

Paws claws and judder things



February 2022



Faecal egg count reduction test

RACHEL WHITEHEAD

Grazing ruminants in New Zealand are rarely free of worm infection, though effects on stock health and productivity vary widely. Clinical effects of enteric parasitism include ill thrift, diarrhoea, anaemia, and death in severe cases.

The degree of damage is influenced by the numbers and identities of the parasites present, host age, immunity, general health, and nutrition.

Anthelmintic resistance is a growing issue, therefore investigation of potential resistance is an important tool in managing production-limiting effects on-farm. Faecal egg count reduction tests (FECRT) inform you about the drench resistance status of the parasite population on a specific property. This helps ensure the drenches in use are highly

effective.

A significant driver of drench resistance is the continued use of ineffective drench products.

This season we have launched a **new faecal egg count reduction test (FECRT) report**, which will calculate anthelmintic susceptibility for different parasites for each drench. This new report is farmer ready, so you can use it as a tool to discuss what is happening on-farm.

In order to compile this report, both larval cultures and FECs for all control, pre-drench and post-drench samples must be performed at one of our

Gribbles Veterinary laboratories. This ensures we have all the data needed to calculate the susceptibility.

To make sure we receive all the information required for this new report, there is a [new submission form](#) available to use for this testing.



840 Tremaine Ave
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Report To:



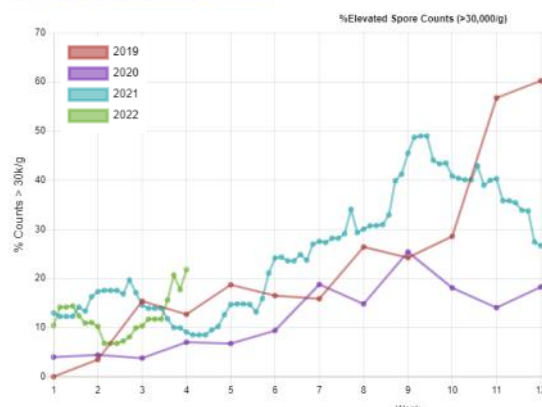
PNZ2201077
Breed: Unknown
Sex:

The following estimates of the faecal egg count reductions (FECRs) obtained for the various strongylid worm genera represented in this case, are based on the application of the results obtained from pooled larval cultures to their group mean egg counts. In general, pre-treatment counts of 150 epg and 50 epg are required to provide reliable measures of the FECRs of combined genera and individual worm genera, respectively. Where these criteria are met, resistance is indicated by a FECR of <95%. If they are not met, the resistance is classified as NA.

YOUR DRENCH	PNZ2201077		FECR %	Resistance status	LC %
	Pre-epg (T1 or C2)	Post-epg (T2)			
Nematodirus	100	0	100	Susceptible	
Haemonchus	285	0	100	Susceptible	0
Teladorsagia	244	13	95	Resistant	48
Trichostrongylus	183	14	92	Resistant	52
Cooperia	264	0	100	Susceptible	0
Oesoph/Chabertia	41	0	100	NA	0
Total *	1017	27	97	Susceptible	
Total Faeces (g)	50	50			
Total Larvae	7040	488			
Larvae / gram	141	10			

Keeping an eye on facial eczema?

Weekly National Trend



We've received stacks of fabulous feedback about our facial eczema lab-portal: easy to set-up, simple to use, graphs and tabulated results provided, clear data - so thank you if you've let us know about your experiences.

With our [online Lab-portal](#), you can submit your local spore counts to our national database. FE data is displayed in real-time in the Lab-portal, so you will be kept up-to-date

with the latest local and national trends.

All veterinary clinics are eligible to register for a free user account and we encourage you to do so. The more data that is received in the portal, the better the indication of facial eczema risk in your region.

Note: submitting spore count data online is only possible if you are a registered veterinary client, but your farming clients are able to view the results at any time.

Mastocytemia in dogs and cats

AREFEH RAVANBAKHS

Mastocytemia refers to presence of mast cells in peripheral circulation. Mast cells originate from precursor cells produced in the bone marrow and following migration into peripheral tissue, they undergo further differentiation and maturation. Once in tissue they do not tend to recirculate and thus are not normally found in peripheral blood.¹ The morphology of the mast cells and the species involved are important factors to consider when mastocytemia is detected.

Well differentiated mast cells are round, have discrete cell borders, moderate amount of cytoplasm containing purple or metachromatic granules, a round to oval often centrally located nuclei, and usually indistinct nucleoli (Figure 1). Atypical mast cell morphology including prominent nucleoli, significant variation in nuclear and cells size, multinucleation, and irregular nuclear borders are suggestive of a neoplastic mast cell population.

Mast cells can be differentiated from canine and feline basophils (a cousin of the mast cell), as the latter cells have segmented nuclei (stretched "ribbon like" appearance) and lavender to pale lavender granules (Figure 2).

Dogs vs cats:

In dogs, mastocytemia can be associated with a wide array of pathological processes including acute inflammation, disseminated mast cell neoplasia, severe regenerative anaemia, tissue injury or necrosis, non-mast cell neoplasia, and in rare cases myeloproliferative disease involving mast cell

lineage.^{1,2,3} If clinical findings and clinical history are not supportive of a mast cell tumour and low number of mast cells are noted in the peripheral blood of a dog, look for signs of inflammation on the CBC (neutrophilia or neutropenia, left shift, and signs of toxic change) as inflammation is the most common condition associated with mastocytemia in the dog.¹

Just like the albino alligator and the ti-liger (a mix between a tiger and a liger), detection of mast cells in the peripheral blood of cats is a rare finding. When detected, the vast majority of cases are associated with visceral mast cell tumours.¹ In a previous study investigating the diagnostic and prognostic significance of mastocytemia in cats, a small percentage of cats with mastocytemia had clinical diagnosis other than a mast cell tumour, including lymphoproliferative disease and disseminated hemangiosarcoma.¹ The authors also suggested that high numbers of mast cells noted in peripheral blood of cats is more likely to be associated with MCT than non-mast cell neoplasia.

Clinical signs of cats with visceral mast cell neoplasia can be varied and non-specific and include hyporexia, weight loss, vomiting, diarrhoea and lethargy. If mast cells are noted in peripheral blood of cats, even if organomegaly is not detected on physical exam, it is warranted to pursue additional diagnostics including imaging to look for mass lesions or evidence of organomegaly; and cytological or histopathological assessment of spleen and liver to investigate the possibility of mast cell neoplasia.

Mast cells are most often noted on the feather edge of a blood smear. A buffy coat examination can be performed to further aid

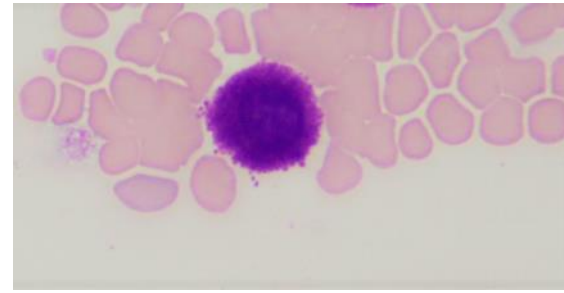


Figure 1. Feline mast cell in peripheral blood.

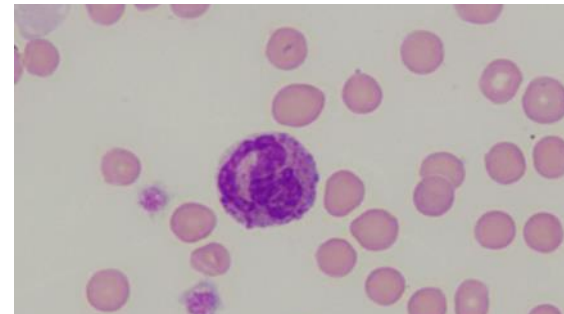


Figure 2. Feline basophil.

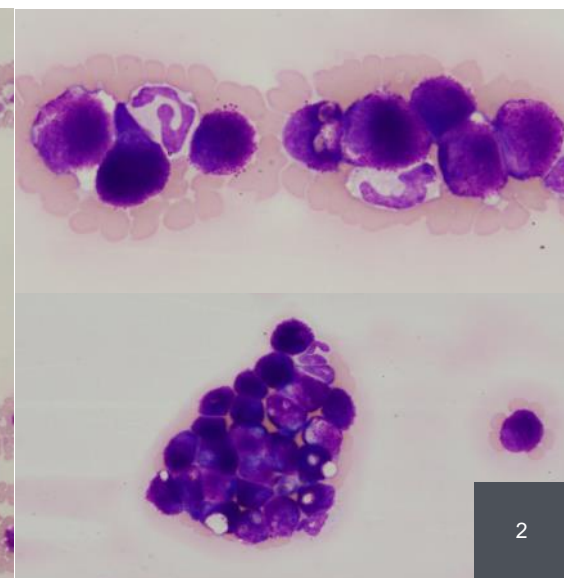
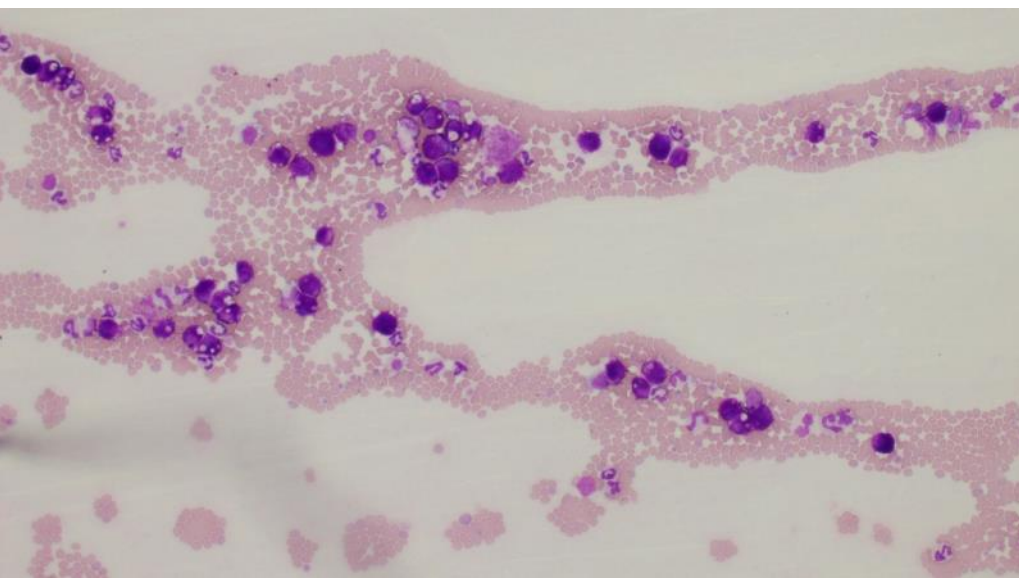
in detecting mast cells in peripheral circulation. It is important to keep in mind that the lack of detection of mast cells on blood smear examination or buffy coat examination does not necessarily rule out mastocytemia, particularly in the cat.

In conclusion, mastocytemia is associated with a wide range of non-neoplastic and neoplastic conditions in the dog, while mastocytemia in cats is strongly associated with visceral mast cell neoplasia.

References:

1. Piviani M, Walton M, Patel R. Significance of mastocytemia in cats. *Vet. Clin. Path.* 41:1, 2013
2. Harvey J. *Veterinary Hematology - A diagnostic Guide and Color Atlas.* Pg. 152-153
3. Stockham S, Basel D, Schmidt D. Mastocytemia in dogs with acute inflammatory diseases. *Vet. Clin. Path.* 15:1, 1986

Figure 3. Feline blood smear with marked mastocytemia.



A chronic cough

KAREN BAILEY

Clinical history:

An animal rescue organisation uplifted a stray/feral entire female tabby, estimated to be about 10 years old. She had probably been feeding herself by hunting and scavenging.

The cat was re-homed in a multi-cat rescue household and fed a variety of commercial cat food. She had several health issues including hind leg ataxia and developed a chronic cough. Further investigation revealed anaemia and back pain.

Although radiographs of the spine were unremarkable, small opacities were noted in a generalised pattern throughout the lungs. Coughing improved with antimicrobial treatment but did not resolve and a

bronchoalveolar lavage was performed.

Laboratory findings:

Cytology of a direct smear from this sample is shown in Figure 1.

Additional cyto-centrifuged preparations made from the fluid revealed a mixed inflammation including large numbers of eosinophils as well as numerous lungworm larvae. (Figures 2 and 3).

Discussion:

Lungworm is an unusual diagnosis in pet cats in New Zealand as most are treated regularly with parasiticides. The most common species is *Aelurostrongylus abstrusus*. Adult worms in the lungs lay eggs which hatch into first stage larvae and are coughed up, swallowed and passed in faeces. Infection of a mollusc (slug, snail) leads to larval

development. Cats become infected by consuming third stage larvae in the mollusc or in a paratenic/transport host (bird, lizard, rodent) which has eaten the mollusc. Larvae migrate from the gastrointestinal tract into the lungs and develop into adults which start laying eggs after about one month and can live more than 9 months.

Follow up:

Monthly treatment with a broad spectrum topical product containing fipronil, (S)-methoprene, eprinomectin and praziquantel was initiated and her cough resolved completely, but, unfortunately her ataxia proved intractable and she was euthanased several months later.

Many thanks to Gabby Mark, The Vet Centre Marlborough, for samples and history on this case.

Figure 1. Direct smear, 4x objective.



Figure 2. Cyto-centrifuged sample, 10x objective.

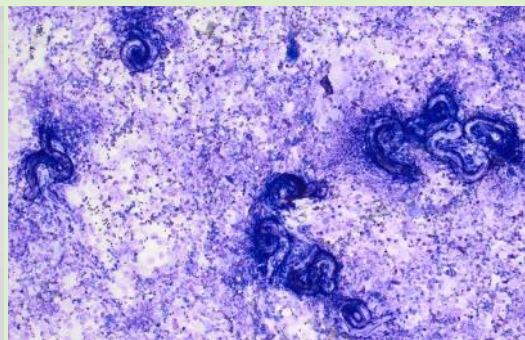


Figure 3. Cyto-centrifuged sample, 50x objective.



The hot weather's here . . .

Watch out for haemolysis during the warmer months! The hot weather can impact sample quality and the interpretation of results.

To minimise the impact of warm weather on biochemistry and haematology results:

- > Use a serum gel tube (instead of red top), allow the sample to clot and then centrifuge the sample prior to sending (if possible).
- > Ensure all samples are kept refrigerated in-clinic prior to sending via courier.
- > PLUS include an ice pack in with

your samples for transport (we will return this to you), but ensure it is not in direct contact with the samples.



Make it clear!

Often we receive forms with faint writing or ticks (or barely legible writing) and it does make it really hard to figure out exactly what you require.

When completing submission forms and ticking boxes, please make sure you use a decent, dark pen to write with. This will ensure we can clearly read all information provided, including all test requests.

P.S. Please make sure your chicken scratchings are legible too!



Consumable of the month

Do you order laboratory consumable items from us online or via our order form? If you need just one blood tube or swab, or enough for a herd, we've got you covered.

Our featured consumable item this month are the ever trusty zip-lock **biohazard bags**.

You will be using these several times every single day. In fact, it's impossible to submit a sample to us without them! Biohazard bags play an integral part in

the sample safety during transport to the laboratory and ensure samples are sealed up and safe should they leak.

If you aren't completely clear on how they should be used and why they are required, please check out [this 'How to' guide](#) covering the legal requirements for packaging and shipping biological samples.

If you would like to be in to win a pack of 50, make sure you stay tuned to our [Facebook page](#) and enter the giveaway this month.



For a laugh!

If you follow us on Facebook, you'll be familiar with our regular Friday slot. Feel free to message us on FB with any funnies you'd like us to post.

Here's something to get this year started with a laugh! Lockdown hair cut anyone?

... and if you don't follow us, [head over](#) and hit the LIKE button now!

Friend: did you watch that tutorial I sent you on how to cut your own hair?

Me:



Gribbles
VETERINARY



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