

Drenching of Youngstock - Detection and Prevention of Resistance

By Sarah Clarke, Veterinarian, Anexa Vets Morrinsville

I am sure you're all familiar with the recent local and international discussion in the animal and human health sectors regarding antimicrobial resistance; drench resistance has been around for even longer. Worms aren't quite as clever as bacteria and don't acquire resistance by changing, but in fact there are some genetic variations within the worm populations that just mean they are resistant to the various chemicals we use to kill them – annoying isn't it?! But the more pressure we put on our animals and farms (higher stocking rates, shifting stock from property to property), the higher the chance that drench resistance will limit the performance of your stock.

Drench Resistance

Drench resistance refers to the ability of a worm species to survive a drench treatment. As susceptible worms are killed by the drench, only resistant worms are left to breed with other worms that also survived the drench. Once the resistant worms are abundant enough to be noticed by the farmer, managing them is difficult. One way to slow the development of resistance is to allow some worms to avoid exposure to drench, providing non-resistant worms for the resistant ones to breed with. This concept is called refugia, which will be discussed more in a later publication.

The fastest way to acquire drench resistance on your farm is by importing it, through buying stock or your own stock returning from grazing. This risk can be mitigated by using an effective quarantine drench on arrival and placing these animals on quarantine pasture for two to three days post arrival. To be considered effective against a broad range of worm species, the drench must contain at least two drench "families".

Multiple Active drenches

Three drench families exist. These are macrocyclic lactones (ML), also known as the "-mectin" drenches (ivermectin, abamectin, eprinomectin). The benzimidazoles, also known as "white" drenches, despite the fact they come in a range of colours (albendazole, fenbendazole). The third family contains levamisole, which is a "clear" drench.

We recommend drenching youngstock with a product that contains multiple actives. This refers to products containing at least two drench families. For example, levamisole and ivermectin (clear and -mectin), but NOT ivermectin and eprinomectin (-mectin and -mectin).

Worms that are resistant to abamectin will develop side-resistance to ivermectin. This is why we must consider the families rather than the individual drenches. But this side resistance does not occur between different drench families. One of the best ways to slow the development of drench resistance is to use multiple families at the same time which we call multiple active drenches.



How do we detect resistance in a population?

If we are worried that worms are not being killed by a particular drench product, the first step is to carry out a faecal egg count (FEC) 7 to 10 days after drenching. As adult cattle have the ability to suppress worm egg output, calf faeces produces more meaningful results. The presence or absence of worm eggs is a good indicator of the effectiveness of the drench. If there are no eggs, the drench has been effective and further testing is not required. If you would like to check the effectiveness of your drench, consult your Vet to arrange a FEC.

However, if eggs are still present following drenching, the next step is a larval culture. Larval culture enables us to determine which worm species are surviving the drench treatment. For example, if there are lots of worm eggs present following a ML drench (e.g. ivermectin) in calves, it is likely the eggs are predominantly *Cooperia*. *Cooperia* is a worm that may cause reduced growth rates, but is considered less pathogenic (less dangerous) than other worms, for example *Ostertagia*. Drench resistant *Ostertagia* have been identified in the Waikato, and these worms are highly pathogenic (i.e. infections can kill cattle). So it rapidly becomes important to know which worm species we are dealing with and this can vary from farm to farm.

Managing drench resistance is a complex task. If you would like advice on this topic or are concerned about which worm species may be causing ill thrift in your youngstock, talk to your local Anexa Vet.

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Scan early and reap the benefits

1. More milk in the vat

Why dry off a cow in March that isn't calving until September? The difference between feeding a milking and a dry cow is ~ 6kg DM. At 30cents/kg DM this is \$1.80 / day; a cost far outweighed by milk in the vat. Don't forget, your later calvers will likely be the highest producers in the herd later in the season.

2. Manage body condition and plan late season feed

Set your cows up better for next season. Heavily pregnant cows (the early calvers) take longer to eat their daily ration and can't compete with the later calvers towards the end of the season. The end result is earlier calvers tend to be lighter and later calvers are often too fat at calving.

3. Transitional cow management

Allocating cows to the springer mob is easy and accurate when you have calving dates for every animal.

4. 6-week in-calf rate

Your 6-week in-calf rate is the most powerful and useful indicator of reproductive performance. Early scanning helps you to identify areas where you are performing well, and also sheds light on aspects where there is room for improvement. You can also assess the impact of any management changes you might have made.

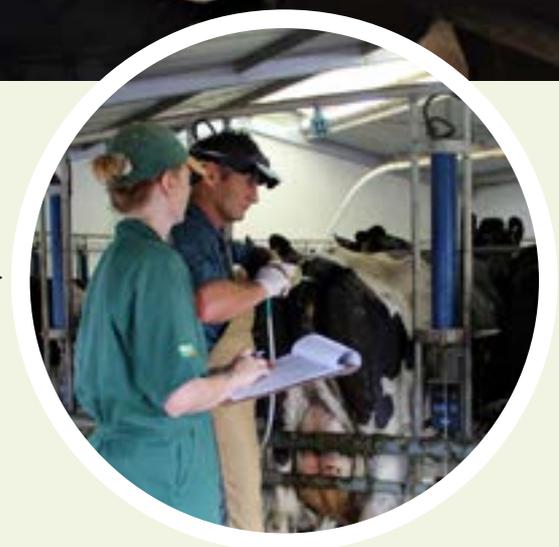
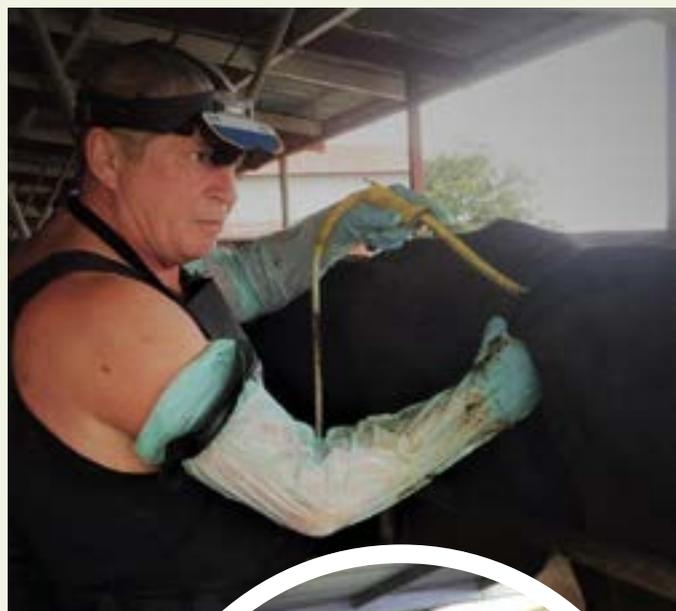
5. Early culling decisions

After the first scan, you can identify cows that are NDP (not detectably pregnant) i.e. rechecks. These cows will either be empty or late calving cows, so you can consider culling any older, low producers around Christmas time, before the cull cow price drops and the drought arrives.

6. Value for money

There is little extra cost involved for the amount of information you get. In a herd with a 6-week in-calf rate of 70% you would expect to have only 20% of the herd needing to be rescanned as NDPs/rechecks depending on the timing of scanning and the length of mating.

Talk to your Anexa FVC Vet today about booking in your early scan. Get the most bang for your buck.



Use your first herd test to best effect

For herds enrolled in herd testing, most would have their first herd test completed and the information in place to make an accurate assessment of chronic subclinical infections and the infection status of the herd. It is worth spending a little time looking through this information to obtain the maximum value.

Firstly, it is the best way of gauging the chronically sub-clinically infected animals in the herd. By combining the previous seasons individual cow cell count information (ICCC) and dry cow treatment records it is easy to see which animals were treated with DCT that were also over 150,000 cells/ml at the last herd test (or 120,000 cells/ml for heifers). Now examine the first herd test from this season. If an animal remains infected, based on ICCC, and has no history of clinical mastitis this season, then it is likely that the animal was not cured by the DCT during the dry period and is at risk of being chronically infected. This is not cast in stone of course – there is the possibility that the cow was cured during the dry period and then has become a new subclinical infection between calving and the first herd test. However, identifying these animals is important in understanding the size of the group within the herd that are likely to be chronically infected and therefore at risk of having a lower cure rate to DCT at the end of this season.

Secondly, the number of animals over the ICCC threshold for sub-clinical infection can be used to gauge the size of the infected group overall. This herd test information is only a snap-shot in time in that it represents only two milkings. However, this can be compared to the herd bulk milk cell count (BMCC) to reality check the size of the subclinical group in the herd. Recall that a useful rule of thumb is that for every increase in 100,000 cells/ml BMCC, there are approximately an additional 10% of infected cows in the herd. Hence, with a BMCC of 100,000 there are around 10% sub-clinically infected while at 300,000 this would be 30%.

Lastly, the ICCC of the heifers should be viewed carefully against clinical mastitis records. If a heifer has no record of clinical mastitis since calving, yet has an ICCC over 120,000, this indicates a reasonable risk of a new subclinical infection being established. This information, combined with the number of clinical mastitis cases in heifers, can be combined to indicate the new infection risk in the herd. This is because we assume that heifers, on the point of calving, have a sterile udder and are uninfected animals. If the ICCC indicates a subclinical infection then this should be assumed to be a new infection during lactation. Understanding the size of the new infection rate in a herd is useful in assessing the overall mastitis risk.

So, the first herd test ICCC information is most useful in three ways and sets us up for accurately assessing mastitis dynamics within a herd as lactation progresses.

Managing your future top producers

We all know that our children are our future. Well, your calves are your future herd. Any mistakes made early in the life of your calves may affect their milk production and reproduction in two years time.

We can talk about feeding supplement. We can talk about drenching. But what I want to talk about is grazing.

Do you have a really close relationship with your grazier? Who pays for supplement in a feed pinch? Who makes decisions about when to drench and what to drench with? What is the mineral status of the pasture your heifers are grazing? Who makes the call about zinc blousing? What's the plan to protect them from *Mycoplasma* and BVD at grazing?

We would all love to wave our calves goodbye, load them on a truck, and then unload them in a year and a half as big, fat, shiny, pregnant heifers. But it's not that easy. If your calves don't get the tender care that they need in their first two years, they will be set back for life. Poorly grown heifers don't get in calf as well, and those that do will struggle to get in calf after their first year of milking. They don't produce as well as properly grown heifers. We all know this.

Communication with your grazier is key, and if you're not sure where to start, talk to your local Anexa Vet. And please, go and visit your heifers; how else will you know what's going on?



Drenching tips for Calf Rearers

As with anything there are a few golden rules that everyone should follow to ensure that the job is done right.

1. **Never drench calves at the calfeteria or mix drench with milk.** Most oral drenches require slow absorption from a rumen depot for effectiveness – adding to milk prevents this happening.
2. **Never drench calves that are under 120kg or 4 months old with drenches containing abamectin** (or similar industry agreed minimum).
3. **Determine if they actually need drenching at all with a faecal egg count.**
4. **Always check that the drench gun is measuring accurately and that the dose is correct.** Weigh enough animals to get an accurate weight. Issues can arise with either underdosing or overdosing.
5. **Never swap drench containers.** If decanting to a smaller drenching container always write on container or transfer back to the original container when finished. Double check the correct product is being used.

Calf scours

Treating calf scours can be expensive in calves of any age. The expense is not only due to the cost of treatment but also the losses associated with the decreased growth rates of affected calves. Often a calf severely affected can take months to recover and may always struggle to grow due to extensive gut damage. At this time of the year we start to see a rise in the number of cases of calf scours caused by *Yersinia* (bacteria), *Coccidia* (Protozoa) and intestinal parasites (mainly *Cooperia*) and to a lesser degree, *Salmonella* (bacteria). Often this is associated with a stress period such as transport stress, weaning or coming off meal (where there was coccidiostat in the diet) or a cold snap in the weather now they're out of the shed. Also they may have been grazing pasture for long enough (i.e. >3 weeks) to pick up a substantial worm burden particularly if grazing on pasture with a high larval count due to having only young stock graze on it for several years.

The take home messages here to decrease the chance of this happening to your young stock are:

1. Plan your young stock pastoral care.

Often the disease starts in the less well grown or younger calves in a mob who are unable to compete for food with the larger calves in a mob, so don't treat everyone as equal. It is always a good idea to weigh calves around the point of weaning. If possible wean calves onto grass in smaller groups to reduce the effect of competition.

By weighing them, they can also receive an accurate dosage of quarantine drench if old enough. If the farm has the potential of having a high level of worm challenge because the only cattle on the farm are young stock, a quarantine drench on arrival is a good idea. Using a combination drench is vital at this stage and as most calves arrive too light for safe dosing with Abamectin; Arrest C and Dectomax is a good combination.

Young stock need constant surveillance. If a scour problem is picked up early before too much damage is done then treatment response can be rapid. On the other hand, if an extended period of time elapses before treatment then deaths may occur or the animal may remain affected for life even after treatment.

2. Faecal testing

Identification of what is causing the scouring is really important. It is also cost effective. Sometimes the Vet turns up to find a mob of calves that have been scouring and the farmer says he has treated them all, spending lots of money in the process, for something he had in his calves a few years ago but they are still scouring. He has either drenched them again, treated them with Bivatop (\$15 per 180kg calf) or Baycox C (\$13 per 180kg calf). Faecal tests have then revealed the cause of the scouring is something totally different than the condition they have been treated for.

Also we have had it where the farmer has just drenched them recently and thought it couldn't be worms causing the problem. Faecal egg testing has shown it is a worm problem and with investigation a resistance problem emerges or the period between drenches has been too long for that farm. Our Anexa laboratory turn around for results is very good, and we can do some testing in clinic and can therefore advise you within a short period of time the correct treatment for the problem.

BVD... Are you sure you are in the clear?

Many of you have probably been hearing from your Vet recently with the results of your BVD bulk tank monitoring tests; check with your local Anexa Vet if you are not sure when your herd is due for testing this season).

Don't forget the calves

Remember though that BVD testing should not stop at the bulk tank. All calves being reared should be tested for BVD at an early age so that any positive cases can be identified and dealt with before they have a chance to create a bigger problem (i.e. infect cows during mating/pregnancy). Sometimes a rogue PI (persistently infected) calf is found on a farm and we just cannot explain how the infection entered the herd. While we may not be able to explain exactly how the breakdown happened, at least by testing at an early stage, we are able to limit the damage caused.

Test at calf vaccination time

Many of you have already had your calves tested for BVD by ear notching at disbudding. If you haven't, don't worry, IT IS NOT TOO LATE. We can still ear notch those calves when we come out to do their calf vaccinations. There are a couple of options around prices, depending on where you need the information stored, so talk to your local clinic to work out the best choice for you.

As well as lepto and blackleg (6-in-1) vaccinations, it is a really good idea to do BVD vaccinations before calves leave the farm to go grazing. This will protect these valuable animals and reduce the chances of a 'Trojan Heifer' bringing a PI calf onto the farm next season. Talk to us now to make a plan early, so that all the vaccinations can be done at the optimum time.

We have many discussions with our farmers relating to BVD results...some good, some not so good and some can seem just down right confusing! Let's keep life simple and get into the habit of BVD testing and vaccinating those calves as part of your annual programme.

From the Board

The AGM of Anexa FVC was held on the 31st October this year. The three standing Directors that retired by rotation put their names forward for re-election and all were successful in securing a further 3-year term, congratulations to David Firth, Neil McLean and Wayne Berry.

Bruce Thomas, Chairperson acknowledged that it had been a better year financially for the members and the business as dairy prices recovered and sheep and beef prices had remained buoyant. He thanked members for their support of the business over the past year. Your Board continues to focus on delivering quality services and good value to members. One area the Board has focused strongly on over the past year was developing the longer-term strategy for the business. As more and more industry-based compliance comes to bear on our members we need to ensure that the business is keeping in touch with the changing needs of our members in the animal health space. Bruce also thanked members for their ongoing support of Cognosco and making their Dairy available to participate in research.

Mental health in rural communities

Mental health in rural communities is a hot topic right now! This year Anexa FVC is the first veterinary practice in New Zealand to roll out the GoodYarn Programme. This programme is being run in-house over an 18 month period to all our team members, and is raising the capability and awareness around mental health and wellbeing of all Anexa FVC employees.

To extend the reach of this programme, Anexa FVC is very proud to be joining forces with Waikato-Hauraki-Coromandel Rural Support Trust to bring GoodYarn workshops to our clients. These short, practical (and free!) workshops are specifically designed to enable farming communities to talk about mental health.

Keep an eye on your email inboxes over the coming months for details of a workshop happening in a town near you! In the meantime, if you would like any further information about these workshops or the work we are doing, please contact Emma Franklin in the Matamata clinic (ph: 07 8888068, email: efranklin@anexafvc.co.nz).



Animal welfare CHANGES

We should all be aware of the welfare changes that have now been implemented. Under the legislation, there is an infringement fine associated with transporting animals with injured or diseased udders unless accompanied by a Vet certificate. If you have any animals of concern contact your local Anexa vet and they can advise you if your animal can be transported or not.

A summary of the latest changes can be found at: <https://bit.ly/2v8OpnM>

The complete codes of welfare can be found at: <https://bit.ly/1X87jFT>

If you have further questions, ask your Vet, we are here to help.



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