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VET NEWS

LIVER FLUKE

THINKING AHEAD

MAGIC OF FIBRE

SOME PHOTOS BY RICHARD HILSON

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LIVER FLUKE (*FASCIOLA HEPATICA*) AND THEIR MANAGEMENT

MIKE CATLEY

Liver fluke are flat, unsegmented, greyish-brown, leaf-shape worms (trematodes) growing up to 25mm long in sheep, cattle, horses, pigs and goats. They mainly affect young stock (18 months old) in spring and can cause decreased production, anaemia, weakness, bottle jaw, chronic wasting, and death. As fluke directly damage the liver, they may pave the way for opportunistic clostridial infection of the liver or lead to secondary infections (e.g. *Salmonella*) via sub-optimal immunity in the animal.

F. hepatica goes through a complex life cycle involving a body of water, faecal contamination of the water with eggs (from the animal with adult fluke within the liver), a free-living larval stage (miracidium), an infective stage in a specific snail intermediate host (sporocyst, rediae and cercariae), and a cyst stage that is eaten by grazing stock from the grass (metacercariae). Generally, the quickest that this development process can occur is eight weeks, with the time prolonged when 'ideal' conditions are not met (i.e. temperature 25°C, water source, oxygenation and the necessary snail population). Egg and cyst stages are very good at surviving cold and hot environments, but will only develop under preferred conditions (including temperature >10°C). In NZ, this means adult fluke are most prevalent in summer/autumn.

Cysts are eaten by grazing stock and they emerge in the intestine. The immature fluke then travel through the abdomen to the liver, with no clinical/sub-clinical signs associated. Once at the liver, they migrate and eat their way through for 5-8 weeks until settling in the bile ducts within the liver as adults, feeding on blood. It does all sound quite gruesome!

What can be done and how do you know you have a problem?

- Most of the effects of liver fluke are on production and clinical disease is rarely seen. So, like any ill-thrift investigation, liver fluke is on the list of suspects when trying to identify the cause of your animals' sub-optimal performance.
- A critical assessment of the environment on farm must be done, with a consistent water source over summer and presence of *Lymnaea* snails being essential.

- Kill sheets from slaughtered stock or post-mortems performed on wasting/sudden death animals can identify adult fluke but this is a very rough measure, dependent on how thorough your meat inspector is.
- Specific FEC monitoring can identify eggs being produced by adult fluke (but not presence of immature fluke): unfortunately, a negative result doesn't always mean there are no fluke there.
- Blood testing (antibody ELISA) for screening presence of migrating and adult fluke within animals (>14 days post-infection) but antibodies disappear after 12 weeks once the fluke have been killed.

You can see that diagnosis and a measure of the severity of any fluke problems can be fraught. But that doesn't mean that we shouldn't be vigilant and keep looking for answers.

Timely treatment is crucial to control the fluke within cattle/sheep and not all active ingredients in drenches are created equal. Triclabendazole is top-of-the-line treating migrating immature fluke (2 weeks after infection) as a sole product (e.g. Fasinex, Tremacide) or in combination (e.g. Switch Fluke and Genesis Ultra in cattle) with worm drenching. Other products contain a range of actives that kill only mature adult fluke 8 weeks or longer after initial infection (e.g. Ivomec Plus, Genesis Ultra Sheep – the most useful active ingredients being closantel or chlorsulon or I wouldn't hang my hat on albendaxzole treatments – the label only claims as an "aid in controlling").

- Cysts (metacercariae) on grass are unlikely to survive winter in Hawkes Bay so infection is seeded from existing infections within stock.
- An autumn treatment with an effective flukicide against immature and mature fluke, i.e. triclabendazole, will wipe out fluke that will overwinter in stock.
- A late winter/ early spring treatment to remove remaining fluke with any previously described product will wipe out any adult fluke that slipped through (<2 week immature fluke not killed by the previous triclabendazole treatment).
- Triclabendazole-containing products cannot be used in lactating dairy cattle.
- Beware of long meat withholding periods (up to 60 days).
- Non-chemical control involves avoiding spring fed, swampy or other consistent water sources in spring/ early summer (not simple and potentially impractical).

Not often is this a serious issue on the East Coast (more an issue in some locales), but check your kill sheets for identification of liver fluke. We are more than happy to help with autopsies, advice and investigations to identify if you have a problem!

THIS MONTHS WINNERS:

Congratulations to the following people who won a Brent Smith BS4C Farm Bike Trailer

Richard & Fiona Barrett – Waipukurau

Simon Beamish – Hastings

John Barnett – Dannevirke

THINKING AHEAD FOR EWE HOGGETS AND TWO TOOTH EWES: TWO GOOD IDEAS FOR YOU

RICHARD HILSON

If it doesn't feel too busy on the sheep farm right now, then it is either just an illusion or a lull in the rush. Docking, drenching, crutching, shearing, ram testing, weaning, weighing, trucking, sowing, silage, hay, Christmas, New Year? Sounding hectic now? And an age group or two that may miss a bit of your valuable time could be the ewe hoggets (especially just after weaning, if they are lambing), dry ewe hoggets (who may be out the back for a while) and, in coming months, the replacement ewe lambs (which often take second place behind trade stock). Despite our best efforts, the necessity for time and labour allocation may mean we take our eye off the ball with these specific groups- and believe me, we see the fall out when that happens. You could probably also slip the rams into the mix too, for the purposes of this article.

So, thinking ahead? Two issues spring to mind as the easy-to-forget animal health considerations...

FIRST GOOD IDEA...

Adequate levels of trace elements and more specifically, vitamin B12. Young stock have much higher requirements for vitamin B12/cobalt than older animals and the traditional clinical syndrome was recognised on the volcanic soils of the Central Plateau with "bush sickness"- ill-thrift lambs, steely wool, tear stained faces. This is not a common syndrome now and we deal to this with preventative options rather than corrective. Fertilisers and individual animal treatments are the most common methods of avoiding ill-thrift and the range of animal treatment options are vast. In our region, we tend to recognise two situations.

Firstly, some localised regions within the district do have issues with primary deficiency and not necessarily every year. This makes it hard to make year-on-year recommendations without some animal testing and this is at least part of the thrust of the story - test so you know. We can arrange animal testing on farm with blood samples or liver biopsies, or liver biopsies via slaughter lambs. Either way is good for good data.

Secondly, we see low cobalt levels in lambs suffering from ill-thrift in autumn. When lambs fall behind due to issues such as poor feed quality, parasitism, hogget pneumonia or the like, their reduced appetite often leads to low cobalt levels too, complicating the whole problem. Part of treating a major parasitism outbreak will often be to supplement lambs with vitamin B12 to get them eating well again.

And back to thinking ahead... avoid the complications of missed opportunities by testing ewe lambs pre-summer and by ensuring lambs have good cobalt levels right through summer. Individual animal treatments can virtually guarantee this and a good example of kiwi technology and great longevity of action is Smartshot, providing up to 5-6 months cover. This has particular importance for the above-mentioned ewe lamb replacement mob, oft forgotten and oft underdone. Smartshot comes in two formulations to reduce the cost for smaller animals or a slightly shorter duration of action, providing good levels through the summer and autumn to what is essentially capital stock that needs every opportunity to realise its potential.

SECOND GOOD IDEA...

This good idea applies more equally to all groups mentioned. Cover them with something special to avoid fly strike and buy yourself heaps of time and peace of mind.

We often remind you that you have lots of very good options for fly cover, allowing manipulation of length of action, withhold times, cost and ease of application to suit nearly every situation. But one thing that can often push the boundaries for chemicals can be a significant length of cover, and this is where we are often guilty of missing the timing for those smaller mobs of sheep - the recently weaned new two-tooths, the dry ewe hoggets, the replacement ewe lambs, the sires. There wouldn't be anyone who has not felt more than a few pangs of guilt when treating struck sheep that have been a wee bit neglected during busy times - easily done.

We think that Clik, a quality spray on treatment for long term fly cover, has a real place for these age groups. The active ingredient is not in widespread use and so doesn't figure in a rising list of products shown to suffer from insect resistance. It is easy to apply safely and it is renown for a substantial length of cover- out to eighteen weeks. That is a very long time! It performs well in wetter summers as it won't strip like cyromazine can and possibly the only negative in a practical sense is a withholding of 56 days.

The withhold time is largely negated by the suggested use in capital stock that will not be likely to be culled in the treatment period- the young ewes and the sires. The other consideration is cost ($1.64 excl per ewe), substantially more than what you may have been used to with the shorter term cover options.

But we think Clik is well worth considering for those smaller lines of animals, for all the good reasons given before- safety in extended cover, protection for the capital stock that has five years of income to realise and some serious peace of mind in a busy season. Clik has been very successful for cover of entire mixed age ewe mobs (both fine wool and strong wool breeds) in areas of high challenge and extensive farming situations but we would initially advocate use in the younger animals in our region, if cost is a consideration (and it should be) and if cover for the main ewe lines has usually been adequate with your usual treatments.

We firmly believe that Clik can provide a specific role in your fly control programme this summer and autumn so if you want to look at this top end product for your top end breeding stock, please come in for a yarn.

We reckon that is a very good idea!

THE MAGIC OF FIBRE

STUART BRUÈRE

Have you ever wondered why your sheep or cattle don't seem to grow as well as expected when you are feeding out grain to ewes in the Autumn; or when feeding brassica or plantain/clover to cattle in the Winter and Spring respectively? Worse still, have you lost cattle due to bloat on either crop combo?

Well you might just like to think about how much fibre your sheep or cattle are getting in their diets in any of the scenario as described above. The rumen is quite a fragile "feed digester" full of literally millions of microbes that pre-digests all the grain, grass, crop and other supplements "dumped" in it. It is fragile because the microbes like to perform their function in a pH of 7. Sudden changes of the ruminant diet will upset the microbes and at best cause many of the microbes to die, hence slow down digestion. This could be best described as expecting a four stroke motor mower to run on two stroke petrol – it works but there is a fair bit of smoke and noise and the motor efficiency is seriously impaired. At the other end of the spectrum, say when feeding out grain pre-tup to ewes, the changes can be so extreme that the pH drops to 4.5. This is just too acid, leads to acidosis and death of ewes. This can happen right at the start of supplementation, particularly when ewes "guts" themselves on the grain. If there is insufficient fibre in the pasture, a solution is to pre-feed the ewes with hay so they get a partial gut fill and then run a thin line of grain over the top of the hay. Big bale handling equipment and grain feeders towed by quads make this a relatively manageable and efficient process. Hay has a Ph of 7 so will assist neutralise the potential pH drops caused by grain. Apart from good fibre levels, good hay also has reasonable plant sugar levels and moderate protein levels. Fibre helps the rumen microbes by slowing down the digestive process so more of the feed value can be extracted for absorption further down the gut.

So you've grown this great Brassica crop to feed your fattening cattle over the winter. There's 7000kgDM/ha ready to go, the break wire is all set and away they go. The first few wire breaks go well and the cattle are getting the hang of the crop and "bugger" – you find two dead with blood running out of their noses. They look a bit blown up so it is mistakenly assumed they have died of blood poisoning so you give the rest a 5in 1, cross your fingers and continue on. A few days later, two more are found dead. This is getting a bit serious so better give the vet a call – autopsy diagnosis is bloat. The fundamental problem is the cattle have started to engorge on the crop. Feeding ad lib baleage or hay prior to opening out the new break can "pre-fill" the rumen and slow/stop cattle from engorging. As above it also slows the digestive process so the microbes can more efficiently pre-digest the diet prior to absorption.

Ewes being fed good quality hay and grain during the winter in the Wairarapa.

BULL TESTING: ANOTHER DIMENSION

RICHARD HILSON

Most stud and commercial beef cattle operators will be very familiar with "standard" bull testing techniques. This is essentially a serving capacity test, using a rather artificial yard mating situation to assess a bull's ability to mount and successfully serve heifers and cows during normal paddock mating. This test, while assessing his ability to mate, also allows for physical examination and visualisation of the bull's external genitalia, the presence of defects such as corkscrew penis (yep, you read that right!) and some disease processes such as warts.

We regularly capacity test young sale bulls for stud operators and do pre-mating tests for commercial beef farms to confirm the fitness of existing sires to perform their duties, to allow for mating ratios for specific bulls and to assist in decisions regarding culling and replacement of sires. This can be a significant part of our winter and early spring workload.

In addition, we also use the technique to test mate bulls that appear to be missing the mark during the mating season itself. Observant farmers often note bulls showing little interest, off colour or simply incapable of sexual connection. As many local bulls are insured for loss of use, we may capacity test individual bulls during the mating season to ascertain what may have happened and to back up an insurance claim.

Did you know that we can now add another dimension to bull testing? In the last couple of years we have perfected a technique for semen collection from bulls that is efficient and extremely successful. It may sound somewhat odd but a very low voltage probe is used to stimulate a bull, allowing collection of a semen sample for gross ("by eye") and microscopic examination for concentration, motility and specific semen defects.

Not many bulls fail semen testing but previous work has shown up to five percent of commercial beef bulls may fail on semen quality issues. Not a big number but enough to ensure that some bulls may appear to be great lovers but less than useful fathers.

We can tailor the bull testing job to suit your situation so please get in contact if you'd like to test your bulls, at any time. Service capacity testing is a routine job for many beef breeding units and the ability to now assess the goods for all service bulls really does add an extra dimension to our ability to make sure mating is a success.

SEASONAL UPDATE

HASTINGS/NAPIER

RICHARD MCKENZIE

Spring has sprung — and great to see some grass again. Though we have also seen plenty of bloat and grass staggers [hypomagnesaemia} as animals adjust to having some grass to eat since ……..probably last spring! As well as grass worms and fly are well and truly rearing their heads so if you are experiencing problems don't be afraid to get us out or ring for preventative advice.

Vets are busy disbudding calves, bull testing, cow and horse reproduction programmes, de-velveting is just getting under way and dog and ram runs are due to start so busy, busy, busy.

On the equine front horses are foaling, colts are ready for gelding and racehorse trainers are hanging out for some better tracks. We are still seeing a lot of colics and laminitis so be alert, and if you have any concerns give your clinic a call.

The Hastings A&P show was successful for a number of clients and staff, so well done to all who took part.

WAIPUKURAU

HARRY WHITESIDE

Well the warmth is finally starting to come through and with it the winds that have sucked quite a bit of October moisture from the ground.

Whilst grass quantity has not been an issue for most, quality certainly has brought a few early season challenges. Most notably we have had a lot of phone calls from dairy farmers reporting poor cycling rates amongst the cows. Exceptionally high milk urea levels certainly explain part of the problem with very high protein levels in the lush grass. A bit more sunshine should lift sugars and hopefully kick-start the majority of these cows.

Early indications are that lambs are growing well as many approach weaning and most ewes have been putting condition back on over the past few weeks.

Ram runs should be underway as you read this so don't forget to take advantage of this service in good time to consider replacements.

All is otherwise well in the beef world and the velvet has been growing at a good rate in the stags. Until next time, all the very best with the forthcoming weeks ahead.

DANNEVIRKE

SIMON MARSHALL

Overall we have had a fairly tough spring so far. This has been mainly down to lots of rain, some wind and not much sunshine. The general feeling is that the feed is there we 'just need some sunshine!' Lamb survival seems to be good which should make up for a lower than normal scanning in ewes. Docking has been hampered by poor weather so there will be some sore backs from lifting big lambs!

Animal health wise we have mainly been busy with dairy cows. We have been checking non-cycling cows and making sure they are fit and ready for mating which is now underway. One issue we have encountered is making sure that farmers are communicating with their AI technician for any non-cycling or synchrony programs. These programs call for large numbers of cows or heifers to be mated all on one day 'fixed time AI'. If AI technicians are not given good forewarning then sufficient amounts of semen may not be available or the technician may already be pre-booked. So the moral is, ring them and let them know.

It has been a strange feeling not having Peter McNeil around since his retirement on the 30th of September. We trust he is enjoying his retirement and wish him all the best. His contribution to this practice and the farming community of the Tararua region over the last 38 years was huge and we are enjoying hearing of past experiences you have all had with him. Make sure you give him a pat on the back next time you bump into him.

WAIRARAPA

STUART BRUERE

By the time you read this we will know who the new President of the USA is (if it's Trump I have no doubt the NZ Department of Immigration may receive a spike in applications from US citizens for NZ), we will know if the All Blacks broke the record of 17 straight test wins and we will know we still love the Black Caps but oh dear they have struggled in India. The Spring here has come away with prolific grass growth in some areas and has still been a bit of a struggle in others – the one saving grace has been that lamb survival has generally been better than usual. Worm egg counts in ewes have been all over the place this Spring so if they are still not "blooming" as expected think about getting a FEC count done on your ewes at the clinic and we can then advise you on treatment, refugia and nutrition if required. Stu has been out and about doing semen evaluation of breeding bulls and "Ferdinand" has been a "fail" on a few occasions so it is still worth checking bulls if they haven't gone out yet. Sara is starting our ram runs in November this year – the theme of ram testing will be "Feet, Teeth and Balls". We have piloted this with a few farmers this year already and found quite a few rams with next to no teeth – time to pension them off and bring in some new young talent! Finally – we held a Lifestylers evening at the Carterton Events Centre in early October. Over 100 turned out and found our evening to be very informative.

OUR VET TEAM

Napier & Hastings:	**Dave Kruger, Vicki Gilchrist, Veronika Pipe, Mark Matthews, Roger McKinley, Stuart Badger, Richard McKenzie, Clare Ryan, Neil Stuttle, Helen Crawford, Helen Taylor, Camille Flack, Rachel Griffiths and Ian Leadbetter.**
Waipukurau:	**Caroline Robertson, Richard Hilson, Harry Whiteside, Geert Gelling, Anyika Scotland, Kathryn Sigvertsen, Annelise Enslin, Mike Catley, Sam Burrows and Lucy Dowsett.**
Dannevirke:	**Simon Marshall, Tim Hogan, Kate Matthews, Johnny Atkins and Ingrid Meijer.**
Masterton:	**Stuart Bruere, Sandy Redden, Louisa Broughton, Jacques VanZyl, Nicola Haglund, Sarah Wolland, Elke Blommers and Sara Sutherland.**

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