

for the season. When we look at

them at this time of the season

in antibody exposure over the

season. This is the bit on the

we are interested in the changes

report that says something from

very high to low. However it is

also a good opportunity to look

at the changes over all seasons.

Many of our farms have had

over seasons, which is good

news, but the BVD risk needs

to be managed. The following

graph is a prime example of a

they used to be high. (Graph A)

farm that is naive now when

decreasing levels of exposure

Andrew Muir BVSc BSc (Hons) – VETERINARY CENTRE Oamaru

If your farm is like this, the risk

This means having a discussion

with your prime vet about the

1. Ensuring that replacements

2. Vaccination, especially if you

out of heifers, otherwise

3. Ensuring that all bulls are

fully vaccinated before

bulls that you have bred.

are breeding replacements

infected calves can arrive on

blood tested negative and

coming on farm. This includes

are tested negative.

following 4 points.

the farm.

of BVD coming back into your

herd needs to be addressed.



4. Biosecurity: what contact

neighbours (especially on run

offs)? Have you bought in a

does stock have with

line of replacements?

As an example, the following

graph (Graph B) is a farm that

had low levels of exposure for

many seasons. This season the

up significantly with the cause

traced back to some home bred

increase (greater than 0.3 units)

important to follow this up with

in your antibody exposure it is

herd exposure level jumped

bulls. If you see a significant

Management of Dry-off Day

1 AT LAST MILKING

- Feed large volume of straw previous day to firm up poo.
- Identify cows by treatment category with colour codes.
- Either stand cows in yard after milking or insert DCT immediately after cows are milked out.
- Key aim is to keep the udder and teats free from mud and poo postmilking.

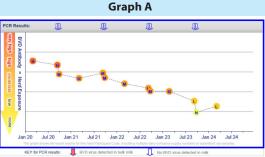
2 SET UP

- Clean down shed.
- Set up tables, water
- Have an overseer that

- Staff briefing discuss and demonstrate roles and process.
- bathes and towels.
- ensures area stays clean, restocks tubes, provides clean towels, watches job hygiene etc.

Graph B

your prime vet



Jul 22 Jan 22

JdderNEW



Most cows will be dry in a month. There are other articles in this newsletter about getting the cows to reduce the amount of milk being produced prior to dry off and stop producing milk once dried off, but I want to reinforce the importance of putting whatever product has been selected to go into a cow's teats is put in cleanly (aim for sterility and don't settle for "clean enough").

While what is described below is not negotiable if using teat sealants, it is also applicable for antibiotic dry cow products.

- All products need to be kept dry. If warming with water baths the product can be warmed on water - but never in water.
- Wear gloves they are easier to keep clean than

skin and unlike hands can be replaced.

- Consider having someone "pre-clean" the teats.
- Administer the product teat by teat.
 - Select a front teat then clean it with wipes until the wipes come away clean.
 - Insert the product.
 - Select the other front teat then clean it with wipes until the wipes come away clean.
 - Insert the product.
 - Repeat the above for the back teats.
- There is no set number of wipes needed to clean a teat – keep using wipes until the teat end is clean.

3 INSERTION OF **PRODUCT**

- Good practice to have 1-3 pre-cleaners of teats.
- Follow best practice administration guide. Teats must be cleaned again before each insertion.
- Massage DCAT up teat.
- TS Pinch top of teat. Squeeze teatseal down teat until just visible.

4 AFTER INSERTION

- Mark cows as treated, teatspray and clean-up tissues/tubes.
- Cows stand on yard till last cow treated in mob.
- Cows slowly walked back to paddock (controlled by bike in front).
- Put cows in large area, low cover/tag to clean up, feed straw.

If walking cows significant distances after dry off, this is best done within the first 2-12 hrs or 7 plus days later.

On Farm Milk Cultures to Reduce Antibiotic Use

Mat O'Sullivan BVSc - VETERINARY CENTRE Oamaru

There are now a number of on-farm milk culture systems available. These provide speedy results within a 24hr period. Although the typing of bacteria is not quite as detailed or potentially as accurate as may be determined from a commercial laboratory there are still some significant benefits from rapid turn-around of results on farm.

When mastitis cases are severe (the quarter is severely inflamed), immediate treatment is advised with an antibiotic and anti-inflammatory, while awaiting culture results. If the mastitis is more mild to moderate then the recommendation is to milk sample, treat with anti-inflammatories only while awaiting culture results. Where samples grow Gram positive type bacteria, antibiotic treatment starts or continues. If Gram negative or a No growth then no antibiotic treatment is