



# PARASITOLOGY

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## New Zealand Society for Parasitology December 2019 Newsletter

### President's Post

Christmas 2019 is nearly upon us, it always seems to come around quickly (especially as you get older ed.). NZSP would like to wish all members a very Merry Christmas and a safe and prosperous 2020.

We had an excellent conference in Dunedin in the Town Centre, ably organised by our very own Victoria Chapman, Paul Mason and helpers.

Matthew Playford (Dawbuts and Zoetis AUS) as our international guest speaker was practical & easy to understand as well as being very insightful. The Parasite Advisory Day (PAD) held at Invermay on the Tuesday before the conference was a success, this day keeps growing with 70+ attendees this year.

A very fun dinner at the White Room @the Vault was had on the Wednesday night with parasitology themed charades – see photos later in the newsletter! We have included in this newsletter some follow up from Techion who gave us a tour of their premises at Invermay, an impressive setup; and from Scott Ferguson who presented some very interesting updates from the University of Otago.

The Society has gone live on Twitter! Our 'handle' is @society\_nz under NZ Society for Parasitology. It is a mine of interesting info around parasitology internationally so I recommend getting on board. Can suck up a bit of time though... I've included some recent interesting links. That's it for us for 2019, a big thanks to our committee, Tania Waghorn, Nik Palevich and Ash Keown and our conference organisers for 2019. See you in Palmerston North October 2020!

Job as a veterinary parasitologist going at Kansas State University: <https://careers.k-state.edu/cw/en-us/job/508491/assistant-professor-veterinary-parasitology-diagnostic-medicinopathobiology>

This links nicely with Ian Scott's talk in

Dunedin: Multiple drug resistance in the canine hookworm *Ancylostoma caninum*: an emerging threat? <https://parasitesandvectors.biomedcentral.com/articles/10.1186/s13071-019-3828-6>

Do you rush your egg counts? <https://www.sciencedirect.com/science/article/pii/S2590138919300165?via%3Dihub>

Do I really need those parasite egg counts? Video from Martin Neilsen <https://twitter.com/MartinKNielsen/status/1198994193600761856>

Parasitology hits mainstream with this featured in the Economist <https://www.economist.com/science-and-technology/2019/11/21/nematode-parasites-kill-a-lot-of-sheep>

That's a little taste, follow us to see more!

*Kind Regards*

*Cathryn*

Parasitology themed charades at the dinner. Tony & Andrew in action. Victoria judging!



## Techion Story

Techion along with Elanco, alleva & PGG Wrightson were sponsors of the conference. During the Parasite Advisory day preceding the conference there was a tour of the Techion premises at Invermay. During & after the tour many questions were asked about the Techion process for faecal egg counting, including its validation & what peer reviewed publications substantiated the technology & its application. Attendees were invited to direct questions to Techion via Victoria Chapman as one of the PAD day organisers. Their reply follows below.

The heading on the previous page "Do you rush your egg counts?" above the link to a Sciencedirect.com article is very relevant to the Techion reply & should be read in conjunction with it.

The article "The effect of counting duration on quantitative fecal (sic. US sp.) egg count test performance" is in *Veterinary Parasitology* Vol.2 Nov 2019 & is co-authored by Associate Professor Martin Neilson who presented his work on managing parasites in horses to the Society last year. The article shows how restricting faecal egg counts to a counting time of only 1 min gave a significantly reduced count 50-60% lower than a count taken at leisure (average 4.25 minutes). A count restricted to 2 mins was more accurate but still 10% lower than the "at leisure" counts. The article goes on to discuss & compare, in detail manual McMaster counts & an automated system called Parasight.

### Techion's Reply

Dear NZSP Member,

On behalf of the Techion team, thank you for your time and interest in the work we are doing at Techion. Following the tour of the Techion facilities during the Parasite Advisory Day on 22 October, our team collated the various questions and have addressed them in the document accessed via this link ([http://u.fecpakg2.com/faq\\_industry\\_professionals](http://u.fecpakg2.com/faq_industry_professionals)) (use ctrl & left mouse click to open the link). Most questions we received centred around validation of the FECPAK<sup>G2</sup> platform.

The issue of FEC method validation raises broader questions for the parasitology community. Although McMaster and Mini-FLOTAC methods are widely used, a 'gold' standard method does not exist in FEC to compare new methods against. There are several known causes of inherent test variation, regardless of the FEC test method (Carstensen et al., 2013; Gasbarre et al., 1996; Denwood et al., 2012).

As a result, FEC method comparison is challenging. Core to any FEC comparison assess-

ment is measuring the variation within FEC test methods as well as the variation between FEC test methods. This approach highlights the challenge of cross method FEC comparison. A FECPAK<sup>G2</sup> comparison using this method is currently being analysed by Prof Eric Morgan (Queens University, Belfast) and is expected to be ready for publication in the coming months.

The sample preparation methods used in FECPAK<sup>G2</sup> are based on standard and proven parasitology principles. Together with our research partners, the Techion team have tested and optimised several of these sample preparation methodologies to improve the speed and quality of the FEC test. We continue to explore alternative methods of egg extraction, concentration and imaging. What makes FECPAK<sup>G2</sup> unique is its patented egg accumulation technique. Several publications have described the method and validation of this approach to particle accumulation (Sowerby et al., 2011; Cooke et al., 2015; Mirams G, 2016).

As well as comparing FEC methods, we need to bear in mind the relationship between the FEC methodology and the total worm count. For Techion, some of this work has been undertaken (see linked document) and more work is planned as we continue to develop our technology.

Further, as we aim for FEC method validation, we need to open the debate about how the NZ industry is currently generating and using FEC information. For the livestock industries, we want more and better FEC information; however, we know there are significant method differences between providers, be they in the clinic, on-farm or across labs. We also need expert interpretation and advice based on FEC results.

Currently, training is inconsistent, while audits and QA are largely absent. Technology is entering the sector and will continue to positively disrupt traditional methods. Industry will move and adopt these new methods as appropriate. We welcome continued and open debate on this issue and hope advisers and practitioners who use FEC information will contribute to a deeper understanding and collective discussion on how the FEC tool can be improved. Improvements to FEC methodology will ensure it remains a cost-effective, accessible and cornerstone tool to aid parasite management.

Kind regards, The Techion Team

Scott Ferguson

Scott Ferguson from Otago University presented on the universities work in animal only anti-microbials & methanogens relating to greenhouse gases. Since the conference he has sent some follow-up information on the EU approach to antimicrobial resistance with some mention of antiparasitic products. Scott has sent the following summary of the new EU rules. Continued on P5

  
**NEW EU RULES ON VETERINARY MEDICINAL PRODUCTS AND MEDICATED FEED**

**VETERINARY MEDICINAL PRODUCTS: WHAT'S NEW?**

- ▶ **FIGHTING ANTIMICROBIAL RESISTANCE**
-  **BAN** on preventive use of antibiotics in groups of animals
-  **REINFORCED BAN** on the use of antimicrobials for promoting growth and increasing yield
-  **RESTRICTIONS** on metaphylactic use of antimicrobials (control treatment preventing a further spread of infection)
-  Possibility to **RESERVE** certain antimicrobials for humans only
-  **OBLIGATION** for Member States to collect data on the sale and use of antimicrobials

**For IMPORTED ANIMALS and products from OUTSIDE THE EU:** ban on antimicrobials for promoting growth and restrictions on antimicrobials reserved for human use

- ▶ **PROMOTING AVAILABILITY OF VETERINARY MEDICINAL PRODUCTS BY STIMULATING INNOVATION AND COMPETITIVENESS**
- ▶ **ESTABLISHING A MODERN, INNOVATIVE, FIT-FOR-PURPOSE LEGAL FRAMEWORK**

**MEDICATED FEED: WHAT'S NEW?**

- ▶ **FIGHTING ANTIMICROBIAL RESISTANCE**
-  **BAN** on preventive use of antimicrobials via medicated feed, on top of the use restrictions for veterinary medicines
-  **RESTRICTIONS** on the prescription of antimicrobials in medicated feed
- ▶ **EU-WIDE RULES FOR THE ECONOMICALLY VIABLE PRODUCTION OF SAFE MEDICATED FEED**



*Health and Food Safety*

### **Obituary**

#### **Emeritus Professor Walter "Wally" Clark**

President of the Society 1976-77.

Wally was an expert on soil fauna in NZ having studied the subject for his PhD in London. Earlier he lectured in biology at Christchurch Teachers college & the Canterbury University. On returning from London he was professor of Zoology at Massey from 1964-67. He then returned to the Zoology department at Canterbury where he spent the last 20 years of his academic life. His research interests were nematodes & pycnogonids (sea spiders).

Paul Mason writes about Wally

*I went to his funeral in Christchurch last Monday. It was a small funeral, in his last years Wally was probably suffering from dementia. What came out at the funeral was that Wally was a great family man and was loved by his extended family. He had a difficult upbringing, his mother left the family, his father lost his job in the depression and had to restart his life in Bruce Bay in the far south of Westland. When his father had built a house in Bruce Bay he brought down Wally and his brother to live with him. The boys went to a small country school, there was no road access to Bruce Bay, access was by a plane which landed on the beach. Wally did High School by correspondence. Later he worked for the Post Office in Christchurch before going to Teachers Training College where he gained a BSc and MSc. He then went on to do a PhD in the UK.*

*Wally was not a foundation member of the NZSP, but he was the President from 1976-7. He was elected as an Honorary Member in 1989.*

*Wally never taught me because I was doing my PhD in entomology when he arrived at Canterbury. However I did have a lot of contact with him when I was sending him parasites from birds involved in 1080 and brodifacoum trials*

### **New Members**

**Louise Carter**



I have a B.Sc. (Tech) from the University of Waikato and a Certificate in Veterinary Nursing from Wintec. I've been working in veterinary pathology for 11 years now. I started out

at New Zealand Veterinary Pathology (now IDEXX). Last year, I made the move to SVS Labs. I have spent those years working in the microbiology and parasitology departments. I'm keen to learn more about veterinary parasitology and hope to be able to do so from the members of the NZSP.

**Anna Martyn**



I am a mixed animal veterinarian working in the King Country for over 10 years. Parasitology is definitely an area that will have to be focused on over the next decade given the widespread issues that are arising in New Zealand.

I also have a keen interest in sheep breeding including genetics and whole farming systems, both of which I think will become increasing important in the future of sheep farm in this country. As a result, my partner and I have a small SIL registered Wiltshire flock, so I can learn first-hand about this important aspect of sheep farming.

**Camille Flack**



Camille is a large animal veterinarian at Vet Services in Waipukurau. She is interested in all areas of sheep and beef parasitology.

Continued

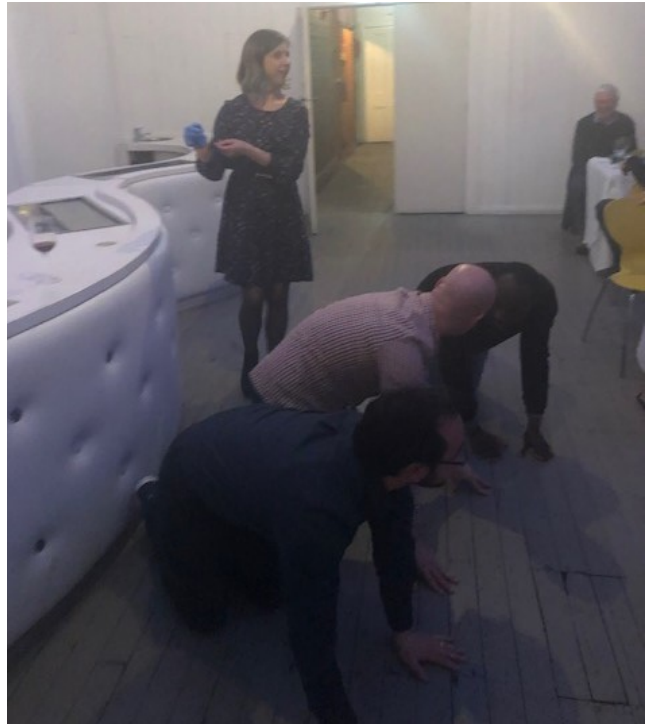
Scott Ferguson Otago University  
From: <SANTE-INFO@ec.europa.eu>  
Subject: RE: EU ban on antibiotics  
Date: 29 October 2019 at 11:49:14 PM NZDT  
To: <scott.ferguson@otago.ac.nz>  
Cc: <SANTE-INFO@ec.europa.eu>

Dear Sir,  
Thank you for your interest in EU action in the fight against antimicrobial resistance. As you have seen in the press release you referred to, the EU has adopted the 'one-health' approach to fight AMR, taking action both in the fields of human and animal health. The EU guidelines on prudent use of antibiotics in human health: [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52017XC0701\(01\)&from=EN](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52017XC0701(01)&from=EN) and 2005 [legislation](#) on banning the use of antibiotics as growth promoters are part of our strategy. If your interest is mainly in the area of [veterinary medicines/medicated feed](#), you may wish to [take note](#) of the new [EU legislation](#) in this area, which covers both antifungals (as part of antibiotics) and **antiparasitics** and allows the EU to monitor and restrict their use, if necessary. If you have further questions, please feel free to contact the colleagues responsible directly: [sante-veterinary-medicines@ec.europa.eu](mailto:sante-veterinary-medicines@ec.europa.eu).  
Best regards,  
SANTE INFO  
**Editors note:-** the links above take you to EU documents that are up to 260 pages long. The focus seems to be strongly on antimicrobials. From a quick perusal I am unable to find any reference to anthelmintics. If any member can please let me know

**More Charades from the Dinner**  
Flystrike was a popular topic



Faecal Egg Counting was a close second. Here the gloves are on as the "willing" subjects line up to be sampled



More Flies?



Dunedin  
Desserts  
Are  
Pretty  
Special

