anexa FVC animal health & vet services

DAIRY TALK

October 2017 | NEWSLETTER

A fresh look at the benefits of lowering BMSCC

By John Penry, Anexa FVC Veterinarian and Researcher Morrinsville

Farms have been receiving a bulk milk somatic cell count (BMSCC) measurement with each vat pickup for many years now, and it is easy to lose sight of its value to a farm business because it such a commonplace part of the daily routine.

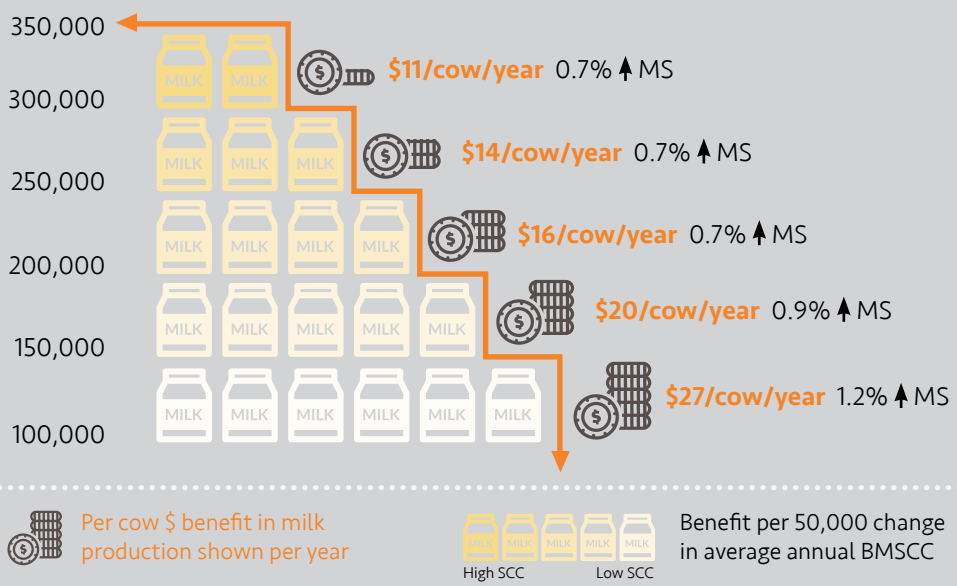
As everyone knows, the BMSCC measures the number of white blood cells in the vat milk in cells/ml. It gives each farm an accurate estimate of the degree of subclinical mastitis infection in the herd on a daily basis. In very general terms, for each 100,000 increase in BMCSS, there is around a 10% increase in the number of sub-clinically infected cows in the herd. It is a rough "rule of thumb" but a useful one. What is also seen is an increase in variability of BMCSS, with an increased average; the cell count "bounces around more" with an increasing average. In addition to this, the risk of clinical mastitis cases as the BMCSS average rises.

As a herd progresses from the start of the season through to the end, it is not only the proportion of sub-clinically infected mastitis cows that is important, but the rate of new sub-clinical infections as well. The key question here is, how many uninfected cows become new infections per month or over the lactation? It make sense that having this as low as possible benefits the herd.

Cows that are sub-clinically infected have been shown, through various studies, to have reduced milk production across the lactation. It is around a 2% decrease compared to an uninfected herd mate. Now this does not sound like much, but it is worth chasing as the 2% reflects the drop in production despite the same per cow inputs when compared to an un-infected cow. This 2% drives straight into the profitability of each cow.

Research work in both New Zealand and Australia has quantified the average decreased dollar turnover per cow per year associated with an increase in average BMCSS. The New Zealand based work is summarised in the diagram (for an approximate $6.50 kg MS payment).

Benefits of lowering BMSCC "Step" Diagram



The per cow benefits are cumulative.

Eg: shifting BMSCC from 300,000 to 200,000 results in a $14+$16=$30/cow/yr benefit, or shifting BMSCC from 250,000 to 100,000 results in a $16+$20+$27=$63/cow/yr benefit.

Note: Dollar benefit does not include likely reduction in clinical mastitis cases that result from lowering new infection rate and BMSCC

Irrespective of any reduction in clinical cases in the herd per year, there is a well-defined milk production benefit from lowering the annual average BMCSS and this has attached to it an increase in turnover per cow. While not shown on the diagram, this benefit continues down to an average BMCSS of 50,000. Irrespective of the milk quality pricing structure of your processor, there is money on the table around a lower cell count.

It is also important to note, **the per cow benefits are cumulative.** For example: If your herd's BMSCC moves from 350,000 to 250,000 you can expect a $11+$14=$25/cow/year benefit or shifting BMSCC from 300,000 to 150,000 results in a $14+$16+$20=$50/cow/year benefit.

If you are interested in gaining this financial advantage through better milk quality, the next steps are straight forward:

- ✔ **What is the level of new infections** based on either herd test or clinical case records (particularly for the heifer group in the herd)?
- ✔ **What are the common mastitis causing bacteria in the herd** based on any previous, or current, milk culture results?
- ✔ **What are the likely mechanisms for new infection spread** specific to your herd?

Armed with this knowledge, progress can be made! Our veterinary team is highly experienced in this type of work and is able to help with an assessment and an action plan. Give your local Anexa FVC clinic a call and ask to be put in touch with one of our Vets that focus on milk quality - we're here to help.

Who is John Penry?

John Penry brings to Anexa FVC a wealth of experience in the dairy extension and farm consultancy area. Well known in Australiasia, and internationally, John has been involved in the veterinary and dairy industries for over 25 years as a veterinary practitioner, practice owner, industry consultant and researcher. Since 1999, he has been involved in project design, delivery and evaluation for national animal health projects funded by Dairy Australia. These include Countdown (mastitis and milk quality), InCalf (reproduction), Grains2Milk (feedbase) and The People in Dairy (human resources on farm). From 2010 to 2013, John was the project leader for Countdown.

After commencing veterinary practice in 1990, John has completed a Master's degree in Dairy Medicine and Production (Uni. Melb.), a Membership of the Aust. and NZ College of Veterinary Scientists in ruminant nutrition and a PhD undertaking milk harvesting research (Dairy Science Dept., University of Wisconsin-Madison). He is committed to enhancing and expanding the breadth of farm consultancy services Anexa FVC offers to farming clients through its experienced veterinary team.

What does this mean for our members?

- ✔ Anexa FVC was founded by farmers for farmers. Attracting the right people, with the right experience, focusing on the right projects helps us provide practical, research-driven solutions to our members first.
- ✔ With our Research, Advisory and Clinical Veterinarians all working closely with our farmers, we deliver practical solutions that make your every day lives that little bit easier, or farming more profitable.
- ✔ We see ourselves as your Animal Health partner - this is why we are involved in all areas of animal health, to provide the best service for our members.

3 Aspects to Improving Bull Management

Overall In-Calf rates in New Zealand dairy herds are dictated by AB management and bull management. Looking back at Fertility Focus reports from last season, bull numbers were often underestimated, resulting in higher than expected Not-In-Calf rates. There is no doubt that bulls can be a costly and messy addition to your farming enterprise, but getting the bull bit right helps to promote a condensed and efficient calving pattern, ultimately influencing the reproductive success of your herd.

There are three aspects to bull management which should not be ignored:

1. Bull selection

- ✔ **Selecting bulls that are tall enough to service your cows is paramount.** Bulls that are too short or under-grown will not be able to perform. Usually, selecting two-year old bulls is a good idea for your herd as yearling bulls are often too small for mature cows.
- ✔ **BVD testing and vaccination is also vital** to prevent the detrimental effects on fertility caused by the BVD virus. There is no point in vaccinating animals for BVD that have not first been blood tested clear of the virus. Bulls born with BVD will not respond to vaccination, so animals should be blood tested first to prove they are not persistently infected (PI). BVD vaccination is a two-shot vaccination programme with the booster given four weeks after the initial injection. Bulls need two shots before they are ready to work so the BVD vaccination programme needs to begin five to six weeks before bull mating begins.
- ✔ **Anexa FVC offers a bull fertility testing service.** This involves collection of a semen sample from an animal and immediate examination of the sample under a microscope to assess sperm quality. A bull 'firing blanks' will not get your cows in calf, so identification of these bulls is important. Approximately 10% of bulls tested by our veterinary team last season had sub-optimal semen quality.

2. Bull power

The InCalf book recommends bull numbers depending on the number of cows still not pregnant at the end of the AB period. Intuitively, the longer you do AB for, providing submission and conception rates during the AB period are reasonable, the more cows will be in calf. The table (shown below), estimates the number of bulls needed depending on cow numbers and the percentage of the herd pregnant at the start of the bull mating period. Remember that these numbers are the numbers of bulls that are needed in with the herd at any one time, so essentially you will need to double these numbers to allow for resting bulls.

Likely % Of Herd Pregnant At Start Of Bull Mating

No. cows in milking herd	Very low *(less than 40%)*	Low *(40–50%)*	Moderate *(50–70%)*	High *(more than 70%)*
100	2-4	2-3	2	2
200	5-6	4-5	3	2
300	7-8	6	4-5	3
400	9-11	7-8	5-6	3-4
500	12-13	9-10	7	4-5
600	14-15	11-12	8-9	5-6

Table reproduced from DairyNZ's InCalf Bull Management Practices Tool.

3. Bull day to day management

- ✔ **Bulls become fatigued and will not inseminate cows effectively if they are tired**. Resting your bulls for two to three days and working them for two to three days is advisable. Alternatively, day and night bulls can be used.
- ✔ **Lame bulls should be swapped out immediately.** Lame bulls will be infertile because they often have high temperatures and will be less keen to mount cows. It is obviously easier to swap out lame bulls if they are leased. Purchased bulls will also need to be monitored closely, but may be less easy to swap out depending on the sale agreement. In any case, you will need enough bulls to have bulls resting, and possibly spare bulls on farm should be considered this season.

Tips for managing your young stock this spring

By Michael Shallcrass and Travis Scott, Anexa FVC Herd Health Veterinarians

Calves on farm:

- Hopefully all your replacement calves are out on pasture now, but they should still be getting 10 - 12% of their bodyweight as liquid feed per day.
- Don't wean them off milk until they are eating 1 – 1.5kg of meal per day and weigh 90kg.
- With the stormy weather we have been having recently, calves will need to eat and drink more to keep up with the extra energy requirements to stay warm.
- Drenching for parasites should begin once they've been on pasture for a few weeks; in young calves oral drench is usually more effective and much cheaper than pour-on.
- Drenches containing Abamectin are dangerous to use on calves weighing less than 120 kg.
- Most meal contains additives to prevent infection with Coccidia. Keep an eye out for scouring or ill-thrift in the weeks following removal of meal feeding.
- Blackleg vaccination can be given at any age, and the sooner the better to prevent sudden death once out on pasture. Remember that they need a booster shot 4 weeks later.
- Lepto vaccination can be given once calves are at least 12 weeks old; your local clinic should be contacting you to organise this.

Rising two year olds (on or off farm):

- Heifers should be cycling well now, as any that are pre-pubertal before the start of mating are likely to end up late calving or empty.
- Because they take longer to start cycling again after calving, we recommend starting heifer mating 10 days before the main herd.
- Hopefully you have individual weights for your heifers; they should be at least 300kg now (+/- about 30kg for breed variation). If you put these weights into MINDA you can easily compare each cow directly with her liveweight BV to check she's on track.
- Parasites tend to be less of a problem in older animals, but you still need to maintain some sort of drench program. Because a lot of graziers only have young animals on their property, parasite levels can be quite high in pasture.
- If you haven't already taken action to make sure their Copper and Selenium levels are adequate, talk to your Vet before supplementing this close to mating.

Contact your local Anexa FVC clinic to develop a comprehensive young stock management plan. This can be an excellent tool to use when working with graziers, and for making sure that the timing of important health events don't get missed. To avoid this, book your spring blood sampling in today - healthy cows lead to healthy conception rates.

"I'm putting one less cow up a day during AB, but that's okay isn't it?"

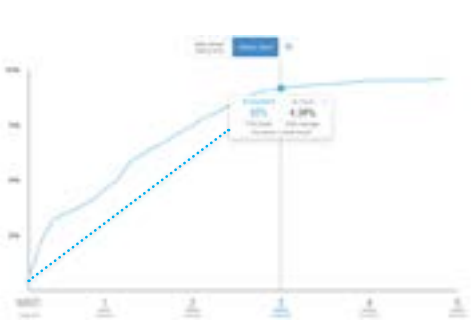
By Katrina Roberts, Anexa FVC Herd Health Veterinarian

Let's do the sums. We all know that the target 3-week submission rate is 90%. To achieve target 3 and 6 week in-calf rates (54% and 78% respectively), this submission rate is not negotiable. Herds that achieve these in-calf targets are all achieving a 3-week submission rate of 90%. That said, the national average for the 3-week submission rate is only 80%, which means 75% of herds are not achieving the 90% target.

To achieve a 90% 3-week submission rate, we need to submit 4.3% of the herd every day for the 21 days. For a 300-cow herd, that equals 13 cows per day. If we only submit 12 cows per day over this period, then by the end of week 3 we have only hit 84%, which is certainly below optimal.

Trying to monitor this daily is more difficult, as we won't get even numbers every day. We also have factors such as CIDRs and synchrony programmes that will also upset the daily pattern. There are some useful tools available on Minda Web and on the Minda mating Apps to help monitor your daily submission rate. The graph below, which is updated daily, can easily demonstrate if you are dropping below the target line. The herd below used CIDRs on day one for non-cyclers and used a prostaglandin synchrony programme in the cycling cows as well, which is the second big jump in the second week, and then things flatten off in week three.

If you do not use the graph to monitor your performance, you can do a quick calculation: number of cows to be mated minus the number of cows CIDR'd multiplied by 90% and divided by 21 days. This will be the number of cows daily (e.g. 300 cows – 30 CIDRs = 270 cows * 90% = 244 cows/21days = 11.6/day. So, if 30 CIDRs are used in a 300 cow herd at the beginning or before PSM, then we need 12 cows daily not the original 13.



The Table 1 shows a herd using early non-cycler treatment and a Why Wait – PG program. They are above target (dotted blue line) submission rate for the entire first 3 weeks.

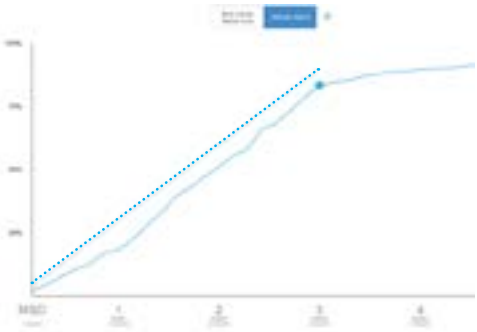


Table 2. On this farm, it is clear from early in mating that the target submission rate (the dotted line) would not be reached without some intervention. Treating the non cyclers after the first week would have helped here.

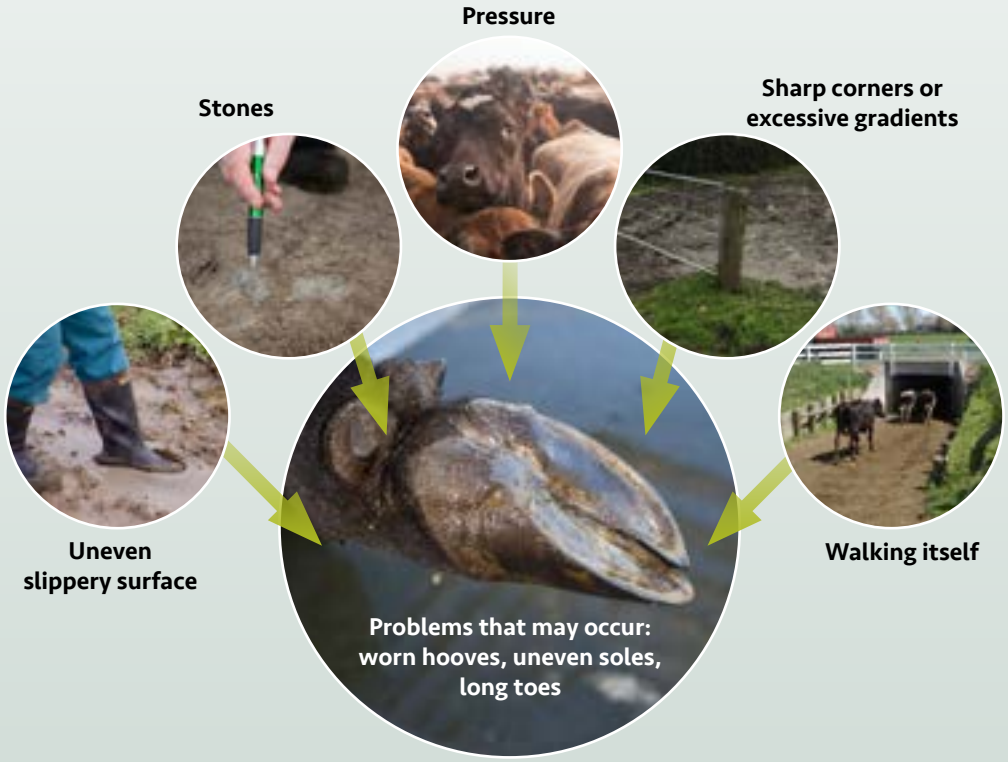
How are your cow's hooves looking?

A cow post-calving is subjected to a multitude of factors that impact on her feet: longer walking distances, uneven surfaces with the occasional stone thrown in, herd competition resulting in pressure and more time on concrete. All this results in uneven wear and tear on the soles which predisposes her to lameness.

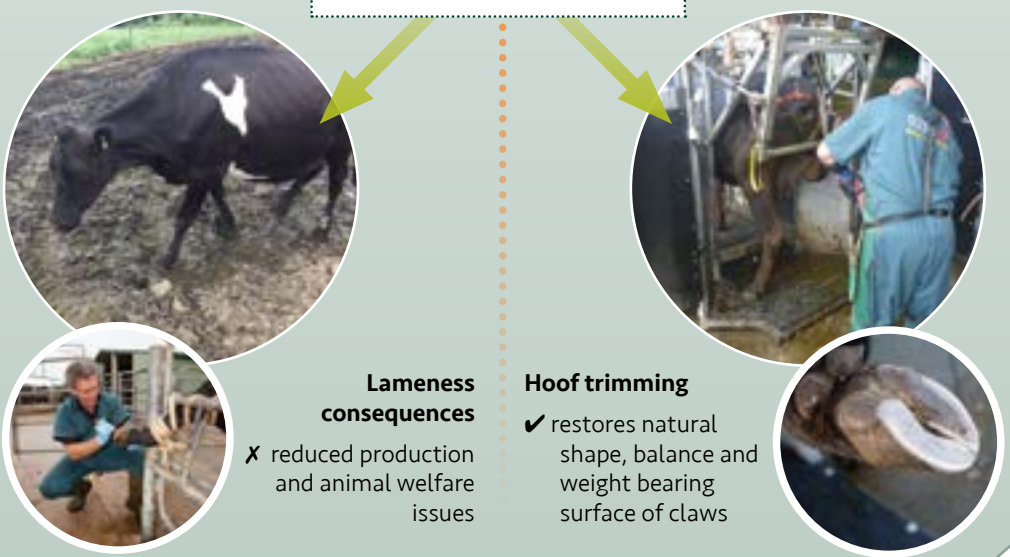
Lame cows with visible claw lesions are half as likely to conceive as unaffected cows and take on average 40 days longer to get in calf.

Hoof trimming is like a pedicure for cows in that it restores the natural shape, balance and weight bearing surface of the claws. This takes them back to a foot shape as if she were a fresh calved heifer. Hoof trimming is an effective preventative process to help lower the risk of lameness.

Stuart Rogers from Hoof-IT has partnered with our Anexa FVC business to provide this service to help prevent lameness. With mating upon us, and added stress to claws, it is imperative cows are free of hoof discomfort. Feedback from clients so far has shown Stuart to be thorough, experienced, highly efficient and well-equipped. Call Rhonda at the Anexa FVC Gordonton clinic to book Stuart in for your herd.



May result in:
Injury, altered gait, wear and tear, lameness



Lameness consequences

✗ reduced production and animal welfare issues

Hoof trimming

✔ restores natural shape, balance and weight bearing surface of claws

Do your calves or yearlings have lice?

Cognosco are looking for a group of 50+ calves or yearlings with a lice, to run an efficacy study for a new product.

The study will involve an initial count of the lice, application of one of two products then weekly follow up for 6 weeks.

The study will provide the treatments, count the lice and pay a yarding fee.

If you have animals that might be suitable please contact Sarah Clarke (sclarke@anexafvc.co.nz) or your nearest Anexa FVC clinic, phone 0800 284 3838.

Why is Farmacy.co.nz a website and not an app?

Farmacy is primarily related to communications, data collection and product ordering so a mobile/responsive website made sense as a practical first step.
This is because a mobile website has a number of advantages over apps, including broader accessibility, compatibility and cost-effectiveness. The following reasons convinced us that creating Farmacy.co.nz as a website was the best decision:

- ✔ **Immediacy** – Mobile Websites Are Instantly Available – So you are able to get up and running on Farmacy straight away
- ✔ **Compatibility** – Mobile Websites are Compatible Across Devices – So no matter what device you are using in your shed, or have in your pocket, you are able to access Farmacy
- ✔ **Upgradability** – Mobile Websites Can Be Updated Instantly – So when we make improvements to Farmacy, you get the benefits instantly
- ✔ **Findability** – Mobile Websites Can be Found Easily – No hunting around an app store, you can find and start using Farmacy easily through your web browser
- ✔ **Shareability** – Mobile Websites Can be Shared Easily by Publishers, and Between Users – You can easily send a link to your team, farm consultant, or whoever you wish to access your Farmacy account
- ✔ **A Mobile Website Can be an App** – As a mobile website, Farmacy has been developed as a database-driven web application that acts very much like a normal app.
- ✔ **Time and Cost** - Mobile Websites are Easier and Less Expensive – We want to ensure we are as efficient as possible with the time and investment of developing Farmacy
- ✔ **Support and Maintenance** – Making sure your experience using Farmacy meets your expectations is important to us. A website allows us to better support you as you use Farmacy.

Have you logged in to farmacy.co.nz yet?

For benefits and log in details call your local Anexa FVC clinic or catch up with your Vet. Members receive a free subscription - *It pays to belong*.

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Gordonton P: 07 824 2103	**Maramarua** P: 09 232 5891	**Morrinsville** P: 07 889 5159	**Ngatea** P: 07 867 7256	**Raglan** P: 07 825 8390	**Te Aroha** P: 07 884 8014	**Thames** P: 07 868 7005