

High rates of 'crypto' infection can be reduced

Richard Rennie

With margins tighter than ever on calf rearing this season, survivability and growth rates will be critical to keeping total margins up.

A number of diseases can lay waste to the hard work of calf rearing, cryptosporidium (crypto) among them.

Crypto is a variety of water pathogen, sharing its position with other nasties including campylobacter, giardia and salmonella.

New Zealand has the dubious claim of holding the highest rate for campylobacteriosis in the western world, with Waikato claiming one of the highest rates nationally.

Nationally NZ records campylobacter rates four times that of the United Kingdom.

There still remain large amounts to learn about pathogens like crypto and their infection pathways. MAF and the Ministry of Health are engaged in a significant study on these diseases and their causes, working closely with Massey University's newly opened Hopkirk Institute.

Dr Nigel French, Professor of food safety and veterinarian public health at Massey University, says last year NZ recorded 600 cases of crypto, with spikes over swimming season and calf rearing.

Ironically one of the biggest outbreaks affecting humans hit an intake of Massey veterinarian students whilst undergoing training in calf health.

From a calf rearer's perspective crypto spends much of its life inside the calf, beginning when it ingests cysts in infected muck.

Spores are released inside the gut, become fertilised and turn into a cyst that either ruptures and re-infests the calf, or is excreted. The rapid infestation rate makes it a hard bug to control simply by removing infected muck.

Crypto can infect people and cleanliness during handling becomes critical, particularly when the calf shows clinical signs of scours.



■ Regular use of viral control sprays and good infection control procedures will lessen the risk of diseases like cryptosporidium.

Regular use of viral control sprays such as Virkon should play a regular part in any calf hygiene regime. However crypto is resistant to many disinfectants and chlorine.

Calves that contract crypto will develop diarrhoea from between seven to 21 days and recommended treatment is to keep animals warm, dry and keep hydrated.

The amount of liquid required is around 10L/day, a surprisingly large amount. Electrolytes are a better option to meet the calf's mineral and energy requirements.

It is commonly believed that once infected with crypto facilities are permanently infected. Housing in clean pens will reduce the likelihood of re-infection compared to using facilities previously used for calf rearing, but it is not always practical to simply opt for new facilities.

The best approach is to maintain a careful hygiene programme.

Some rearers even use foot baths at entry points to their facilities, and will change overalls and gumboots when returning

from collection properties to avoid infection at home.

Reports from calf rearers (see accompanying story) reveal crypto may not always kill calves in itself.

It can however be associated with other viral or bacterial diseases such as rotavirus which also affect humans, also bringing stomach cramps, diarrhoea and general misery.

Rotavirus damages the digestive ability in calves and like crypto can be a persistent farm problem.

Gwyn Verkerk of the Dairy Vets Association says incidence of crypto tends to be lower where herds have been vaccinated against rotavirus, using Rotavec.

"One problem with crypto is there is no therapeutic treatment, and like rotavirus it can be transferred to humans, but is worse than rotavirus, with copious diarrhoea the main symptom in humans and calves."

Calves with compromised immune systems through lack of colostrum are most vulnerable, with rotavirus the first infection, often followed by crypto', she says.

Traceability demanded

New Zealand needs to offer life-time traceability for its products into the marketplace says Doug Lineham.

The sales and marketing manager for LIC Trace told 75 farmers at the East Coast Beef Council's recent "Farming into the Future" workshop at Waipukurau some overseas countries already offered their customers traceability. In Ireland some supermarkets feature pictures of the farmer and their property when they are supplying animals at a particular time.

In the United Kingdom and Europe customers at some supermarkets take products to a scanner which provides origin information. Some farms provide customers with the opportunity to visit their farm live on the web and view animals being farmed. One large European veal producing farm updates its website twice a day.

And in Japan, irrespective of continuing BSE cases amongst Japanese cattle, the scrutiny on imported proteins remains very intense, he says. Some products there can be scanned to confirm product origin information.

"Our customers are demanding to know the origin of their food, and they want to know that our food products are safe to eat."

Overseas customers are much more concerned with food safety he says. "We must take note of that because as a nation we export 90% of our agricultural production - the customer's concerns should be our concerns."

Electronic identification with eartags was a way of doing this and helping farm management at the same time by identifying the top performing animals. "EID will allow individual animals to be highlighted for their performance - good or bad."

At the National Fieldays last year LIC Trace launched a beef version of its Minda computer programme, a herd recording system. At Fieldays this year, version two Minda for beef was released, along with the first versions for deer and sheep.

Highly infectious disease wreaks havoc for rearers

Some calf rearers in the South Waikato are only too aware of the impact cryptosporidium can have on calf health and growth rates.

Last spring an outbreak in calves sourced from a large dairy herd affected at least three rearers. The disease has not put them off rearing calves this season, but has left them wiser about its effects, and how best to avoid bringing it home with a load of calves sourced from multiple properties.

Adam Chick reared over 200 calves and had 50 affected by the disease, with three dying. Despite the low mortality, Adam says the amount of time required to tend to calves afflicted with the condition is significant.

"Basically it turned a half hour job to feed them into a six hour job, having to feed them all through a tube with a bottle." Penicillin drugs were injected twice a day



■ Matthew Darke.

and the calves took two weeks to recover.

"At the end you could not tell them apart from the ones that didn't get it, but it took a lot of time and effort to get them right again."

Aria calf rearer Matthew Darke experienced an outbreak that claimed 10-15 calves and says the key is to identify the problem early.

"As soon as they go off their milk they have to be treated before you see the diarrhoea, by then it is too

late. You can't see them go off their feed at night and think it will wait for another try in the morning, you have to deal with it then."

He says any tendency for calves to contract a disease like cryptosporidium can be heightened by lack of colostrum in the hours after birth.

One year he says he lost over 100 calves out of the 1200 he rears due to the poor care the calves received prior to his

purchase, a cost that saw him in the small claims court.

Part of the risk for bringing infections like crypto back to the calf rearing facility is buying at sales, says Matthew. Pens are not separated by farm, and mixing up multiple calves only adds to cross-contamination.

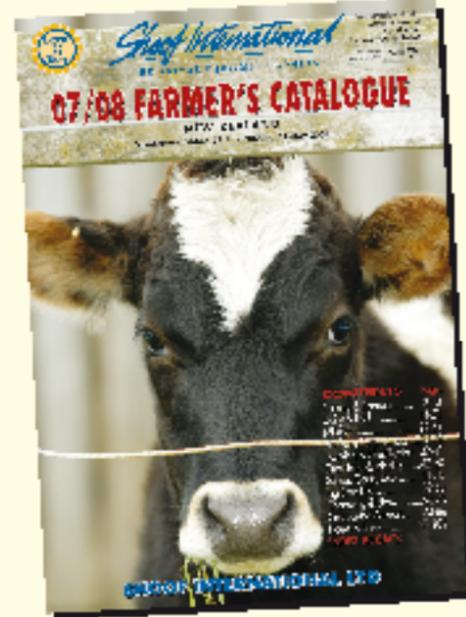
With the help of a "lot of disinfectant", exceptional hygiene and purchasing calves direct from farmers rather than sales, he is confident the problem will be licked this year.

To reduce his exposure to sale yard calf purchases, Warwick McKey sold Hereford bulls to dairy farmers last season with an agreement to purchase the male offspring. It has helped ensure access to the type of calves he wants to rear and providing bulls is a worthwhile service for his dairy farmer clients.

He fears that with the higher value of milk this season, calves destined for sale may fall to the bottom of the pecking order prior to sale.

"There is the risk we see younger calves being put out sooner than they should."

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