

Agilis Updates



MASTITIS - ANOTHER TOOL IN THE TOOLBOX

New Zealand Veterinary Association recognises that the use of DCT (Dry Cow Therapy) in non-infected cows is no longer appropriate in an era of effective alternatives such as ITS (internal teat sealants) and improved management practices and proposes that by 2020, DCT will only be used in the treatment of existing intramammary infections.

Where does this leave farmers and veterinarians alike as we move towards limiting and reducing the use of antibiotics?

Another tool in the toolbox which is underutilised in New Zealand is the use of mastitis vaccines and in particular, STARTVAC, a polyvalent inactivated mastitis vaccine from Hipra, out of Spain. Startvac is the first mastitis vaccine and is registered in over 50 countries worldwide.



STARTVAC is described as a polyvalent as it offers protection against Gram-positive organisms' Staph aureus and coagulase negative Staphylococcus (CNS) and Gram-negative pathogens such as E.coli. The udder itself is antigenically difficult to protect due to the milk - blood barrier, but specific trials have demonstrated that following vaccination with STARTVAC, Staphylococcus aureus - associated antibody complexes (SAAAC) are present in the udder (Schukken et al, 2014) so it is doing what it is supposed to do.

STARTVAC largely has two actions:

1. its ability to produce antibodies against "biofilm". Biofilm is a protective 'slime like' covering that Staphylococcus aureus covers itself in that makes the bacteria impenetrable by either the body's own immune system or by antibiotics. The breaking down of the biofilm layer allows infections to be cleared more easily, meaning less infections occur and if they do occur, they are less severe and easier to treat.
2. is against gram negatives such as E.coli and coliforms, with STARTVAC inhibiting the development of the cell, and therefore preventing bacterial growth. It acts against the core antigen at a specific time in the growth of the cell, which enhances the recognition of the natural defences for the destruction of the bacteria. Proliferation of E. coli and subsequent toxin release is severely reduced, hence much less severity in clinical disease.

The use of STARTVAC is increasing in New Zealand herds on both pastoral-based dairy farms and in more intensive barn farming situations.

STARTVAC is administered by a 2 mL intramuscular injection. The standard label protocol involves a sensitiser and booster in the dry period followed by a subsequent booster 3 months after calving. A modified rolling protocol is adapted for all year-round calving herds and involves the standard sensitiser and booster before calving and a continuous 3-month booster in the dairy herd.

STARTVAC is another tool in the arsenal, farmers and veterinarians can use in the battle against mastitis to reduce the incidence of mastitis and antibiotic usage to promote a more sustainable farming model.

STARTVAC decisions need to be made soon, as action needs to be taken soon after dry-off.

TRACESURE and COPASURE

Copasure is a copper oxide bolus that is used to supplement copper in cattle, deer and sheep, that is regulated and optimum copper supplementation for up to 6 months.

Tracesure is a slow release rumen bolus that releases iodine, selenium and cobalt daily, for up to 6 months.

Tracesure: it supplies those trace elements via leaching technology which is best described as 'sucking the juice out of an ice-block'. The elements are released in a consistent manner as the surface area remains consistent, unlike that of an eroding bolus. With eroding boluses, the surface area changes as the bolus erodes, hence the amount of trace element released may also change. Not so with the leaching technology of Tracesure.

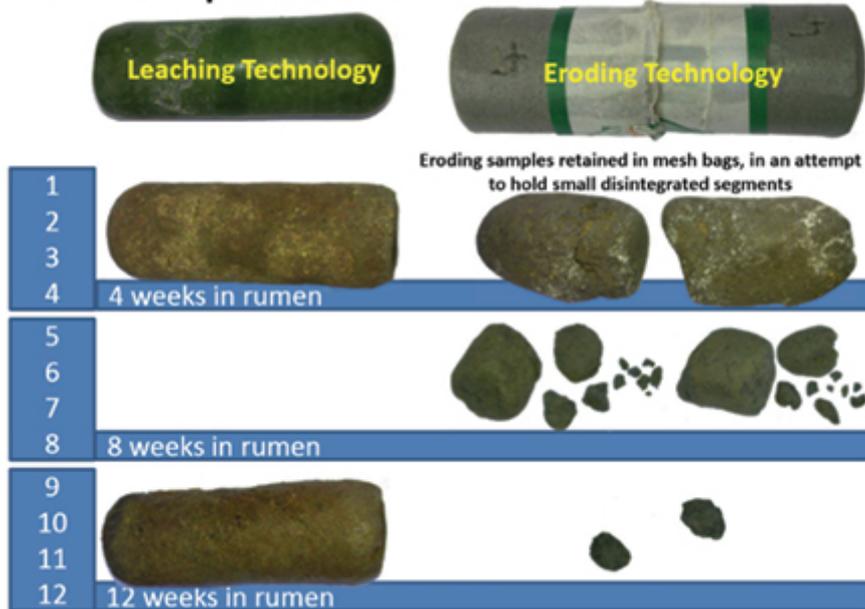


Using Tracesure removes the need for drenching, injecting, and extra yarding. Yet, you can have confidence that your calves are getting a consistent daily dose of the minerals they need.

Tracesure for cattle is supplied in two sizes:

Tracesure Calf and Tracesure Cattle: Tracesure Calf delivers daily 3mg of cobalt, 1.5mg of selenium, and 9.5mg of iodine, while Tracesure Cattle delivers 3mg of cobalt, 3mg of selenium and 19mg of iodine daily, for up to 180 days or 6 months. Tracesure Cattle is recommended in cattle from 150-400kg in liveweight. Two boluses are required above 400kg of liveweight,

Bolus Comparison from Rumen-Fistulated Cattle



Copasure: Copper is not provided in Tracesure, but rather is provided in a separate gelatine-covered capsule full of Copper Oxide Wire Particles (COWP). Copasure is supplied in two sizes: for cattle and deer (12.5g and 25g) and for sheep and/or weaner deer (2g and 4g).

Copasure can be given with or without Tracesure as the delivery guns are designed to fit both a Tracesure bolus and a Copasure capsule, resulting in only one treatment required. Giving copper orally is a safe and effective option for ruminants compared to injection. The gelatine capsule dissolves in the rumen releasing the copper oxide particles which get caught up in the folds of the stomachs of animals eventually dissolving **slowly** in the acidic abomasum.

Effects of copper deficiency: spontaneous bone fractures in cattle have been a topic of concern for some time. While the overall cause is multifactorial in nature, copper deficiency is a well-documented risk factor for bone fragility to occur. Copper is an important element assisting in the structural integrity of bone and connective tissue. By the time fractures occur it is too late, so ensuring adequate copper supplementation in young growing stock is critical to ensure maximum bone integrity in adult animals. Supplementing young stock with a long-acting copper bolus such as Copasure will maintain copper levels for up to six months, allowing them to grow strong and healthy and be ready for mating next season.

In summary, using Tracesure and Copasure, animals are receiving 5-6 months of selenium, cobalt, iodine plus copper without relying on variable dry matter intake or water systems. Having sustained continuous delivery allows young stock to grow unchecked, allowing them to maximise their future potential.

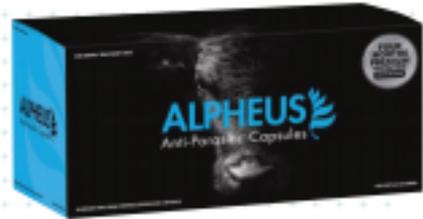
ALPHEUS

The Alpheus drench capsules are designed for R1 dairy and beef cattle, giving 4 months' protection.

One could be forgiven for thinking the hot summer days are destroying larval contamination of

pasture and you would be correct to a degree, the larvae or rather eggs are still there. Good rainfall around Christmas means many parts of New Zealand experienced exceptional grass growth rates well into the New Year. What does this mean for parasites?

ALPHEUS
Anti-Parasitic Capsules



Rearing young stock on single species grazing systems may become very challenging as there is often no alternative species grazing to help reduce parasite burdens on the pasture.

Parasites are masters at surviving all conditions so largely eggs are sitting unhatched, protected in faecal matter on paddocks, waiting for the next rain. When it does happen, the eggs are released from the dung pats, hatch and you get a massive explosion of larvae across the pasture. Pasture covers may be lower due to dry conditions in some areas, so animal exposure and ingestion is greater. This means weaner calves are potentially facing a larval explosion. Protecting them with an Alpheus capsule will go a long way toward or to maximise their future potential.

The unique design of the Alpheus capsule ensures the capsules along with the primer drench tablets are delivered directly into the rumen. The primer tablets containing oxfendazole and levamisole 'go about their business' killing all stages of susceptible parasites, as should any oral anthelmintic combination. The capsule concurrently begins to deliver a constant dose of abamectin daily in the rumen for 125 days. This continual dose of abamectin creates a toxic swimming pool in the rumen for any incoming L3 larvae that are being ingested. Compared to adult worms, the L3 larvae are relatively easier to kill and the whole process is not reliant on the absorption and transport of actives around the body. Compared to most anthelmintic treatments there are no peaks and troughs in delivery. As incoming larvae are being killed before they can enter the intestine, no gut damage or subsequent loss in appetite occur.

Specifically, on dairy runoffs where single species grazing is occurring year in, year out, autumn larval contamination and hence challenge is increasingly high. Calves may be on a regular drenching programme, but suffer the impact of larval ingestion in the form of gut damage and appetite suppression. This leads to reduced growth rates and more difficulty achieving target liveweights in the spring.

Using Alpheus capsules strategically during the autumn in calves is a strong management tool in aiding the growth and development of valuable replacement stock. Used in conjunction with Tracesure and/or Copasure bolus, weaner calves can grow unhindered without suffering from reduced growth rates due to either parasitism or trace element deficiencies.



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