



VET CHAT

Non Cycling Cows | A Can Of Worms | Disinfectants For Calf Sheds | Rye Grass Staggers

MANAGING NON-CYCLING COWS

The earlier non-cycling cows are treated, the better the return on investment. Economic analysis has shown that it is more profitable to treat non-cycling cows as soon as possible, regardless of your calving pattern.

REASONS FOR NON-CYCLING COWS:

- Pregnancy: a surprisingly frequent cause for apparent non-cycling cows. All non-cyclers should be vet-checked prior to any treatment to avoid loss of a potential pregnancy.
- Poorly grown heifers: failure to reach target weight at first joining and calving. Onset of puberty is influenced more by body weight than age.
- Cows in poor body condition: aim to have cows calve at BCS 4.5 (1-8 scale).
- Reproductive problems: cysts, infections or other issues with the reproductive tract can lead to non-cycling.
- Other health problems such as lameness, can influence apparent cyclicity.
- Late calving cows are less likely to cycle in the first month of joining. Speak with your veterinarian about how to effectively manage late-calving cows prior to the start of joining.
- Cows are cycling but heats were missed.



WHEN SHOULD NON-CYCLING COWS BE IDENTIFIED?

- Prior to the start of mating: using tail paint and pre-mating heat detection. Cows not showing any signs of oestrous should be treated 10 days prior to mating start date. They should then have their first heat at the start of mating.
- All cows which have not cycled in the first 21 days of mating: these cows should be vet-checked as waiting for these cows to cycle on their own will cost you money.

TREATMENT FOR NON-CYCLERS

The main treatment for non-cycling cows is the Ovsynch program of which there are various different modifications.

To decide the exact program and timing to treat non-cycling cows it is important you talk to your vet prior to the start of mating.

A CAN OF WORMS...

This article discusses the use of non-chemical worm control to minimise the threat of drench resistance on your farm.



TRADITIONAL RECOMMENDATIONS

Historically, worm control has involved regular and routine anthelmintic treatments eg. every 4 weeks, with 4 to 6 treatments per season. Treatment was followed by moving to a 'safe' pasture considered to have a low burden of worms. Such regimes have controlled gastrointestinal worms reasonably well but have led to the survival of a minority population of resistant worms. These surviving 'resistant' worms subsequently parent the next generation of worms, leading to a majority population of resistant worms, where the original anthelmintic will no longer be effective. Think of this as inadvertent 'genetic selection' for the resistant genes, similar to how we select for specific traits in cattle.

A NEW WAY OF THINKING

More recently, the concept of "refugia" has been proposed as the most important factor to slow the development of anthelmintic resistance. The number of worms in "refugia" is the number that are not exposed to the drench. Here the term 'worms' refers to all stages of the worm lifecycle (eggs, larvae, immature and adult worm). There are three main ways that worms can be in refugia:

- Un-drenched heifers in a mob that have received drench.
- Inhibited larvae of some worm species, when they are not susceptible to a drench.
- Worms on the pasture cannot be exposed to a drench, so are always in refugia.

Worms ingested after a drench will dilute any remaining resistant worms, so these do not become a significant proportion of the total worm population in the heifer. These susceptible worms contribute to the next generation of worms, delaying the development of resistance. However, there is a conflict between managing drench resistance and gaining good worm control. Maintaining too many worms in refugia to dilute drench-resistant worms also means more worms to infect heifers after drenching. There needs to be a compromise to prolong the effective use of drenches.

MAINTAINING WORMS IN REFUGIA

Strategies to maximise the contribution made by susceptible worms to the next generation include:

1. "Treat and stay": Putting drenched heifers back on to known contaminated pasture for a short period, to expose them to susceptible worms in refugia. Unfortunately, the long duration of action of some anthelmintics will result in susceptible worms being killed and only resistant worms surviving to produce the next generation of worms.
2. "Move then treat": Heifers are placed onto 'safe' pasture at least one week prior to drenching, to allow some pasture contamination by unexposed worms, providing a small population in refugia.
3. Selective treatment of heifers that show evidence of worm infestation (diarrhoea, ill-thriftiness, poor weight gain) and leaving some heifers untreated.
4. Avoid the use of long-acting anthelmintics or those that kill all developmental stages of worms in the animal. These anthelmintics will kill susceptible worms in refugia.
5. Avoid treating adult cows as these animals are largely resistant to worm infestations but will still have a worm burden to some degree. It is controversial as to whether such burdens affect productivity in early lactation.

Other practices to delay the development of drench resistance include:

1. Avoid drenching more frequently than once monthly, unless there is a specific need.
2. Quarantine all introduced stock and drench on arrival.
3. Use effective combination drenches.
4. Weigh animals prior to drenching to establish an appropriate dose.
5. Administer the correct dose using the correct technique for the product.

SERVICE OFFER

WORM BURDEN MONITORING

Monitoring worm burdens and testing for drench resistance
Clinics have Faecal egg counts (FEC) kits available.

- Worm burden monitoring
- Drenching program effectiveness (post drenching review)
- Farm Drench Resistance strategies

ASK IN CLINIC
FOR MORE
INFORMATION



WHICH DISINFECTANT FOR YOUR CALF SHED?

A critical way to reduce the spread of disease from one season to the next is by removal of soiled bedding and thorough cleaning of the calf shed. This should be done as soon as possible after the last calf leaves the shed using machinery for efficient removal of soiled bedding.

DISINFECTANTS "WILL NOT CLEAN DIRT"

All organic material including soiled bedding and dried manure must be removed prior to disinfection. This means all walls and floors should be washed thoroughly with soap and water, and allowed to dry prior to disinfectant application.

Many disinfectants are used for varying purposes on dairy farms. Some are more suitable for housing facilities and others for feeding equipment. It is important to know which disinfectant is suitable for what purpose and which mixing rates are safe to use and when.

In calf sheds, a disinfectant needs to be effective against pathogenic viruses, bacteria and protozoa such as *Cryptosporidium parvum*. Many disinfectants are effective against viruses and bacteria but the oocysts (eggs) from *Cryptosporidia* are very stable and relatively resistant to chlorine-based disinfectants. This results in cryptosporidiosis often recurring year after year. Speak with one of our veterinarians to discuss holistic options for the control of *Cryptosporidia*.



TYPES OF DISINFECTANT

Oxidising agents (eg. Virkon-S): Effective against many bacteria, a broad range of viruses, fungi and bacterial spores. Relatively stable in the presence of organic material and are commonly and effectively used to disinfect calf sheds. Can cause moderate skin irritation and damage some metals.

Chlorine-based compounds (eg. Household bleach): Eliminate most viruses, bacteria, moulds, and algae but not bacterial spores. Good disinfectants on clean surfaces and are more active in warm water. Can irritate the skin and damage clothing, rubber goods and some metals. Chlorine-based disinfectants are generally compatible with soaps but should never be mixed with acids. They are ideal for disinfecting feeding equipment which has already been cleaned with soapy water.

Phenolics: Generally active against bacteria, some viruses, and fungi but not bacterial spores. Good activity in the presence of some organic material but are ineffective against rotavirus which can limit their use in calf sheds.

Quaternary ammonium compounds: Effective against many bacteria and some viruses, but not moulds or bacterial spores. Older quaternary ammonium compounds are effective on clean surfaces but newer quaternary ammonium compounds can retain activity in the presence of some organic material. They are generally used for the disinfection of milking machine equipment.

Iodophors (iodine-based compounds): Traditionally used as antiseptics and disinfectants but are less effective in the presence of organic debris, limiting their use as a disinfectant for calf sheds. Generally less toxic than other disinfectants but can stain clothes and some surfaces. They are ideal for the disinfection of calf navels (in a 7% solution).

CAN I USE LIME?

Lime has a positive drying effect and raises surface pH, which helps inhibit bacterial growth. However there is little evidence to suggest that lime reduces the number of pathogens and it should be used in conjunction with a suitable disinfectant.

Regardless of the disinfectant used always read the label carefully and wear the appropriate personal protective equipment. All disinfectants used for calf sheds as a control measure for disease should be registered by the Australian Pesticides and Veterinary Medicines Authority (APVMA).

SEASONS GREETINGS

MERRY CHRISTMAS AND HAPPY NEW YEAR

We wish your farm, family and staff all the best over the holiday period.
Stay safe and best of luck for 2019.

Best wishes,
From your team at Scottsdale Vet Clinic.



DISEASE FOCUS: RYE GRASS STAGGERS

Perennial Rye Grass Staggers (PRGS) is a common condition of cattle, sheep, camelids, and horses in many regions of Australia. It tends to occur in late summer and autumn and is caused by a fungus found within the rye grass plant. Unlike annual ryegrass toxicity, which is seen in spring and early summer when grasses are long, PRGS is seen when pastures are short and dry, with stock grazing closer to the base of the plant.

WHAT CAUSES PRGS?

Perennial ryegrass (*Lolium perenne*) is one of the most commonly sown pasture grasses in Australia. Most established perennial ryegrass plants are infected with a native endophyte fungus known as *Neotyphodium lolii*, which grows within the leaves, stems and seeds of the plant. This fungus produces toxins which can accumulate in the plant, peaking in summer/autumn. The toxin level can remain high in the pasture for 5-6 months and silage made during this time may retain similar concentrations of toxin for >200 days. In hay the toxins appear to decline significantly over a similar period.

The fungus does not harm the plant and actually has many known benefits including increased resistance to insects and drought. The fungus can only spread to ryegrass plants from infected seeds as it does not produce spores and cannot spread from plant to plant in the paddock. It has a short lifespan (18-24 months) in the seed under normal grain storage conditions.

HOW ARE CATTLE AFFECTED?

Cattle grazed on pastures containing *N. lolii* may exhibit signs of PRGS within 7-14 days of exposure, with younger animals more severely affected. The fungus and toxin occur mainly in the plant very close to the ground thus hard grazing of infected pasture is likely to induce ryegrass staggers.

Mildly affected animals develop tremors which become more severe when they are exposed to physical stress such as mustering and external stimuli such as humans, dogs, vehicles and noise. While PRGS is not in itself fatal, severely affected animals often die of accidental causes such as dehydration, starvation or drowning whilst seeking water in an attempt to cool down. Animals can also be subclinically affected resulting in production losses such as reduced liveweight gains in youngstock, lowered fertility and reduced milk yields. Prolonged exposure to toxic pasture can lead to permanent neurological damage.

The typical symptoms of ryegrass staggers in cattle include:

- Behavioural change - more flighty
- Leg and trunk stiffness causing hesitancy in movement.
- Tendency to fall, stand with legs splayed out.
- May kneel on forelegs or 'dogsit' on hind legs.
- Collapse, flexion rather than extension of leg

TREATMENT

There is no specific therapy for perennial ryegrass staggers. Cattle should be very quietly moved, without a dog, to a safer paddock with a water trough rather than open water to reduce the risk of drowning. Collapsed animals should be moved to sheltered areas and provided with shade, food, water and nursing care. Severely compromised animals should be humanely destroyed on welfare grounds. Mildly affected animals recover after 2-3 days (sometimes up to 14 days) after they are transferred to 'safe' pasture. The recovery rate will depend on the level of toxin in the 'safe' pasture. If other pastures are not available for grazing, feed should be supplemented to reduce pasture intake. Dairy cows that go down in the milking shed should be left alone, as they usually recover and can walk out on their own within an hour or so.

PREVENTION

Pasture management is key in preventing perennial rye grass staggers. Since the ryegrass plant and *N. lolii* have a mutually beneficial relationship, grasses available without the fungus do not thrive as well as those with it. Over-grazing can cause animals to graze the base of the plant, where the toxin accumulates, so care should be taken to keep pastures leafy, if possible. Removal of dead litter and cultivation of clover in the pasture can reduce toxin intake as well, although this is often difficult in dry summers.

APIAM DAIRY SERVICES CLINIC NETWORK

Border Veterinary Clinic: Cohuna, Leitchville, Barham, Kerang
Deniliquin Veterinary Clinic
Echuca Veterinary Clinic
Finley Veterinary Clinic
Gippsland Veterinary Hospital: Maffra, Sale
Gympie Veterinary Services: Gympie, Tin Can Bay

Kyabram Veterinary Clinic: Kyabram, Nathalia

Scottsdale Veterinary Services

Smithton Veterinary Service

Terang & Mortlake Veterinary Clinic: Terang, Mortlake

Warrnambool Veterinary: Warrnambool, Nullawarre, Koroit, Port Fairy



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