



FROM THE PRESIDENT

Firstly I would like to wish everyone a Happy New Year and hope you all had an enjoyable time over the holiday season.

While enjoying the break, I spent a fair bit of time cast on a deck chair catching up with current events, listening to cricket etc and was interested in hearing the reports detailing the on- line auction price for milk powder increasing 21% since November, the lamb schedule remaining firm well into January (almost unheard of) and the recovery in crossbreed wool returns being forecast to continue. All of this points to a robust future for New Zealand agriculture, particularly in those sectors that are focussed on producing top quality produce for discerning markets. To that end I believe the work carried out by members of this society regarding the development of "best practice" parasite management programmes (including the best use of the most appropriate treatments) will contribute greatly to the success of our New Zealand's primary producers.

I've since had to get off the deck chair and return to work, and last week phoned in to participate in the first N.Z. S .P Committee Meeting for the year. The committee was joined by Tony Rhodes and Heather Simpson, who along with Allen Heath and Trevor Cook , have "volunteered" to organise the 2011 N.Z.S.P. Conference. The organising team will be looking for suggestions /feedback on how to make the 2011 conference a memorable event – please offer them your full support.

Finally I would like to make mention of Wayne Hein's move from AgResearch to James Cook University. Wayne's scientific achievements are many and varied, and are summarised elsewhere in this newsletter, and on behalf of the Society I would like to wish Wayne all the best for his future endeavours.

Colin

CONFERENCE 2011

This will again be held in the Palmerston North area on 27 & 28 October. A sub-committee of members – Heather Simpson, Tony Rhodes, Allen Heath and Trevor Cook, has been formed to undertake the organisation. Suggestions for symposia topics will be sought from members.

Further details in the April 2011 Newsletter.

SUBSCRIPTIONS

Invoices for outstanding subscriptions will be sent out shortly. Subs are \$20.

Executive

President:	Colin McKay	colin.mckay@novartis.com
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FAREWELL TO WAYNE HEIN

As noted above by Colin, Wayne's scientific achievements are many and varied:

- Has great surgical expertise (sheep cannulation etc) and has taught Tony Pernthamer over the last few years
- Esteemed immunologist held in high regard globally for his immunology expertise
- President of the International Veterinary Immunology Society (very prestigious position)
- On numerous editorial boards
- A rose connoisseur (perfect in Palmerston North, not sure use this skill in Townsville)
- Keen gardener... has impressive collection of topiaries
- Wine buff

A farewell function took place in marquee at the Hopkirk Research Institute, Massey University Campus, Palmerston North on 14 December 2010.

Professor Wayne Hein is now the Head of School, Dean of Veterinary Science at the School of Veterinary and Biomedical Sciences, JCU [wayne.hein@jcu.edu.au]. Latest news is that Wayne survived the storm (Cyclone Yasi) that swept through Northern Queensland.



Peter Benfell makes his speech to Wayne & Lyn



Some of those in attendance

Thank you to Allen Heath for the photos

CONFERENCES

23rd International Conference of the **World Association for the Advancement of Veterinary Parasitology (WAAVP)**

21 – 25 August 2011

Buenos Aires, Argentina

For details: <http://www.waavp2011-argentina.com.ar>

For those studying the parasites of birds there is an opportunity for you to make a presentation at
Ornithological Society of New Zealand Conference

3 - 6 June 2011

The New Dowse Conference Centre, Laing's Road, Lower Hutt

Early bird registration before **28 February**

For details: <http://osnz.org.nz/>

WORMMAIL

Trichostrongylosis in humans – Australia

You might recall the WormMail several days ago about the people, one a woman from the UK, who got diarrhoea, abdominal pain and eosinophilia subsequent to a week's stay on a New Zealand sheep farm. (Wall and others, 2010). (Article reproduced at the bottom of this email; also in the new edition of Turning the Worm (#28, January 2011).

The long and short of that story was that the people picked up *Trichostrongylus* sp infective larvae from the salads they were eating. The salads were home-grown (and perhaps not washed overly well?) in a garden that used fresh sheep manure.

The subjects were treated with albendazole and recovered. I commented/wondered at the time if the drug resistance status of the *Trichostrongylus* isolate was considered.

Following that article, Nick Sangster (CSU Wagga Wagga) drew my attention to an article, authored by him and others, that reported on similar cases in Australia. (Ralph and others, 2006).

These authors note that isolated cases of trichostrongylosis in humans have long been recognised in Australia. Sixty cases were reported from Queensland by the Hookworm Campaign between 1923 and 1928, and five cases were detected out of 46 000 stool examinations at a Queensland laboratory between 1992 and 1995.

However, *Trichostrongylus* eggs are commonly mistaken for hookworm eggs, the adult worms may also be misclassified (as *Enterobius*, for example), symptoms may be mild or absent, and the pre-patent period may be long, with reported delays of 4 months to 2 years between onset of symptoms and detection of eggs in faeces. (Still quaintly referred to as 'stools' in human medical literature).

The two cases described by Ralph and others (2006) were suburban goat keepers, who had eaten vegetables from gardens fertilised with goat faeces. Both had abdominal pain, diarrhoea and eosinophilia. It took a little while for the correct diagnosis of trichostrongylosis to be made, not helped by the fact that no eggs were seen in patient 2's faeces, presumably due to a long pre-patent period

(c.f. the PPP of around 3 weeks in small ruminants such as goats and sheep).

The authors note that the tendency to use stool immunoassays for *Giardia* and *Cryptosporidium* in many cases in medical labs rather than the more laborious traditional microscopic examinations for parasites, may miss a number of locally acquired parasite infections such as hookworm, *Trichuris trichiura*, *Strongyloides stercoralis*, *Isospora belli*, *Fasciola hepatica* and *Brachylaima cribbi* as well as *Trichostrongylus* sp.

Once a diagnosis of trichostrongylosis was made, these two patients were treated with benzimidazoles (BZs), mebendazole in one case and albendazole in the other, with zero or partial effect. As there was collaboration between medical and veterinary parasitologists in this case, it was understood that the parasites were very likely BZ-resistant, and treatment with the macrocyclic lactone (ML), ivermectin (200 ug/kg), was undertaken with good results, although, as the authors note, ML-resistant *T. colubriformis* isolates in Australia have been reported (Le Jambre and others, 2005). (I think I might be asking for treatment with the novel anthelmintic, monepantel).

Ralph and others (2006) suggest the following lessons can be learnt from these two cases:

- Trichostrongylosis may be an under-recognised cause of eosinophilia and/or gastrointestinal symptoms in Australia.
- Stool microscopy for parasite eggs is the only means of diagnosing trichostrongylosis, but is no longer routinely performed by many laboratories.
- The eggs of *Trichostrongylus* sp. and hookworm are very similar and can easily be confused, even by experienced laboratory staff.
- People fertilising their vegetable gardens with manure from herbivores, especially goats, should be advised to thoroughly wash or cook their garden produce before consumption; efficient composting is also effective in killing larvae.
- The drug of choice is ivermectin, because of high rates of resistance to benzimidazoles.

Personally, I think this last point regarding the drug of choice now needs re-visiting.

Additionally I suggest that the risk of using fresh sheep manure could be just as high as for goat manure (and perhaps alpaca manure as well, given that alpaca can carry sheep and cattle worms).

Sangster also notes that laboratory-acquired infections are possible through mouth-pipetting techniques. (One or two readers of WormMail may be acquainted with some cases).

I would re-iterate that good hygiene and food safety can markedly reduce the risk of many if not most zoonoses. [See Primefact 814](#). (The revised edition will have *Trichostrongylus* reinserted).

SL

References

Le Jambre LF, Geoghegan J, Lyndal-Murphy M (2005). Characterization of moxidectin resistant *Trichostrongylus colubriformis* and *Haemonchus contortus*. *Veterinary Parasitology* 128: 83-90.

Ralph, A, O'Sullivan, MVN, Sangster, NC, Walker JC (2006) Abdominal pain and eosinophilia in suburban goat keepers. *Medical Journal of Australia* 184, 467-469

Wall, E.C., Bhatnagar, N., Watson, J., Doherty, T. (2010). An unusual case of hypereosinophilia and abdominal pain: an outbreak of *Trichostrongylus* imported from New Zealand. *J Travel Med* 2011; 18: 59-60.

Footnotes

'Eosinophilia' means that there are more eosinophils than normal (usually referring to a blood smear/blood count). Eosinophils are a type of white blood cell that may be elevated in parasitic infections. They are called eosinophils ('lovers of eosin') because they contain granules that stain red (from eosin) in H&E (haematoxylin and eosin) stained histology sections. (They look very pretty ;-)

Trichuris sp - 'whipworms'; *Trichostrongylus* sp (intestinal species (e.g. *T. colubriformis*, *T. vitrinus*): 'black scour worm'; abomasal: 'stomach hair worm' (*T. axe*)); *Strongyloide* - 'threadworm'; *Isospora* sp - coccidia, less common than *Toxoplasma* or *Cryptosporidium*; *Fasciola hepatica* - liver fluke; *Brachylaima* - a recently discovered trematode ('fluke'); human cases from South Australia (via ingestion of white-shelled snails); first documented case in 1996.

(From WormMail.20110201)

***Trichostrongylus* infection in travellers visiting a New Zealand sheep farm**

Reference: Wall EW and others (2010). An unusual case of hypereosinophilia and abdominal pain: an outbreak of *Trichostrongylus* imported from New Zealand. *J Travel Med* 2011; 18: 59-60.

A 62 year old British woman spent a week on a sheep farm in NZ. Shortly afterwards she felt dizzy and nauseated, followed by abdominal pain, bloating, diarrhoea and weight loss.

Haematology ordered by her GP (Cornwall, UK) showed eosinophilia. Clinical and other investigations (at Royal Cornwall Hospital) revealed nothing of note, apart from increasing eosinophilia.

Later the woman got an email from two friends who had been on the same trip, developed similar symptoms, and had them investigated (in New Zealand).

They were found to have eosinophilia, and *Trichostrongylus* sp eggs in faecal samples.

The email exchange resulted in further investigations, at the Hospital for Tropical Diseases, on the woman back in the UK. *Trichostrongylus* sp eggs were found in her faeces also. Albendazole 400 mg twice daily for 3 days led to full recovery in 6 weeks and almost complete resolution of her peripheral eosinophilia.

(I wonder if our medical colleagues considered the resistance status of the isolate. But, I guess this sort of treatment regimen with albendazole could be efficacious even against benzimidazole-resistant *Trichostrongylus*).

The source of the infection was traced by veterinarian Dr Chris Morley (Ministry of Agriculture, NZ) to the use of sheep manure as an organic fertiliser on a salad garden

[Sidenote – fasciolosis in humans]

Which prompts a side note: there have been humans cases in Australia of fasciolosis - e.g. one case I know of just east of Walcha, in NSW, associated with eating water cress (in salad presumably), the source presumed to be wild water cress growing alongside a waterway on a liver fluke-infected property. It pays to be circumspect in such cases, unless you habitually use salad dressing based on triclabendazole. My recollection is that [Dr Joe Boray](#) was involved in this and/or similar (human) cases and prevailed upon the health authorities to treat the patients with triclabendazole, instead of a somewhat less suitable anthelmintic. It helps that Joe was involved in the development of this drug in his Ciba-Geigy days.)]

Trichostrongylus spp of course are common in herbivores including sheep in Australia, New Zealand and elsewhere. Humans usually are infected through exposure to animal faeces, via contaminated food or water, and most commonly in Asia and the Middle East. As well as this NZ case, several cases of human infection have been reported in Australia. One report from Sydney involved manure from a pet goat being used to fertilise an organic garden. Wall and colleagues also state that five human cases have been reported from rural Australia with a similar transmission method proposed.

(This article was first published in the [Wormmail e-newsletter](#). WormMail.20110121. Both these articles appear in [TTW # 28, Jan 2011](#)).

NEMATODE SPECIES LIST NOW PUBLISHED

The nematode species list has finally been published, having started in 1999.

Yeates, G.W. 2010: Phylum Nematoda – roundworms, eelworms. Chapter 13, pp 480-493 *In*: D. P. Gordon (ed.) New Zealand Inventory of Biodiversity. Volume 2. Kingdom Animalia – Chaetognatha and Ecdysozoa, Ichnofossils. *Canterbury University Press, Christchurch*. ISBN 978-1-877257-93-3 [A Species 2000 Symposium Review]

A PDF copy can be obtained from the author [gregor.yeates@gmail.com or PO Box 1758, Palmerston North 4440].

... from Gregor Yeates

NEW TICK HOST IDENTIFIED

A distressed Royal Spoonbill, observed on the Waikanae Estuary, was found to be hosting a number of *Ixodes eudyptidis*.

To read more on this and an article on the tick infestation go to <http://www.kapitibirdtours.co.nz/News.htm> and select the February 2011 Newsletter.

.... from Allen Heath



Next Newsletter: April 2011

Please send news items, notices etc.
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