Awanui Veterinary

Pathology in focus

In this issue:

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awanuivets.co.nz

Testing young calves for BVD

Calf screening in dairy herds aims to identify and remove persistently infected (PI) animals before they can infect any pregnant cows.

An ideal time to sample calves is during tagging or disbudding. The antigen ELISA is a suitable test to use on ear notch samples for animals in this age group. PCR is a suitable test for serum or ear notch regardless of age.

PCR vs antigen ELISA – which to choose?

Tissue samples are tested in a pool by PCR, then all samples in a positive pool are individually tested by antigen ELISA.

Serum antigen ELISA is still NOT a suitable test for animals less than 35 days old due to the potential for false negative results. When serum samples are tested using PCR, the sera are pooled for PCR testing and then all samples in a positive pool are individually tested using PCR.

Benefits of PCR testing:

PCR testing is highly sensitive and will detect transiently infected animals (TI) as well as PI animals. For young calves, we recommend testing tissue samples by PCR. We use a combination of PCR (pooled samples) then antigen ELISA (on individuals in positive pools), which allows for differentiation of TI and PI animals in most cases.

Note: As there are no clear cut-off value between TI and PI animals, Awanui Veterinary always recommends retesting positive animals 4-weeks later to minimise the chances of culling a TI animal, regardless of whether the positive test is completed by PCR or antigen ELISA.

Summary of testing options and samples required:

Animal age	< 35 days old	> 35 days old
PCR	Serum or ear notch	Serum or ear notch
Antigen ELISA	Ear notch only	Serum or ear notch
Result type	Individual	Individual

Featured Antech analyser - EUROlyser CUBE-VET

Expand your in-house capabilities with 10 veterinary-specific biomarkers

Complete your clinical chemistry profile with the veterinary analyser EUROLyser CUBE-VET to determine the parameters

- Thyroxine (T4)
- Fructosamine
- Lipase (pancreas-specific)
- C-reactive protein
- Serum amyloid A (equine and feline)
- Fibrinogen (equine only)
- GLDH
- Canine/equine progesterone
- Cortisol
- Phenobarbital and SDMA.

The EUROLyser CUBE-VET measures the parameters in a single test method. All tests are based on a wet chemistry test principle. This smart analyser provides easy handling with a compact design.

Simple Handling
It takes only three steps from start to measurement.

Seamless Navigation
Android-based colour touchscreen display makes navigation easy and intuitive.

Fast Results
Get the specialty results you need in just minutes.

Easy Results Management
Results are transferred directly to your practice management software for easy patient data archival.

Compact Design
Delivering unmatched reliability

Local expertise. Global innovation. Choice at every step.

Find out more

Together with Antech we bring globally proven diagnostic technology with a flexible workflow-led approach to point-of-care diagnostics.

Talk to us today about whether this analyser suits the needs of your practice.

Call 0800 474 225 or visit awanuivets.co.nz/poct

New clinical director

Last month Dr Cathy Harvey started her new position as Veterinary Clinical Director at Awanui Veterinary.

Alongside her extensive diagnostic expertise across necropsy, histopathology and cytology in multiple species, Cathy brings a strong commitment to team leadership, collaboration and professional development.

We are excited to take this next step as we continue to strengthen our veterinary clinical leadership and build on the expertise, capability and collaboration across our teams.

Cathy's appointment will provide dedicated clinical leadership for our veterinary pathology services, with a focus on supporting our pathologists, fostering professional development, and ensuring we continue to deliver consistently high-quality diagnostic services for you, our customers.

We are very fortunate to have her experience, knowledge and leadership within Awanui, and we're looking forward to seeing the team continue to grow and develop under her leadership.

Getting under your skin

Sandra Bulla

A 6-year-old female spayed golden retriever dog presented with a history of focal crusty lesions over the body, ongoing for around 4-6 weeks. The lesions were non pruritic and were present in the face, ears, front limb, lateral body wall, and dorsum. Samples were collected for cytology and histopathology.

Pictures of gross lesions (Figure 1) are below and cytology (Figure 2) are overleaf.

What is the main differential?

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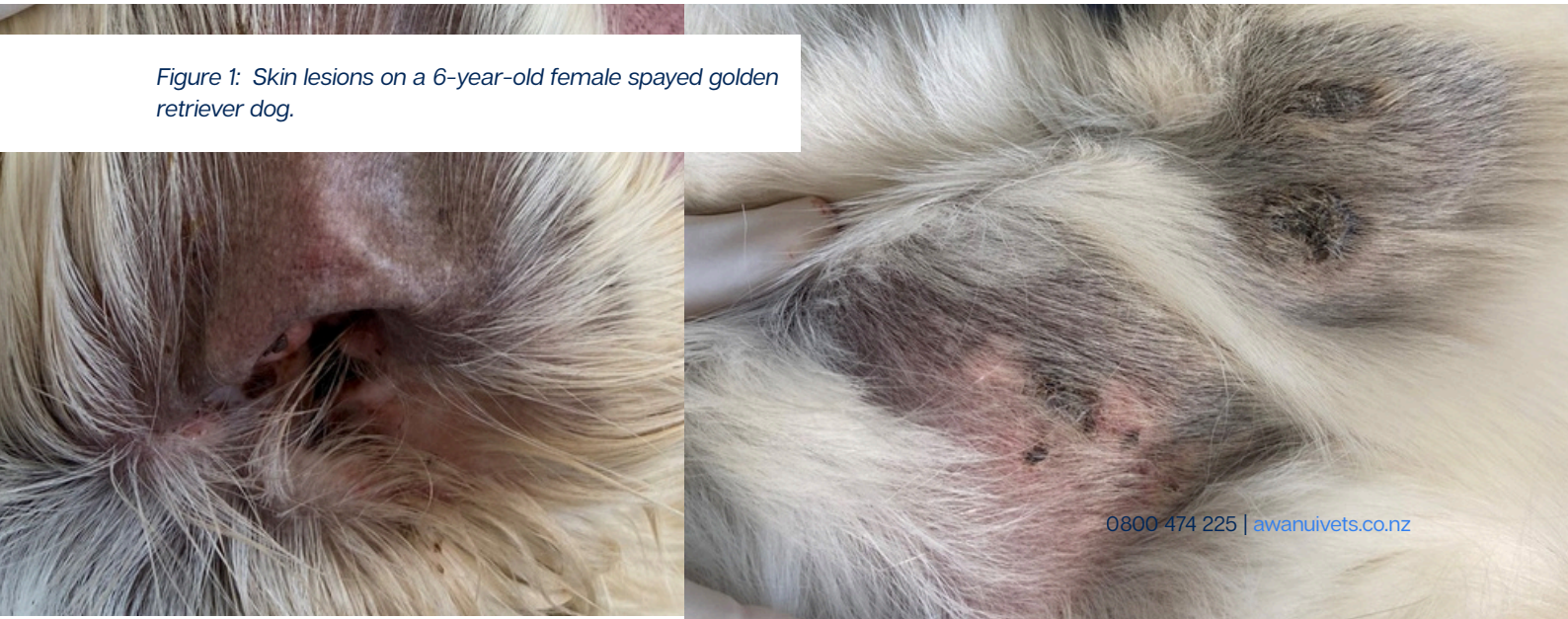

Figure 1: Skin lesions on a 6-year-old female spayed golden retriever dog.

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Main differential

Pemphigus foliaceous.

The cytology indicated inflammation (neutrophilic and eosinophilic) and low numbers of keratinised epithelial cells. There were also rare round cells, with deeply basophilic cytoplasm and large round to oval nuclei with a prominent nucleolus, typical of acantholytic-type cells (arrow). These findings were suggestive of autoimmune skin disease. Other differentials for the cytology findings included pustular dermatophytosis or superficial bacterial pyoderma.

The histopathology revealed a neutrophilic and eosinophilic pustular dermatitis with acantholysis. These finding were consistent with a diagnosis of pemphigus foliaceus.

Pemphigus are autoimmune diseases where the body produces antibodies against keratinocytes desmosomal proteins, which leads to loss of cell-to-cell adhesion. Pemphigus foliaceus (PF) is the most common variant and is characterised by intra-epidermal pustules, which can be localised in the spinous, granular, or corneal layer.

The autoantibodies of PF target the extracellular component of some cadherins that make up desmosomes. After the breakage of intercellular junction, neutrophils will fill the intra-epidermal cleft and give origin to the non-follicular pustules. These will rapidly dehydrate and develop into erosions, crusts, scales, and alopecia.

Cause and predisposition

In dogs and cats, most cases of PF are presumed to be idiopathic. However, a possible association between allergic skin diseases or exposure to drugs and development of PF has been reported. Reported drugs associated with PF include antibiotics and selected topical ectoparasitic preparations. Other potential associations include concurrent systemic disease and sunlight exposure.

Breed predisposition in dogs is observed with the idiopathic and the drug induced form of the disease.

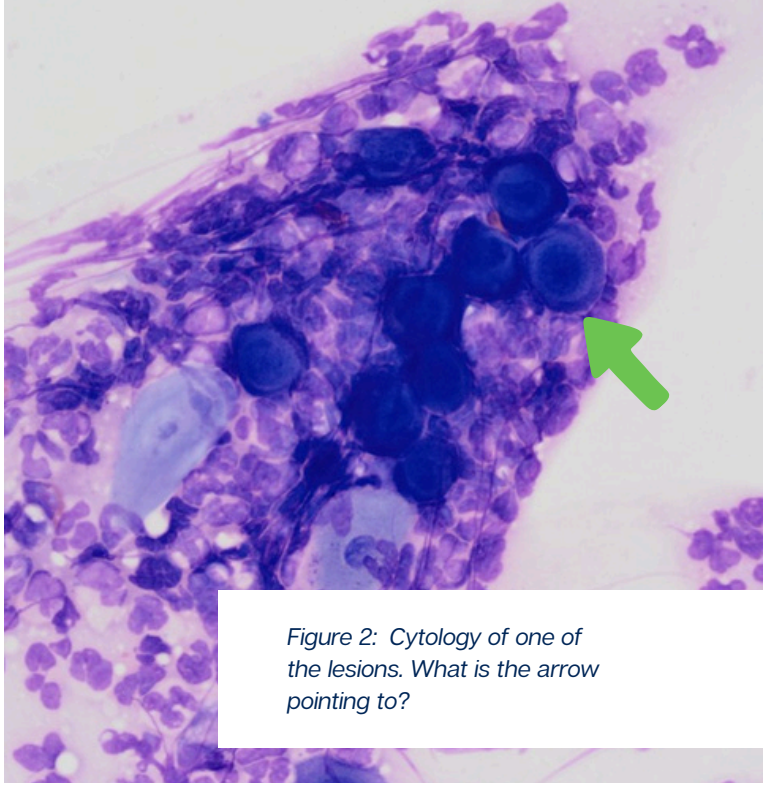

Figure 2: Cytology of one of the lesions. What is the arrow pointing to?

The drug induced form is more often seen in the Doberman pinscher and Labrador retriever. A genetic predisposition for idiopathic PF is noticed in bearded collie, akita, chow chow, Newfoundland, schipperke, and Doberman. In addition, English springer spaniel, Chinese shar pei, and collie also have been shown to be at increased risk. The facially predominant form is most seen in chow chows, and akitas. No strong cat breed predisposition to PF has been reported; however, the most represented breeds are domestic shorthair, medium-hair, and longhair cats.

Although PF is typically a disease of middle-aged dogs, any age can be affected. For dogs and cats, predisposition to PF does not seem to be associated with the animal's sex.

Clinical signs

The primary lesion in patients with PF is the pustule. However, because most PF pustules are superficial, small, and therefore transient, identification of pustules can be a rare and challenging opportunity. Most pustules will instead rapidly evolve into erosions and crusts. Indeed, crusts are the most common clinical presentation of PF in dogs and cats and will often appear thick (multilayered) with a yellowish coloration due to the cyclic nature of PF. Other lesions include pustules of variable size, erosions, and alopecia. The lesions can coalesce or cluster and organize into different patterns. Pruritus is variable but commonly reported and can be severe in patients of both species.

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The most common areas involved are dorsal muzzle, nasal planum, pinnae, periorbital skin and paw pads. A striking bilaterally symmetric distribution of clinical lesions is a key feature of this condition.

A notable distinction between PF in dogs and in cats is the presence of lesions in the ungual folds and periareolar region of cats. Periareolar lesions lead to high suspicion for feline PF, although lesions are less commonly found in this area than in other areas. A relatively high number of dogs and cats also exhibit systemic signs of lethargy, pyrexia, hyporexia or anorexia, weight loss, and pain.

Diagnosis

Clinical suspicion of PF should arise from the classic clinical features of superficial pustular dermatitis. The next recommended diagnostic step for cases with suspicion of PF is cytology to detect inflammation with acantholytic keratinocytes. The cytology often reveals numerous nondegenerate neutrophils. About half of the canine cases also have eosinophils. Acantholytic keratinocytes have reportedly been observed in cytologic samples from approximately 2/3 of dogs and cats. However, presence of acantholytic keratinocytes is not pathognomonic for PF because pyoderma, dermatophytosis caused by Trichophyton species, and canine leishmaniasis (not endemic in New Zealand) can also produce acantholytic keratinocytes. Surgical biopsy and histopathological examination of the skin remain the gold standard for diagnosis of pemphigus foliaceus. Pustules are the most informative lesions in these patients. Thoroughly check commonly affected areas. If pustules are not seen, then select thick crusts. It is very important not to surgically scrub or close-clip areas before histology biopsies, as this will remove the crusts and result in a missed diagnosis.

Conclusion

In summary, pemphigus foliaceus should be considered in dogs and cats presenting with superficial pustules, erosions, crusting, alopecia, and lesions with a bilaterally symmetrical distribution, particularly involving the face, pinnae, nasal planum, and paw pads. Cytology is a valuable first-line diagnostic tool, as the identification of neutrophilic inflammation with acantholytic keratinocytes can strongly support clinical suspicion. However, because acantholytic keratinocytes are not pathognomonic, histopathology remains essential to confirm the diagnosis and distinguish PF from important differentials such as superficial pyoderma and dermatophytosis.

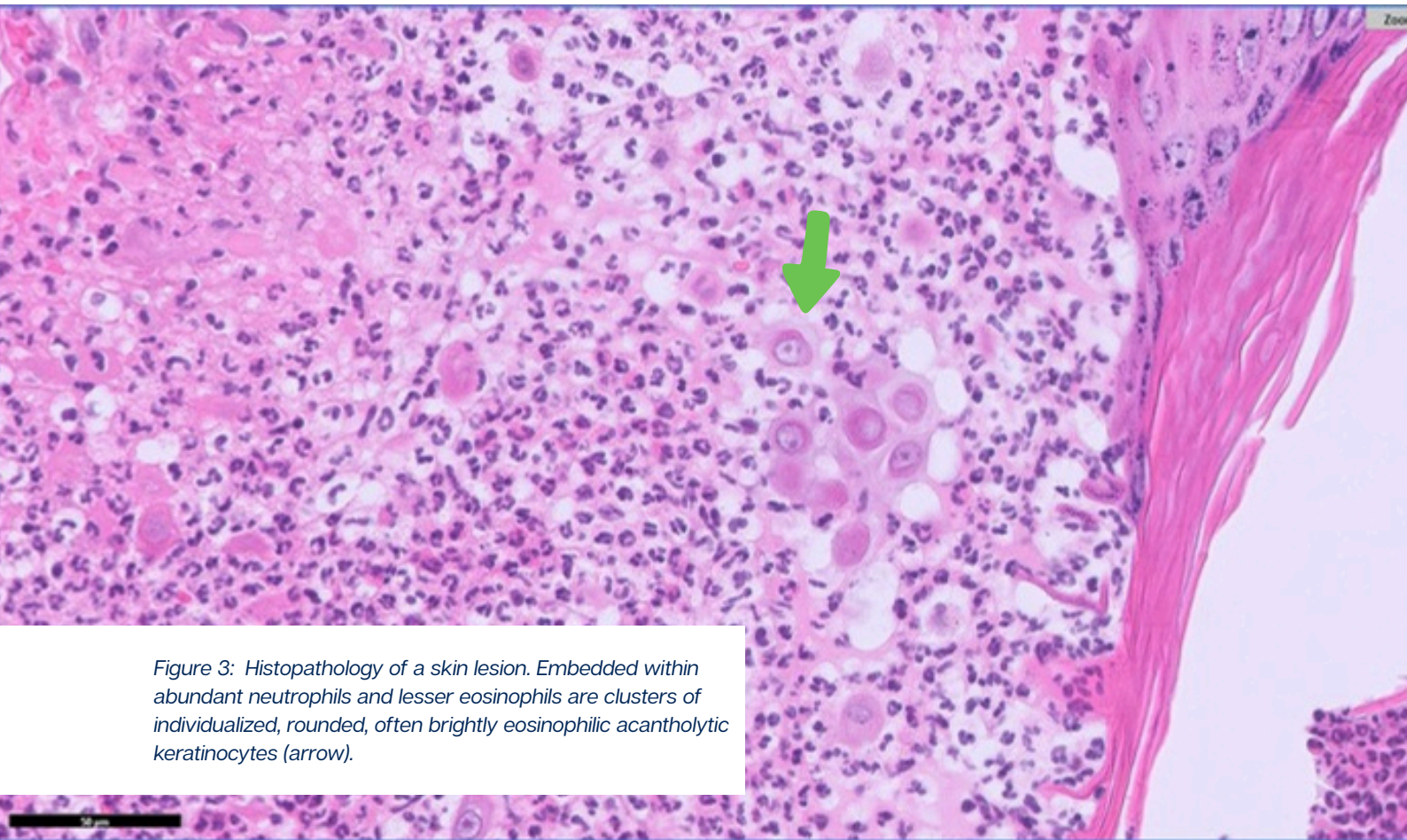


Figure 3: Histopathology of a skin lesion. Embedded within abundant neutrophils and lesser eosinophils are clusters of individualized, rounded, often brightly eosinophilic acantholytic keratinocytes (arrow).

Fast Worm ID - GIN PCR update

We've recently updated our GIN PCR quick reference guide, and it has been reloaded to our website here. A summary is provided below.

Why use GIN PCR?

Faecal egg counts tell us how many eggs, but not which worms are driving disease, production loss, or poor drench performance. Larval culture gives species information, but it is slow and has practical limitations, especially in cattle and low-count situations.

The GIN PCR test is a multiplex, semi-quantitative PCR that:

- Identifies key gastrointestinal nematode species
- It detects parasite DNA present in the sample tested, not eggs per gram
- Can be used on individual animals
- Paired with a faecal egg count (FEC) it supports targeted drenching and reduces guesswork in clinical cases.

How GIN PCR differs from larval culture

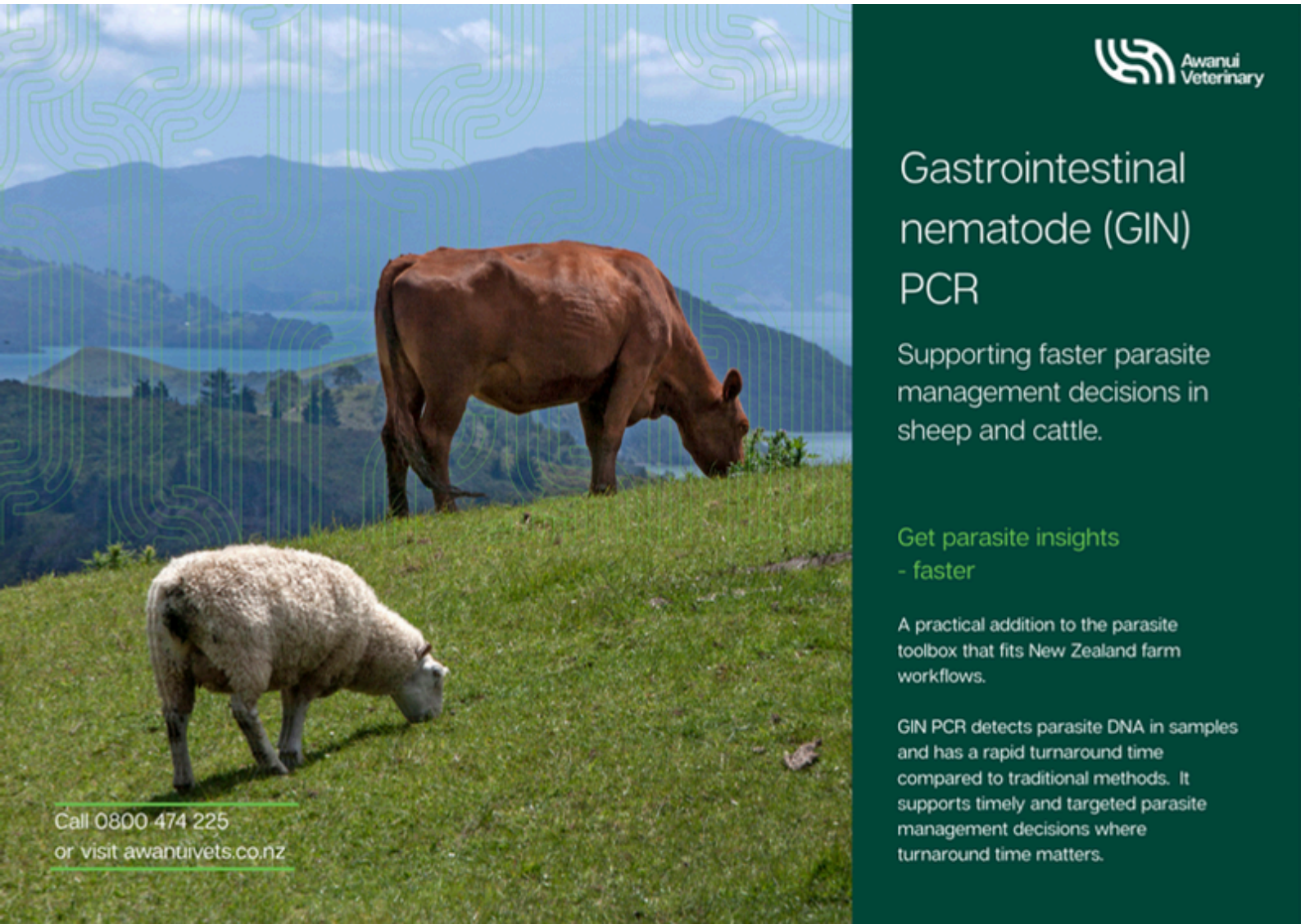
GIN PCR: Detects worm DNA directly and does not rely on egg hatching.

Larval culture: Identifies species from larvae that successfully hatch and grow. Results depend on hatching, morphology, and culture time.

Sample collection and handling

Sample type: Faeces – individual or pooled
Collection: Collect directly from the animal - not from the paddock. Fresh is best. For post-drench testing, collect 10-14 days after treatment
Transport: Chilled
Storage: Stable for up to 8 days refrigerated
Pooling: The PCR test was validated using pools of 10 animals. Combine an equal amount from each animal – ensure samples are mixed well prior to pooling. At lower counts, assess individuals or targeted pools to avoid diluting the DNA signal.

Read more here



About Fond Farewells

Fond Farewells, part of Awanui Veterinary, provides compassionate pet aftercare services designed to support veterinary teams and the families they care for.

With 40 years of experience delivering trusted flame cremation services, alongside a carefully curated collection of beautiful, locally made memorial keepsakes, we have recently expanded our offering to include water cremation. Water cremation (or aquamation) is a gentle, alkali-based alternative that aligns with evolving expectations for more sustainable end-of-life care.

Fond Farewells For Vets

A caring, environmentally friendly way to say goodbye

Water cremation

A gentle, water-based aftercare option

- Uses significantly less energy than traditional flame cremation
- Produces no harmful emissions
- Offers a calm, natural process amny pet owners prefer
- Currently available in Auckland

Flame cremation

A familiar and trusted option

- Fire-based cremation services delivered with care and professionalism
- A well-established option many pet owners know and trust
- Backed by 40 years of experience
- Available in Christchurch

Our mission is to honour the bond people share with their pets, whilst caring for the planet and leading the way in modern pet farewell services across New Zealand.

Visit our website to learn more about our aftercare services and how they support your clients with caring, considered farewell options.

Find out more at fondfarewells.co.nz/vet

Biosecurity New Zealand
Ministry for Primary Industries
Manatū Ahu Matua

KO TĀTOU THIS IS US

TSE SURVEILLANCE

HELP PROTECT NEW ZEALAND!

Biosecurity New Zealand conducts surveillance for transmissible spongiform encephalopathies (TSEs).This programme is vital to our animal products exports. If you see an animal with clinical signs compatible with TSE, please collect and submit samples to the programme.

Important

Carcasses of animals entering the TSE Programme must be appropriately buried on-farm. Please advise your customer that these carcasses cannot be collected for rendering, including for pet food.



ABOUT TSE SURVEILLANCE

Biosecurity New Zealand performs surveillance to assure New Zealand's export customers that we are free from TSEs.

We test brain and spinal cord samples from cows, sheep, goats and deer with clinical neurological signs such as non-responsive nervouse disease.

FINANCIAL INCENTIVES

Biosecurity New Zealand compensates farmers for the loss of their animals, and vets for their time and labour in taking and submitting TSE samples.

	FARMERS	VETS
Cattle:	$250 + GST	$380 + GST
Deer:	$200 + GST	$250 + GST
Sheep/goats:	$100 + GST	$200 + GST

ELIGIBLE ANIMALS

CATTLE 30 MONTHS – 9 YEARS

- Progressive non-responsive nervous disease
- Non-responsive metabolic disorders
- Dairy cattle culled for behavioural reasons
- Abnormal gait or stance without obviousl injury

DEER > 2 YEARS

- Progressive non-responsive nervous disease
- Progressive non-responsive ill-thrift
- Acute pnemonia or aspiration pneumonia

SHEEP/GOATS > 2 YEARS

- Progressive non-responsive nervous disease

FURTHER DETAILS INCLUDING SAMPLING GUIDELINES AND SUBMISSION FORM : www.biosecurity.govt.nz/tse

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