Cambridge VETS

the Vet Advisor

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Mastitis and Feeding Carotene

A recent NZ study looked at the impact of a non-antibiotic feed additive on sub-clinical mastitis: fully-oxidised β-carotene. Oxidised β-carotene has potential in managing bovine mastitis via up-regulating white blood cells to recognize and remove pathogens, and possibly reducing neutrophil infiltration and hence SCC in milk.

Pasture-fed cows from 4 dairy herds were fed from Day 0 for 40 days, with 0.5 kg of a supplementary feed that either contained 300 mg of OxBC or did not. Milk samples were collected on Days 21 and 42 for microbiology and SCC assessment.

Feeding 300 mg/cow/day of OxBC resulted in:

- higher bacteriological cure rate (13.9% vs 6.9%)
- lower prevalence of intra-mammary infection (79.9% vs 88.2%)
- fewer new cases of clinical mastitis (1/129 vs 6/135)

However new intra-mammary infections increased in treated cows (17.9% vs 13% - possibly because getting rid of some old infections allowed new ones to set up), and the increase in bacteriological cure was small; 80% of cows still remained infected at Day 42. So OxBC holds some promise, but is only one small tool to be used in managing mastitis.

Copper and Sheep

Cambridge has shown its progressive entrepreneurial character once again as we now have multiple sheep dairy farms in the area. It is really interesting work, and we are ideally placed to help with our experience of sheep, cows and goats all being useful. One key learning this year has been a reminder of how sensitive sheep are to copper. This element is so important in biological processes, and the liver is good at storing it, but if concentrations get too high it rapidly becomes toxic. This can result in organ failure, jaundice, haemolysis, redwater and death. Liver samples are the best way for assessing mineral supplement requirements.

AG DAY LAMBS

To support our local schools, Cambridge Vets will supply 5-in-1 vaccinations free for Ag Day lambs. We hope you have a great time with your ag day animal, and you can find more information on rearing lambs at our website:

https://www.cambridgevets.co.nz

Search: Ag. Day

Mating

Metrichecking - a simple but important tool in optimizing mating. We recommend checking an early mob and a late mob at 2-6 weeks after calving. Why?

Cows with endometritis conceive 2-3 weeks later and have 10 -20% higher empty rates.

Cows that have had RFM's, difficulty calving, milk fever, twins or ketosis are more likely to have endometritis (28% are metricheck positive). However, through sheer number of cows, we will find more metricheck-positive cows in the rest of the herd; 71% of dirty cows are not At Risk.

Treating metricheck positive cows (irrigating with metriclean) resulted in them conceiving 8 days earlier, with 10% higher 6-week in calf rate and 3.2% higher in calf rate at 84 days. Early treatment gives better results than late checking (as later some look clean but actually still have an infection so are not treated and end up with 7% lower 6 week ICR).

BVD is a virus which has massive impacts on production and reproduction and growth. In New Zealand, active BVD infection costs $70,000 per 400 dairy cows / year or $3,500 per 100 beef cattle / year. The main source of infection is a Persistently Infected animal, which sheds a lot of the virus. If a pregnant cow is infected, she can birth a PI calf, which then continues the cycle within the herd. Some precautions are:

- Test your bulk milk for the virus before mating, but when all the cows are in the vat. We can organize for this to be done automatically, just contact your vet.
- Blood test and vaccinate any bulls on farm. The vaccine needs an annual booster.
- Vaccinate any stock that are grazing away and potentially mixing
- Isolate and test any bought-in cows / heifers

Bulls

- Ensure you have enough bulls; 1 per 30 cows not yet pregnant and a spare team. Estimate this from your submission and non-return rates.
- Minimize lameness by keeping them off the yard. Any lame bulls should be replaced immediately
- Bulls should be well-grown but not too big for the cows.
- Have they been tested and vaccinated for BVD? What is their risk of Mycoplasma bovis?
  Have you got an easy-calving line for the heifers?

Yearlings – don't forget 'em!

- Are they on target for liveweight (60% of mature lwt)? The only way to know for sure is to get them weighed and enter the data into Minda for a liveweight report.
- Remember they should be mated 10 days before PSM for the herd to allow them time to recover for mating next year.
- Consider AI for maximum genetic gain
- Check sires / bulls are easy-calving

Mineral deficiencies can have a big impact on cycling and conception. Pre-mating blood samples can reassure you or alert you to action before the critical period. A common focus would be copper and selenium as well as energy deficits being checked for ketosis.

Heat detection

An unmated cow has zero chance of pregnancy, while a pregnant cow mistakenly AI'd again has a 20-50% chance of aborting. So accurate heat detection is really important. Have you got a plan? Who is responsible? What system / method are you using? Have you got a trolley or mirror or detection technology to see the tailpaint from above – you can't see it from down in the pit! How good are your recording systems and drafting facilities? Time for a team meeting; ask your vet for refresher training with staff!

BCS / Nutrition / Ketosis

What is your herd BCS? How much condition have they lost in peak lactation? The target is to limit BCS loss from 5.0 at calving to 85% of the herd being between 4.0 and 5.0., and we have vets certified to record and report this for you.
It is a struggle for cows to get into positive energy balance after they calve – they have the massive drain of peak lactation coupled with a decreased intake after pregnancy. Unfortunately if this is not addressed they mobilize fat and produce ketones, which then suppress appetite and milk production. In addition this has a negative impact on cycling and conception. Blood tests can check BOH levels, and if they are too high then you may need to re-assess feed allocation budgets, grass quality (ME, DM) and energy intake.

Mastitis and Lameness

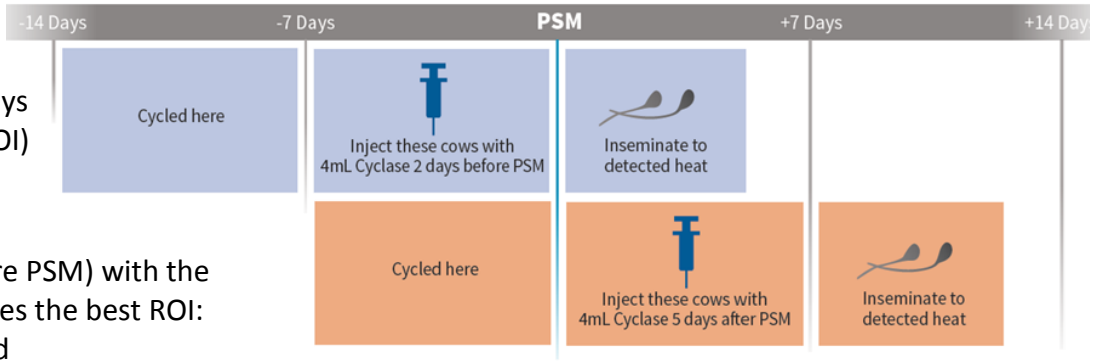
Any inflammatory disease can have a negative impact on mating, but mastitis and lameness are particularly important. Both of these diseases should be minimized through a preventative health plan with your vet, but beyond that prompt identification and appropriate treatment are critical. Pain relief / anti-inflammatories are not only positive for welfare, trial work shows that treatment of clinical mastitis with antibiotics plus meloxicam results in:
Higher cure rates (66% vs 50%)
Reduction in SCC (~150,000)
Lowered culling rate (12% vs 25%)
Increased chance of the cow getting back in calf (↑ 10%)

Repro Program

“Why Wait” - Synchronizing cycling cows

A shot of PG at the right time will bring cows’ cycle forward by a week.
Cows that cycle 7-14 days prior to PSM are painted blue and injected 2 days before PSM.
Cows who cycle in the week before PSM are injected on day 5. This will result in:

- 4 days more milk production
- 6.5kg extra milk solids
- More calves in the first 14 days
- 3:1 Return on Investment (ROI)



Non-cyclers

Treating non-cyclers early (before PSM) with the 10 day GPG-P4-ECG program gives the best ROI:

- Extra $160 per cow treated
- 18% higher 6-week in calf rate
- 21 days extra in milk
- 12% fewer non-cyclers the following season
- Late calvers will need to be addressed in a later mob

Synchronizing heifers

A 9 day GPG-P4 program yields extra profits of $55 each:

- 3% more heifers pregnant
- 11 more days to recover for mating
- 11 more days in milk
- 13kg more MS
- Tighter calving pattern
- More AB calves - Faster genetic gain
- Less wastage as 3yr olds (better repro next mating)

Be kind Unite against COVID-19

Thank you for you patience and continued support during this time.

Level 2

- Please wear a face covering
- One person per consult/family
- Order in advance where possible
- Practice 2m social distancing

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