Drenching dairy calves

There are many drenches available, many drenching regimes advertised, and many parasites a drench may (or may not) be effective against. Finding the best drenching management practice for your herd is important to ensure the health and welfare of the calves, to limit resistance development and to be most cost effective.

Drenches target different internal parasites, including round worms, tapeworms and flukes, read the drench pack carefully to ensure it targets what you aim to target. It is round worms (intestinal and stomach) which are the focus of this newsletter, and so all information is directed in regards to them.

Worm burden levels depend on a combination of factors including age, body condition, nutrition, pasture, and weather conditions. Young animals have poor immunity against parasites and are often the worst affected showing scours, ill thrift, rough coats, weakness, weight loss, bottle jaw and in severe cases, death.

Why drench calves?

A newborn calf has many opportunities to be exposed to parasites, starting with being born in dirty/muddy calving paddocks and suckling from a dirty udder. Immediate removal of a calf from its dam can be beneficial in reducing the parasite contamination from dam to offspring. Immunity develops with age and exposure, leaving calves less than 12 months old at greatest risk of parasite burden.

Internal parasites can have a negative effect on the growth and health of any animal if present in large enough numbers. Worm burden can reduce growth rates which means these animals take longer to reach critical mating weights or market weights, all of which adds to unnecessary feed cost, labour cost and time cost. Managing internal parasites appropriately helps give your calves the best opportunity for a productive future in growth rates, fertility and milk production.

What to drench with?

There are 3 drench types:
1. Mectins (macrocyclic lactones, ML, eg Ivermec)- Longer action because stored in fat. Injectable or pour-on.
2. Benzimidazole (BZ or “white drenches” eg Panacur)- Kills the worms by starvation. Oral only.
3. Levamizole (”clear drenches” eg Nilverm)- Kills worms via paralysis. Oral, injectable or pour-on.
4. Combination drenches. Containing two of the above types, thus a broader spectrum of activity. Especially useful in targeting resistant parasites.

The different forms of drench-oral, pour on and injectable, each differ in their ease of use and mode of action, but generally they are all effective when used to the directions, so it isn't an issue. Not all drenches are recommended for use in calves, so read the label carefully, but generally the white and clear drenches are suitable.

When to drench?

Since most dairy calves are pen reared, it isn't until they are weaned at 8-10 weeks of age that they begin picking up parasite eggs from the pasture. There are a number of options for drenching programs, which are outlined in the table below:

<table>
<thead>
<tr>
<th>Option</th>
<th>Approach</th>
<th>Advantage</th>
<th>Disadvantage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Blanket drench</td>
<td>Drench all calves from weaning, every 4-6 weeks for 4 treatments</td>
<td>Simple, Targeting parasites before production losses</td>
<td>Costly, Increased risk of resistance, Labour</td>
</tr>
<tr>
<td>2. Monitor using FEC</td>
<td>Faecal egg counts (FEC) give information about the level of burden</td>
<td>Only drenching when necessary (more cost effective, less resistance), Knowledge of drench effectiveness, Simple: test 10 calves</td>
<td>Potential extra cost if each test results in drenching anyway (unlikely), Less reliable in stock &gt;12mo</td>
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<tr>
<td>3. Strategic drench</td>
<td>Drench all calves at 10-12 weeks of age, again two months later if on contaminated pasture. A summer drench to all young stock (Jan-Feb).</td>
<td>Relatively simple</td>
<td>Costly, Increased risk of resistance</td>
</tr>
<tr>
<td>4. Monitor and drench</td>
<td>When calves appear ill thrifty, have rough coats or scours- drench.</td>
<td>No wasted drench</td>
<td>Already production losses by the time of treatment</td>
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THE KEY TO CALF DRENCHING

- Do faecal egg counts (FEC) to know when to drench
- Rotate calf paddocks
- Rotate drench types
- Get a faecal egg count reduction test (FECRT) done to check for drench resistance
Basic guidelines to minimise internal parasite burden

1) Rotating calf rearing paddocks
This helps to reduce the numbers of eggs and larvae that a calf is exposed to - the less they ingest, the less they harbour and then spread to others. Often on farm, the same paddock or two are used for weaners but really they should be rotated so that the calves, who are most susceptible, are put into ‘low risk’ paddocks, either where another species of animal (sheep) has been grazed, or older cows (>2yo) have been, or somewhere that has not been grazed by young stock (<2yo) in past four months.

Often calves are weaned onto the same pasture, drenching these calves will result in only a few days of reduced worm burden and then rapid reinfection because of the contaminated pasture. Therefore drenching is of no benefit unless you move the weaners to a new ‘clean’ pasture after drenching.

Longer paddock rotations, drenching prior to moving calves to a new paddock, lower stocking density and fertilizer use on heifer paddocks will all aid in reducing the pasture contamination by worms.

2) Adequate nutrition
A healthy calf with a healthy intestinal tract is less likely to suffer the negative effects of worms. The better the nutrition, the better the immune system, the better chance a calf can expel parasites from the body and also withstand the negative effects of those that remain.

3) Using FEC (faecal egg count) to decide when to drench
FEC involve collecting a small amount of faeces from 10 calves, taking it to the vet to have an egg count performed on each sample to provide an average for the calf group, in eggs per gram (eggs). This gives an estimation of the worm burden based on the number of eggs found, and only when the egg count is at a significant level (as deemed by your vet), is it recommended that the group be drenched. This is more cost efficient because drench is only purchased when required, and also there is less chance of resistant populations of worms developing because they are only being exposed to drench when they are at a level high enough to cause disease. Unfortunately this test only provides an estimate on the worm burden, because the number of eggs may not correctly reflect the adult worm burden.

4) Using FECRT (faecal egg count reduction test) to test drench resistance
This test is done sporadically to find out how effective a drench has been. An initial FEC is performed on a group of calves, then drench, ten days later another FEC is performed on the same group and the percentage of egg reduction is calculated. An effective drench will give at least a 95% reduction in the number of worm eggs detected on the second FEC.

This testing helps farmers to identify if there is drench resistance in their herd, so that appropriate drench choices can be made and money is not going down the drain by purchasing drench types which are ineffective.

5) Correct dosage and administration
Reading the product label is most important. Under dosing leads to reduced effect of the drench to kill worms, increased chance of resistance and wasted money. Weigh animals if necessary, and administer drench for the heaviest animal. Be aware that the clear drenches have a lower safety margin - that is, of the three drench types, these are the type which could result in overdose toxicity problems if incorrectly administered.

6) Quarantine drench
Always drench cattle that have just arrived on farm, and quarantine them for at least a week to ‘clean them out’, before allowing them to mix with other home cattle. Newly purchased cattle are a risk of bringing in resistant parasites, as well as infecting pastures and starting a worm burden cycle going.

~Discussing your situation with your vet, will help to come up with the most suitable drench program for your cattle and farm. These are guidelines, aimed to assist in making more appropriate decisions, but they are still generalisations. Best practice is contacting your vet to discuss your case individually ~
POTENTIAL TOXINS IN YOUR PASTURE

We have recently seen a case of nitrate toxicity in the area. Nitrates accumulate in pastures and can cause a variety of symptoms including death depending on how much the animal consumes. Because nitrates are used to produce plant proteins, under optimal growing conditions, they rarely accumulate to toxic levels. However, during periods of low light (overcast days, winter days) & low temperature, nitrate levels in the plants increase. The application of nitrogen-based fertiliser (including effluent) also increases the concentration of nitrates in the plants.

Consumption of these pastures by livestock can lead to toxicity. Toxicity results from a reduced ability of blood to carry oxygen around the body. In severe cases animals can show symptoms of stumbling, collapse, severe depression, convulsions and death. In sub-lethal doses, animals experience rapid breathing, gasping, muscle tremors and weakness. Moderate levels of nitrate poisoning have been incriminated in limiting production, ill thrift, infertility problems, abortions, vitamin A deficiencies, and general unhealthiness. This condition is treatable, however prevention is the key and is achieved by:

1. Knowledge of plants which accumulate nitrogen
   Cereal grasses (e.g. oats, barley, wheat), ryegrasses (Lolium spp.), sorghums, millet, maize, kikuyu, Brassica spp. (turnips, rape, kale), pumpkins, thistles and other nitrate accumulating weeds (e.g. capeweed and wandering dew)
2. Knowledge of predisposing weather conditions
   Low sunlight, cold temperatures.
3. Managing timing between nitrogen application and grazing
   It takes about 10 days for nitrate levels to peak after application of nitrogenous fertiliser to annual grasses; after 16 – 20 days, assuming optimal plant growth conditions, the material is “safe” to graze
4. Pasture testing
   Pasture testing for nitrate/nitrite content is useful during high risk periods. This allows a strategic grazing rotation where access to high nitrate pastures is limited. Contact us for further information on testing.
5. Adapting the ruminens
   Slowly introducing the cows to pastures with high nitrate contents will adapt the rumen microbes and help prevent a build up of nitrates in the rumen.
6. Dilution of nitrates in the diet
   Restricting the percentage of the diet made up by potentially toxic pasture and keeping of hay, silage and grain in their diet.
7. Inclusion of rapidly soluble carbohydrates eg grains, in the diet helps the rumen cope with high levels of nitrates.

The other weed to be on the look out for during the cooler months is Sour sob (Oxalis). This weed produces oxalates that may induce hypocalcaemia, cause gastrointestinal irritation and kidney failure. Despite efforts to control the weed in pastures, farmers commonly encounter problems when cattle are grazing outside of maintained paddocks (e.g. on laneways or over the fence). It is important to be aware of Sour sob patches and either control them or keep cattle away. Cattle fed calcium supplements are able to cope with moderate oxalis intake.
Justification of newsletter article.

This article will go into the Willunga Veterinary Services quarterly newsletter in August. To get a copy of the article email the clinic in August and ask for an electronic copy.

I choose this topic as I was involved in the case during my placement and found it very interesting. It is important to get this information out into the farming community to raise awareness of the issues that could potentially affect them, and to allow them to prepare and avoid these problems. Nitrate poisoning is an avoidable toxicity provided there is knowledge and awareness of the disease and the conditions that precede it. If farmers are aware of the disease and follow the guidelines that are in this document, they can avoid it.

It is also serves to market the business, making farmers aware of the additional services the clinic offers and ‘touching base’ with them. Providing farmers with this information allows vets to deal with farmers from a preventative health aspect rather than an ambulatory services which is the result of the disease. By doing this, I believe the large animal aspect of the business will be able to grow into a more ‘consultative’ role. In this position we begin to advise the farmers on ways of maximizing productivity on farm by preventing diseases arising and make money from them by minimizing losses (as opposed to their animals being sick and doing lots of ambulatory work).

DR JON ROBERTSON
PREVENTIVE PRODUCTS

There are many products available so call into the clinic and pick up one today. Selections include:

DOGS
- Sprays – Frontline monthly, Permoxin weekly or Fidos concentrate spray every 3 weeks
- Rinse – Permoxin weekly or Fidos concentrate every 3 weeks.
- Spot on – Frontline plus or Advantix fortnightly
- Collar – Kiltix replaced monthly
- Tablet – Proban every second day

CATS
- Sprays – Frontline or Fidos every 3 weeks (hard to administer – must rub all over the cat).
- Spot on – Frontline fortnightly (no longer registered for cats but still appears effective).
- Tablet – Half Proban tablet every second day (NB: this is an off labeled use)

Please note that Advantix, Kiltix collars and Permoxin are LETHAL to cats – do NOT use these products on cats and separate cats that live with dogs for 24 hours after application to your dog.

What to do if you suspect tick paralysis
- Remove tick, ensuring to remove all of the tick - this may leave a big crater.
- Seek veterinary attention immediately
- Minimize handling as stress worsens the paralysis
- Keep your pet in a comfortable temperature
- Do not give food or water
- Keep pet sitting up right (in “Sphinx” position) at all times - helps avoid food and liquid getting into lungs.
- If pet is gagging try to remove any material from the mouth and back of throat with dry paper towel
- Do not stress - get your pet to us ASAP and we will ensure it gets the best possible treatment and care

For more information please contact your veterinary clinic

Spring has sprung
and so have TICKS

The all you need to know guide to improve your pets chance of survival against Paralysis Tick.
Paralysis Tick

There are 3 tick types in the area, but only the paralysis tick (Ixodes holocyclus) is lethal to your pet. It is easily recognized by its light coloured second and third pair of legs.

Paralysis tick have 3 life stages but only the adult female can cause paralysis. When the tick feeds off your pet a neurotoxin (nerve toxin) is injected that binds to the junction of nerves causing paralysis.

Native animals, birds and reptiles are natural host of paralysis tick, so if your pet goes outside, it is at risk of paralysis tick.

It is important to not only identify the tick but to prevent it from attaching to your pet.

Warmer weather increases paralysis tick activity. Ticks are worse at the start of the warmer weather, so owners must be aware of paralysis tick in early September.

Symptoms

Like humans, paralysis ticks are all different. Their different genetic makeup means they produce slightly different toxic symptoms, so in different areas, different symptoms are seen. Also some animals can tolerate the neurotoxin better than others. Nevertheless, if your pet is showing any signs of tick poisoning please seek veterinary treatment URGENTLY.

- Change in voice, bark or meow
- Wobbly in back legs
- Eyes become widely dilated
- Retching, coughing or vomiting
- Rapid breathing or difficulty breathing
- Cat particularly can become "grumpy" in their breathing
- Loss of appetite
- Salivation or dribbling
- Progressive weakening of hindlegs then forelegs
- Collapse and inability to stand

Important

Untreated pets may die within 24-48 hours of the onset of obvious signs.

Treatment at Clinic

Whether you find the tick or your pet has the above symptoms, call us ASAP.

Treatment is tick antiserum that binds to the neurotoxin restricting passage into the tissue, preventing paralysis. However the antiserum only binds with neurotoxin not yet "bound" to nerves, so it is essential that your pet gets antiserum ASAP for improved survival rate.

Additional treatment includes intravenous fluids, sedation, antialivation drug, antibiotics (at first sign of pneumonia) and antihistamine in cats if they have been treated for a tick before.

Prevention

Although tick season is from September to March, we are finding more and more that ticks are still active in Winter, thus year round prevention is preferred.

Preventive products in combination with daily tick searches (especially around head, neck and shoulder regions) and avoiding tick habits can dramatically reduce the risk of ticks on your pet.

Avoiding tick habits is as simple as:

- Keeping pets inside at night
- Don't allow pets to roam free through bushland
- Keeping lawns and scrub short
- Removing compost material from yard
statement to

This is a statement in regard to the pamphlet that has completed for the I NSW on

The publication in question outlines tick paralysis in a manner which cliental of our clinic would understand and find very useful. Brochures such as this are an integral part of informing our community at large the need for preventative treatment against ticks and the need for immediate interference when their pet shows symptoms of tick paralysis. Tick paralysis is a major issue in and around the has spent at the clinic there have been at least a dozen tick paralysis cases.

The School can obtain a copy of the brochure by contacting directly.

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