



MOOZNEWS

Calculating Cow Feed Requirements over the Dry Period

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The average cow in our area will spend about 65 days off the dairy platform over the dry period. During the dry period there are four components of energy requirements that need to be factored to calculate daily requirements: maintenance, pregnancy, condition gain and inclement weather. Knowing the stage of pregnancy of a wintering mob and the required condition gain to attain target at calving are critical to setting up a feed budget and attaining goals.

| | |
|---|----------------------------|
| Maintenance (500kg) | 60MJME |
| Weight gain requires (dry cow) | 72MJME/kg body weight gain |
| Weight loss provides | 30MJME/day |
| 1BCS in a 500kg animal | 33kg BW = 2370MJME |
| Pregnancy demand – 12 weeks from due date | 13MJME/day |
| Pregnancy demand – 8 weeks from due | 23MJME/day |
| Pregnancy demand – 4 weeks from due date | 41MJME/day |
| Pregnancy demand – 2 weeks from due date | 54MJME/day |
| Cold wet weather | 5-20MJME/day |

A mob of cows that requires no condition gain (i.e. they are already at condition score five), requires an average 100MJME/day (down the throat) over a mild winter. Whereas a mob of light cows at condition score 4.0 looking to gain 1 BCS will require 140MJME/day (i.e. 40% more allocation). Always be realistic about utilisation and be smart about feeding supplements to maximise it. Silage and kale utilisation in wet weather may at times be less than 50%.

Phosphate Supplements for Fodder Beet

It is a well-established fact that Fodderbeet contains low levels of phosphate, although there is variation between crops depending on existing soil Olsen P levels.

Sustained periods of high FB intakes will lead to Phosphate deficiency and bone depletion. This will exhibit in low DM intakes, metabolic disease around calving, poor early season production and increase in bone deformities or breaks in younger stock.

We recommend that all cows, heifers and calves that are receiving more than 60% of diet in FB over the winter receive a phosphate supplement.

Fodder Beet Loose Lick Blend

- Supplies essential phosphorus requirements plus a balanced Trace Mineral Blend is a highly palatable formulation
- Is a free choice lick
- At a 70g daily cow dose the cost is ~11c/cow/day

One bin per 50 cows is spread-out in paddock and topped up every 1-2 days

ScourGuard 4(K) Vaccine – A new Calf Scours Vaccine

This season we are introducing a new calf scours vaccine. ScourGuard 4(K) covers two Rotavirus serotypes (NZ's first G6, G10 vaccine) as well as bovine coronavirus and E coli K99. Key features are:

- May be given IM or SQ and is very tissue friendly – no lumps
- In previously unvaccinated cows or heifers they will require two doses 3-9 weeks apart. The second dose to be given 2-12 weeks before calving.
- NZ trials show a very high antibody response to ScourGuard 4(k) vaccine.
- ScourGuard 4(k) can be given as an annual booster to cows vaccinated with Rotavec the previous year. The cost is 2/3rd that of Rotavec making it a cost-effective solution to scours.
- Ideally give booster dose 2-4 weeks before calving to cover all calves born in the first 8-10 weeks of calving.
- Ensure that all calves received the equivalent of 10% of their body weight in colostrum in the first 12 hours.

ScourGuard 4 (K) is available only under veterinary authorisation.



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Veterinary Centre – By the Big Blue Cross



Jess McKenzie,
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Salmonella – An Increase in Herd Level Outbreaks

Jess McKenzie, Luke Smyth, Andrew Muir

Historically Salmonella has been seen as sporadic cases in individual animals or a small number of animals, and often more common in young stock than in adults.

Over the past few years there has been an increase in herd level outbreaks of Salmonellosis across New Zealand, with relatively high numbers of animals affected resulting in death and abortion depending on the serotype.

We have been dealing with a case in the practice where a milking herd had an outbreak in the autumn. The initial presentation was a single cow with a high temperature and scour. A presumptive diagnosis of Salmonella was made which was eventually confirmed on faecal culture. While we were awaiting the culture result, just under 30 animals showed the same clinical signs and were treated accordingly. No cows died and they all came back into milk.

The herd had been vaccinated prior to dry off at the end of last season and the immunity this gave the cows would be the reason that no cows were lost from the vat or died. A good result as often cows do die or don't come back into milk when you have a Salmonella outbreak. The challenge now is trying to work out why the outbreak occurred.

Salmonella outbreaks have been linked with management practices that increase exposure and or increased survivability of the bacteria. Including but not limited to following

1) The use of granular magnesium products

As they raise the rumen pH which allows Salmonella to survive.

2) Feeding palm kernel meal

Palm kernel meal attracts vermin that contaminate it with faeces, increasing oral exposure of cattle to enteric bacteria.

3) Feeding from continuous troughs

Feeding from continuous troughs potentially allows a hungry cow to eat more than her fair share, increasing her oral exposure to pathogens.

Vermin including rodents and birds are often implicated, but cows that are carriers are probably a major risk factor in New Zealand. When stress is placed on cattle e.g. dry off and calving this can potentially cause increased shedding.

Vaccination with Salvexin + B is an effective tool to reduce the chances and severity of an outbreak however timing is important. Unvaccinated animals require two injections 4 weeks apart with an annual booster. If the initial vaccination is given now the booster can still be given 4-5 weeks before calving starts.

It has been shown that vaccination in the face of an outbreak can help reduce the severity of the disease when used in conjunction with other control measures. As a practice we have successfully used vaccination when dealing with herd outbreaks to slow disease, however there is a delay between giving the injection and a slowing of clinical disease so it is better to aim for prevention.

If you think your herd may be at risk or would like to know more around the timings and management of stock when vaccinating over the winter contact your local Vet Centre vet who will be happy to talk it through.



Luke Smyth BVSc.
Oamaru Veterinary Centre

Blind quarters in heifer

One of the more disappointing and frustrating conditions seen in freshly calved heifers is the 'blind quarter'. It is usual to find 1% of heifers with a blind quarter.

The heifer has an udder that, at first glance, seems normal – except that one quarter cannot be milked out: There is a failure of milk to flow from the higher glandular udder areas to the udder sinus and teat below.

Attempts to 'clear the blockage' usually fail, and the heifer becomes a 'three-titter'.

Blind quarters can arise from either:

1. A lack of normal development of the milk-producing glandular tissue and collecting ducts, or;
2. Damage to those udder structures by trauma or infection.

In the past, post-mortem studies of affected udders have clearly demonstrated that these delicate structures can be over-run by scar tissue. Scar tissue is the body's final response to damage caused by infection or trauma.

This can occur in the adolescent heifer following mastitis caused by suckling, or by physical trauma to the udder – such as an injury caused by straddling over wooden or pipe railings. However, the lack of development of glands and ducts in some of these cases poses the question of congenital origins, which leads to the question of inheritance.

Because several individual farmers seemed to have a higher than average incidence in blind quarter cull rates, a study to determine heritability was conducted by researchers at LIC.

The study found that less than 1% of all the 'udder variation involving blind quarters' between 'affected' and 'normal' udders over the population of two-year-olds was due to genetic factors. Therefore, more than 99% of the variation was due to non-genetic factors. Genetics play an almost-negligible part in blind quarters. The most likely environmental factors that cause the condition remain as physical trauma to the adolescent udder, or (following the breakdown of the keratin teat plug after cohort suckling) infection.



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George Smith BVSc
Waimate Veterinary Centre



Dry Period Nutrition

Lucy Cameron BVSc BSc

Following on from Dairy Nutritionist Andrea Murphy's dry off feeding tips last month, a few key points around nutrition over the dry period:

Energy fed will depend on target weight gain, but in most cases the aim will be to gain ½ a body condition score over winter.

Yield crops & feed test so you know what you're feeding, and can target appropriate levels

- An accurate yield will minimise the risk of digestive disorders & allow accurate allocation
- Use feed test information to prioritise higher quality feed to younger/skinnier mobs
- DM can vary greatly – it can be higher than normal in a dry year such as this, which will impact allocation

Energy & dry matter intake for ½ BCS:

- Target ~ 120 MJ ME/cow/day (12.5 kg DM down the throat)
- Increase proportion of crop fed for increased BCS gain

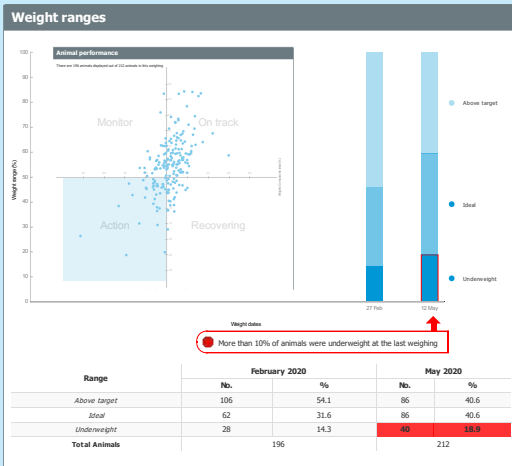
Protein:

- Target 13 – 15% of diet as crude protein
- For R2's & R3's aim at the high end i.e. winter on kale, or a feed out a higher protein silage (grass/lucerne) if using fodder beet or swedes
- Mixed age cows can be at the 13% CP end of the range with either lower protein crops and/or supplement
- Consider checking protein levels in the diet, levels of crop/supplement can be adjusted accordingly

Fibre – keep the rumen full of fibre e.g. silage and/or offer free choice straw. Poorer quality is okay as long as it's palatable.

Minerals:

- Phosphorus supplementation may be necessary if diet is low e.g. fodder beet based
- Trace element levels should be checked before dry off, and either administered daily over the winter, or boosted before calving if necessary
- Water – make sure cows have access to clean good quality water at all times, even with low dry matter crops. Lack of access to water can lead to a drop in feed intakes too



The months of April and May have seen average covers on runoffs and grazing blocks decrease as a result of reduced autumn pasture growth rates, leading to a district wide pinch period for young stock. A number of farms have seen a reduction in heifer growth rates in May as a result of this. We have fielded multiple questions regarding the slowing down of heifer growth rates and undertaken weighing assessments to identify this at the back end of May. Following weighing sessions, contingency plans have been made to rectify this.

The case study farm (right) of 220 animals shows an increase in the number of heifers that have moved from the above target and ideal weight

ranges to the underweight category between the weighings undertaken in February and May. The animal performance graph shows an increase in the number of heifers in the action and monitor categories as a result of this pinch period in feeding.

MINDA weights data for this herd indicates the ideal target weight for this mob of heifers to be 206 kilograms at the time of weighing on the 12th of May. To prevent further losses this farm will preferentially feed all heifers under the target weight of 206 kilograms (90 animals out of 220). Our next weighing will take place in late June to ensure the preferential feeding of these animals will result in all heifers hitting planned start of mating target weights by the 1st of October.

The Veterinary Centre undertook a farm walk and feed budget for this client. It was very pleasing to see the pre and post grazing covers the preferentially treated mob were accessing. Pre grazing covers in this annual Italian were close to 5000 kgDM/ha. Post grazing residuals were 1600 kgDM/ha. The June weighing will be the proof in the pudding.



Optimising your dry off animal health

With the prospect of an upcoming well-deserved break as the cows are dried off and on crop, it's still important to remember the basics – mastitis over the dry period, lameness, slipping cows and looking after tail enders.

- **Mastitis** – some cows will still get mastitis despite using an antibiotic at dry off OR might get mastitis **because** of insertion. Particularly in the early stages of the dry period, it is important to keep looking at udders, making sure that they are symmetrical and no red/hard quarters. For example, after feeding out baleage in your tractor, reverse and look at the udders on your way back as the cows are all distracted and nicely lined up for you. If you do have cows with mastitis, remember to treat with an injectable antibiotic (Mamyzin or Penetheject) as well as an anti-inflammatory (Metacam or Rimadyl).
- **Lameness** – just because the cows are not walking lots every day won't mean that some cows are not lame. Keep an eye out for any

girls hanging back or subtle signs like lifting heads as they are walking. It is important to lift feet and trim them up early as untreated lameness will keep brewing more problems!

- **Slipping cows** – we do expect a portion of the girls to lose their pregnancy from scanning to calving (usually expect 1-2% of cows). If you notice that you are having a lot of cows slipping in a short time frame or in general, please get us involved.
- **Tail enders** – it is not uncommon to get a portion of the cows not performing on crop and lose condition. For these girls, it is best to draft them off early and put on grass only. They need all the extra attention that they can get – less competition as well as minimising transition effects is important.

Finja Schmidt BVSc
Waimate Veterinary Centre





The last of the cows to be dried off and getting cows to winter grazing

Most cows will now be dried off, but for those last few cows that are still to be dried off remember to do the job well. This means washing and drying gloved hands between cows and cleaning a quarter's teat end and inserting the product(s) prior to cleaning the next teat. Don't forget to teatspray after the cow has received her treatments.

Cows will be on their way to winter grazing. If you are walking them to winter grazing immediately after drying off try to stop them running. Anecdotally if you walk the cows on the day that they had their last milking and were immediately dried off there are less dripping udders on the walk (they basically have an empty udder). To milk the cows, dry off, and then walk to winter grazing on the same day can be quite a logistical feat though. If you can walk them a week or so after being dried off there seems to be less dripping than if you walk them within a week of drying off as the udder has started to involute or cease milk production. For cows that are being trucked ensure prior to trucking they have adequate Magnesium and Calcium

levels. DairyNZ's advice is to treat a dried off cow as though she is lactating cow being transported and ensure on the day of transport she gets 100 grams of limeflour and 80 to 100grams of CausMag especially if travelling for a period of hours.

For at least the first two weeks post dry off keep an eye out for dry period mastitis, the sooner you find it and treat her the better the likely outcome. The best time to examine the udders is when they have a new break or a new line of silage. Any cow hanging back from a new break should be checked for mastitis rather than assuming "she got a bit too much fodderbeet" and any lame cow could also have a sore and swollen udder.

Abortion in Dairy Cattle

With culling decisions having been made and cow numbers being finalised for the following season, abortions at this stage can often be very frustrating for both farmers and vets alike.

What's normal?

Between scanning and calving we do, unfortunately, expect some foetal loss. The "normal" figure is hard to determine – but around a 1-2% loss is expected. ie 10-20 cows in every 1000. If the norm is exceeded, intervening is important to prevent excess losses at this stage. Larger numbers of abortion or abortion storms (more than 2 or 3 in 24 hours) should be investigated promptly.

Causes of abortion:

Abortion can be caused by various bacteria, viruses, parasites and fungi as well as non-infectious causes. To determine the cause of an issue, it is important we build up a clear history and get good samples from both the aborted foetus and the placenta. Getting these samples and reaching a diagnosis can be tricky, but if done properly can be very helpful in prevention of issues in the future.

Abortion causes in order of importance are –

- 1) Ingestion of *Macrocarpa* is still the most common source of abortion. While many farmers are aware of this and fencing is already used to restrict

access, please be wary of branches and leaves being blown across farms after storms. Wilted parts of the tree are more toxic, so a clean up after a storm can be very worthwhile. Abortions occur 2-3 days after ingestion but can be up to 3 weeks later and are mainly in the last third of pregnancy. Other plant toxins, including those found in pine needles, can also be abortive.

- 2) BVD – Losses in pregnancy can be early stage (early embryonic loss) affecting 6WICR, or from around day 125 of pregnancy onwards. Infection with BVD can lower the immune system and worsen the effects of other infectious abortive agents. If BVD is diagnosed on your farm, it can have a major effect on reproductive performance. Discuss options and management protocols to minimise these effects with your prime vet.
- 3) Salmonella Brandenburg – normally abortion within around 50 days of expected calving date. Scouring and death can also be seen. Preventable for future seasons with Salvexin+B vaccine. These abortions often need help calving due to the calf blowing up and rotting.
- 4) Fungi such as *Aspergillus* and *Mortierella* and the bacteria *Bacillus Licheniformis* can be contaminants in silage and cause abortion. Making sure grass is properly ensiled and stored well to prevent mould build up is important in prevention of contamination.
- 5) Leptospirosis – one of the many symptoms of leptospirosis is abortion.

This is another good reason to make sure your herd and youngstock are up to date with a vaccination protocol.

- 6) *Neospora caninum* – can be associated with both sporadic abortion and abortion storms. Spread is via contamination of feed with dog faeces. Abortions are most commonly seen between 4-6 months of pregnancy. This can be diagnosed on blood test of the aborted dam.
- 7) IBR (doesn't cause abortion in NZ) – IBR is a commonly seen virus that can rear its ugly head during times of stress. While respiratory issues are often the main symptom others include abortion due to effects on the placenta and subsequent infection of the foetus.

Top tip:

If you discover an aborted foetus in the paddock, store it in a plastic bag in the freezer (ideally with the placenta if it is there). This means that if there are more cows aborting, you have samples ready to go and hopefully a diagnosis can be reached quickly. If it's not required – great, discard it and make sure it doesn't get defrosted for tea one night.

If you are having issues with abortion, please get in touch and discuss it with your prime vet as reaching a diagnosis is imperative in preventing further losses this season and beyond.