sash+
Small Animal Specialist Hospital

Dermatology Newsletter

Spring 2021

It has been a while since we sent a dermatology newsletter and we felt that now was a really good time to write to you as you may be seeing more patients presenting with pruritus. With many owners now working from home, mild signs of pruritus in pets, which may have been less apparent previously, are being detected. We also have some exciting news to announce..

WHAT'S NEW IN DERMATOLOGY AT SASH

Aesculight CO2 laser

We are very excited to announce that we have just received our Aesculight laser from the US! Lasers cut, ablate and coagulate tissues, resulting in less haemorrhage, pain and wound dehiscence, and destroy bacteria, reducing the risk of post-operative infection. Whilst this has many surgical uses from anal sacculectomy to cystotomy, we shall be using it predominantly in our patients with:

- Apocrine cystomatosis (Figure 2)
- Pododermatitis - some requiring podoplasty (and removal of interdigital lesions in interdigital furunculosis) (Figure 3)
- Aural mass removals (e.g. Aural polyp)
- Actinic disease (actinic keratoses, SCC, haemangioma, skin resurface) (Figures 4)
- Pinnal ablation
- Viral papilloma removal
- Oral EGC removal

Figure 1. Aesculight CO2 laser in action

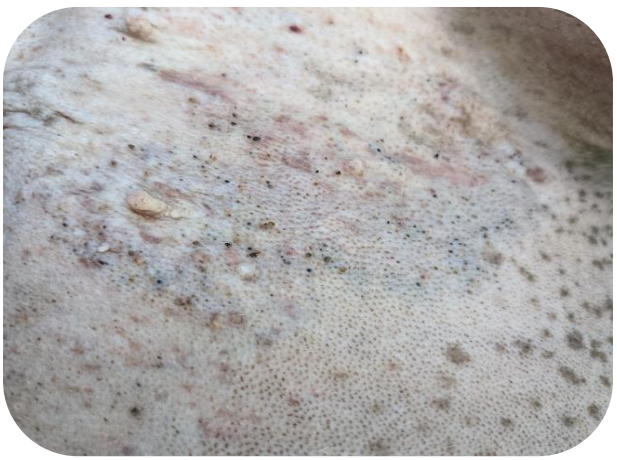


Figure 2. Actinic disease

Figure 3: This patient had severe interdigital furunculosis most likely due to underlying allergic skin disease, abnormal weight distribution due to obesity and osteoarthritis leading to short hairs being driven into the skin (usually from the plantar / palmar aspects of the feet appearing as interdigital nodules visible dorsally between the toes). In the second image the CO2 laser is used to excise the interdigital lesion with minimal haemorrhage. Partial fusion podoplasty may be appropriate where there are localised recurrent cystic hair follicles due to poor conformation. Laser podoplasty has minimal post-operative pain and a quicker recovery period (patients usually weight bear immediately after the procedure). The CO2 laser is used to remove all the abnormal tissue, ablate hair-follicle cysts and sinus tracts, and to resurface the foot. Recurrence is less likely following laser podoplasty, as hair follicles, follicular cysts and sinus tracts are ablated and re-placed with scar tissue. In this case two small hairs can be seen (yellow arrow Figure 1) which were causing the marked foreign body reaction. The wounds are left to heal by secondary intention with regular post operative bandage changes. In these cases, it is important to address the underlying predisposing factors (obesity, musculoskeletal disorders), perpetuating factors (chronic inflammation, hyperketatosis) and secondary factors (bacterial infection commonly, sometimes multidrug resistant bacteria). It is important to not only remove the interdigital lesion but to also address the pseudopad which is visible on the plantar and palmar aspects of the feet. Tip – when examining patients with interdigital fucunculosis, examine the underside of the feet to assess the pathology here (look for pseudopad formation as seen in this image along with hyperkeratotis).

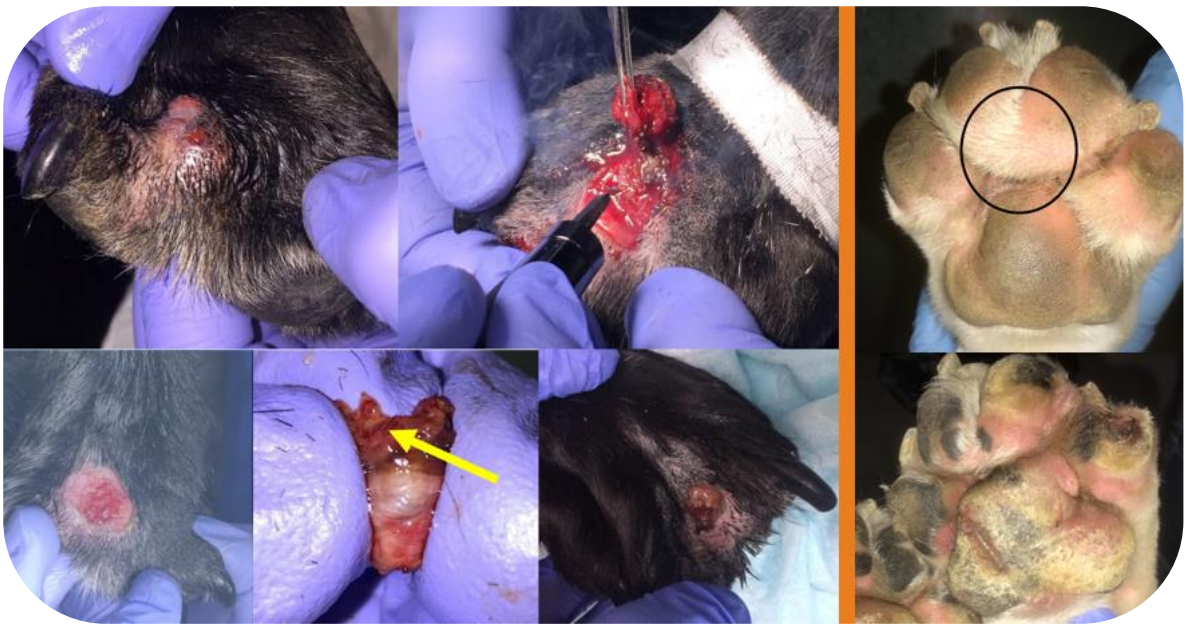


Figure 4: Ceruminous cystomatosis is a syndrome that affects the concave pinna, external orifice, and occasionally external ear canal of cats causing otitis externa but it can be seen secondary to chronic otitis externa. It tends to affect middle-aged to older cats, but any age may be affected. There are multiple, often coalescing papules, vesicles, nodules, or plaques that are blue / grey / brown / black. If punctured, a yellowish to brown fluid may be expressed. The lesions can respond well to laser therapy.

New clinicians and nurses

The dermatology department is growing with Courtney and Sophie joining as clinicians and Lauren, Jess and Chloe as our new dermatology nurses

Courney Ludwig BSc BVMS MANZCVS (Feline Medicine)

Veterinary Dermatology Resident

Courtney has commenced a three year dermatology residency program having recently completed a rotating internship followed by a dermatology internship at SASH. She has also recently passed the Australian Membership examination in feline medicine. She is really excited to have embarked on her dermatology specialist training and will be seeing referral cases at North Ryde on a Monday, Wednesday, Thursday and Friday.

Sophie Tyler BVetMed DipECVD MANZCVS (Canine & Feline Medicine)

EBVS® and RCVS specialist in Veterinary Dermatology

Sophie has joined us from the University of Bristol in the UK. She is consulting Monday, Tuesday, Wednesday and Thursday or Friday at North Ryde, and every other Thursday other Thursday at Tuggerah when the COVID-19 restrictions lift. She enjoys all aspects of small animal dermatology and is looking forward to getting to know our referring vets.

Lauren Leffler CertVNECC
Veterinary Dermatology Nurse
Lauren joins us from the SASH ICU and ECC department. She brings a wealth of experience from her extensive training in these settings and will be joining our other dermatology nurses Laura Salim and Karolien Eckert (currently on maternity leave) in playing a very active role in the service including the formulation of immunotherapy vaccinations, performing intradermal tests, anaesthesia and consulting.

Jess Nash Cert IV Veterinary Nursing
Veterinary Dermatology Nurse
Jess is our dedicated dermatology nurse at Tuggerah. She is enthusiastic about her new role in dermatology. In her spare time she runs a busy cat fostering and rehoming service. At SASH she also works in within the ECC department.

Chloe Ryan Cert IV Veterinary Nursing
Veterinary Dermatology Nurse
Chloe joins us with excellent nursing experience in general practice, including as a head nurse for a busy multi-site high quality practice in SW Sydney, and as dermatology nurse for Linda. She brings a wealth of knowledge about patient care and client communication to her new role in dermatology.

Extra consulting days at SASH Central Coast (Tuggerah)

Philippa will now be consulting at Tuggerah on Monday, Wednesday and Thursday each week whilst COVID-19 restrictions are in place. When restrictions are lifted, Philippa will continue at Tuggerah on Wednesday and every second Thursday, and Sophie alternate Thursdays.

SASH Dermatology services

Due to the current COVID-19 restrictions, our consulting days have changed temporarily including an extra day of consultations at Tuggerah.

Dermatology consulting is available at:

	Mon	Tue	Wed	Thur	Fri
SASH North Ryde	Sophie Courtney	Linda Sophie	Linda Sophie Courtney	Sophie Courtney	Linda Courtney
SASH Central coast	Philippa		Philippa	Philippa	
Gregory Hills (SW Sydney, near Camden)				Linda (every 2nd Thurs)	
Skin histopathology & cytology: express post samples (submission forms available here) – reports contain clinical recommendations					
Immunotherapy service (allergy vaccines): available via allergy blood testing (Allercept) for atopic patients remaining in primary care, or via skin allergy testing for referral patients					

LOKIVETMAB vs. OCLACITINIB vs. CICLOSPORIN

With more tools being added to our toolkit for managing canine allergic skin disease we thought it may be useful to briefly discuss the three main licensed non glucocorticoid medications that are now available. Although it is fantastic to have more therapeutics to choose from, sometimes it can be confusing when deciding which medications / therapeutics to use and when.

As you are aware, there is no cure for these patients and deciding on an individually tailored management plan for each patient is very important and sometimes we cannot predict which medications dogs will respond to best. We do know however, that infection control is vital in managing pruritus (microbial and parasitic).
It has been demonstrated that caregiver burden in owners of dogs with atopic or other chronic allergic dermatitis is linked to treatment complexity and disease severity and greater treatment plan complexity is associated with higher caregiver burden. The independence of this relationship highlights the importance of simplicity in effective treatment planning.

Before prescribing any of the following medications it is important that allergic skin disease has been correctly diagnosed by ruling out other causes of pruritus / recurrent pyoderma and considering the signalment and clinical presentation also (e.g. a 10 yr old dog with no history of allergic skin disease is more likely to have other causes of pruritus).

The initial steps of the dermatological workup are to rule out ectoparasites: a coat brushing to rule out fleas, hair plucks / skin scrapes / squeezing of the skin to rule out mites, and cytologic examination of skin and ears (even if the skin looks normal if the area is pruritic it is still wise to sample). Skin lesions and pruritus associated with flea allergy dermatitis are most common at the lumbosacral area, tail base, and caudomedial thighs. Patients with allergic skin disease exhibit frequent, sometimes recurrent, staphylococcal and yeast skin infections, which can exacerbate pruritus and dermatitis. Therefore, patients predisposed to secondary skin infection should be considered and screened for allergic skin disease.

A patient with cutaneous adverse food allergy can present clinically in exactly the same way as an atopic patient (gastrointestinal signs / non seasonal pattern will increases the suspicion of food allergy) therefore an 8-week food trial (novel protein or a hydrolysed diet) is required to differentiate the two diseases.

Both lokivetmab and oclacitinib have a fast onset compared to ciclosporin therefore these are the most appropriate medications to use when a fast onset of action is required. Lokivetmab has quite a variable duration of activity therefore this can be problematic with food trials (lasting up to 8 weeks in some patients). Anecdotally, lokivetmab and oclacitinib do not seem to improve the severe inflammation seen in otitis externa. Note that lokivetmab is now licensed for non – atopic types of allergy also.

A brief overview comparing oclacitinib with lokivetmab:

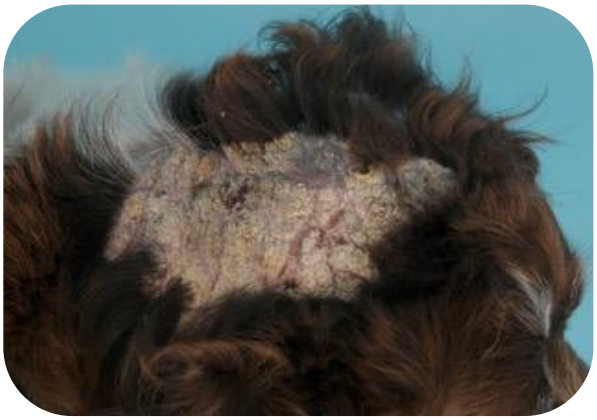
APOQUEL / OCLACITINIB	LOKIVETMAB / CYTOPOINT
Small molecule pharmacologic	Biologic
Targeted JAK enzyme inhibitor preventing signals generating by JAK-1 depended cytokines involved in pruritus and inflammation with minimal effects on JAK-2 dependent cytokines involved in haematopoeisis / innate immune function	Anti Il-31-cytokine monoclonal antibody
Affects more than one cytokine (primarily allergic)	Specific for IL-31 (key mediator responsible for pruritus in atopic dermatitis)
Short half life (4.1 hours)	Long half life (16 hours)
Given twice daily orally for 14 days (0.4 - 0.6 mg / kg BID) then SID	Given subcutaneously every 4-8 weeks
Any allergic skin disease in dogs > 12 months of age	Any allergic skin disease in ANY age
Try to avoid the concurrent use with other immunomodulatory medications. Most common reported side effect is vomiting / diarrhoea but clinically we see more commonly that it can impede the resolution of pyoderma Avoid in demodicosis. Should not interfere with an intradermal test..	May induce transient or persistent anti-drug antibodies. The induction of such antibodies is uncommon and may have no effect (transient anti-drug antibodies) or may result in a noticeable decrease in efficacy (persistent anti-drug antibodies) in animals that responded to treatment previously. Anecdotally this be best used in allergic dogs with itch but not severe skin inflammation. Sometimes lokivetmab therapy is successful in some patients that had an insufficient response to oclacitinib. Should not interfere with an intradermal test.

Ciclosporin has been licensed for several years now. It can be more expensive in larger breed dogs. Ciclosporin can be useful when a dietary trial has been performed and atopic dermatitis has been diagnosed. It can also be effective in patients with recurrent pyoderma to help prevent recurrence (once the infection has been treated). The key points summarising this medication:

CICLOSPORIN / ATOPICA / NEORAL

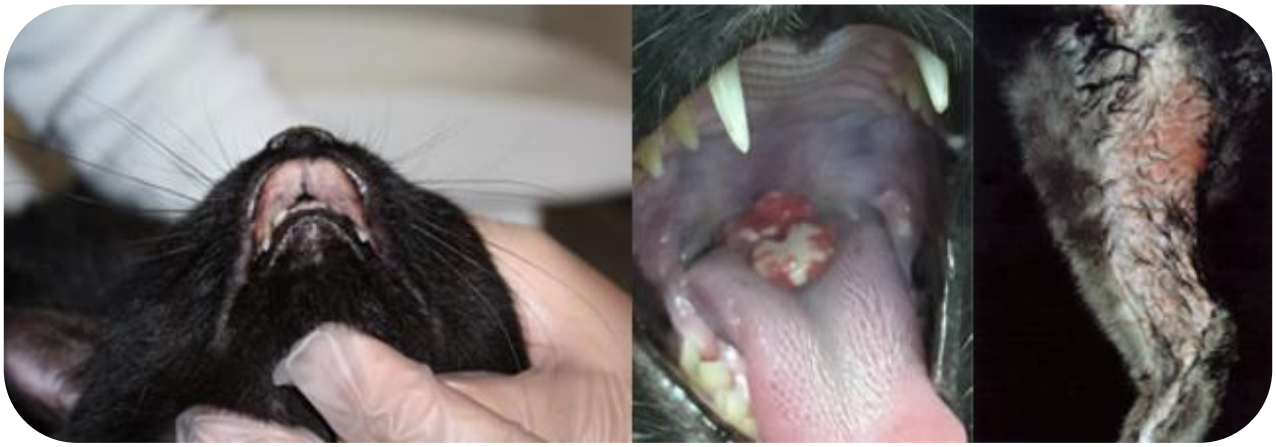
- A calcineurin inhibitor that, at low doses, exerts an anti-inflammatory and immunomodulatory effect through inhibition of T-cell activation.
- Approved for the long-term control of atopic dermatits at the starting oral dose of 5 mg/kg q24h for at least 6 to 8 weeks because clinical benefit has slow onset; the full benefit of this drug is usually observed after 8 weeks of administration
- Oral predisolone or oclacitinib can be administered concurrently in the first 3 to 4 weeks to overcome the slow onset of clinical effect; a recent study showed that the administration of oral prednisolone (1 mg/kg q24h for 7 days then q48h for 14 days) with cyclosporine at 5 mg/kg led to a rapid reduction in pruritus and skin lesions
- In patients with good response to cyclosporine, the long-term dose and/ or frequency are adjusted as needed for therapeutic effect (i.e. Reduced to the lowest effective dose)
- Vomiting and diarrhea are seen in 30% of patients but are usually self-limiting within the first 7 to 10 days; administration with food or freezing the cyclosporine capsules may help decrease gastrointestinal upset.
- As with many immunosuppressive drugs, opportunistic infections (eg, fungal infections) may develop in susceptible individuals receiving cyclosporine and we would see this more in patients receiving two immunosuppresive medications
- Less commonly reported dermatologic adverse effects include hypertrichosis, gingival hyperplasia, psoriasiform-lichenoid-like dermatitis, and hyperplastic verrucous lesions. These effects usually regress with dose tapering and/or discontinuation of the ciclosporin.

These three medications that we have briefly discussed do not interfere with intradermal tests unlike prednisolone. As you are aware immunotherapy with the view to desensitisation is the safest long term way of managing atopic dermatitis. Allergen-immunotherapy (based on skin &/or serum testing): helps 60-70% of patients reduce/stop other treatments; takes 6-12mnths to see effect; adjusting the dose to each patient is important.



This patient developed dermatophytosis (M. Canis) after receiving prednisolone and ciclosporin long term for immune mediated skin disease.

UPDATE: FELINE EOSINOPHILIC GRANULOMA COMPLEX



This “complex” / cutaneous reaction pattern consists of a loosely grouped set of clinical syndromes and is the hall mark of allergic skin disease in the cat (flea / food / environmental allergens):

1)The first is indolent ulcer, also known as “rodent ulcer”. This typically affects the upper lip. Lesions initially start as focal ulceration on the lip margin. As the condition progresses, the lip can become ulcerated and fibrotic, resulting in the deformation of the entire rostral portion of the lip. The lesion can be pruritic when complicated by bacterial infections.

2)The second syndrome is eosinophilic granuloma, also called “linear granuloma”. Lesions can appear in a variety of locations. Lesions on the rear legs typically appear as linear areas of dermal thickening on the caudal aspect of the thigh. Erosion or ulceration is common. This syndrome also may present as proliferative lesions in the mouth, especially on the tongue or hard palate, or as poorly defined chin swelling (“fat chin”). These lesions may or may not be pruritic.

3) The third clinical syndrome is the eosinophilic plaque. These lesions are most frequent on the ventral abdomen and medial thighs, yet may appear in other locations.

An approach to a possible EGC lesion:

- Obtain a thorough history, perform a thorough examination (always check the oral cavity, is there hypotrichosis over the caudoventral abdomen indicating overgrooming, take samples for a trichogram – are the ends of the hairs broken?).

- Clinical signs and cytological examination (large numbers of eosinophils +- secondary bacterial, intracellular infection and neutrophilic inflammation). NOTE these lesions can mimic neoplastic lesions such as SCC / fibrosarcoma or infectious lesions such as deep bacterial / fungal / viral disease therefore biopsy is sometimes required.

- Coat brushing to assess for fleas.

- Investigate the underlying cause using a parasite treatment trial (oral treatment is ideal) along with an elimination diet; when fleas and food have been ruled out, 'feline atopic syndrome is likely – consider allergy testing or treating symptomatically).

- Treat any underlying bacterial infection as this will prevent resolution- a swab for bacterial culture and sensitivity is wise if there is ongoing bacterial infection despite appropriate antimicrobial therapy (correct dose and antibiotic) as we are seeing more MRSP infections (see below).

Management:

- In this recent review (Treatment of the feline atopic syndrome – a systematic review - Mueller - 2021 - Veterinary Dermatology - Wiley Online Library), there was good evidence for the efficacy of systemic glucocorticoids and ciclosporin, and limited evidence for the efficacy of topical glucocorticoids, oclacitinib and allergen-specific immunotherapy in feline atopic skin syndrome

- Ensure strict flea control is in place, even if you cannot find evidence of fleas! Ensure all animals in the house are treated

- When starting a dietary trial (hydrolysed e.g. RC Anallergenic / novel protein) it is important to commence prednisolone concurrently. Although varied doses are published, most cats will respond to 1 mg/kg prednisolone as long as concurrent infections are managed. In an overweight cat it is wise to check a blood glucose level (an ear prick often works well) at the start of and at a recheck 2-3 weeks later.

- Oral glucocorticoids are preferential over injectable steroids in case side effects are noted; various treats can be used and although this may counteract a food trial it is more important for owners to be able to administer the medication in the first instance e.g. Dine Creamy treats or Fancy Feast pate

- Care must be taken with the long-term use of potent glucocorticoids due to the risk of adverse effects. Although cats seem to be more tolerant to systemic glucocorticoids than dogs, adverse effects including polydipsia, polyphagia, changes in weight, diabetes mellitus, urinary tract infection, iatrogenic hyperadrenocorticism, congestive heart failure, demodicosis and gastric ulceration can be seen.

- Prednisolone is tapered and stopped so that the effects of the food trial can be assessed. If there is a flare around week 8 of the dietary trial (90% of food allergic cats will have improved by this time), food can be ruled out as a cause of the allergic eosinophilic skin disease.

- For long term management, prednisolone should be weaned to the lowest effective dose e.g. twice weekly, or ciclosporin can be used as a long term treatment (7 mg / kg SID initially), again weaning to the lowest effective dose. It is important to note that toxoplasmosis although rare, has been reported on several occasions. Checking toxoplasma serology prior to commencing ciclosporin has advised: Toxoplasma-naïve cats may be at a slightly higher risk of developing toxoplasmosis following treatment with ciclosporin; preventative measures include avoid feeding raw meat, fitting bells over the collar to avoid successful hunting.

- Allergen-specific immunotherapy can be very effective, and it is very safe but because it can take several months to take effect, symptomatic treatment is often required initially.

- Antihistamines may have a steroid sparing effect: cetirizine 1 mg/kg every 24 hours can be effective in some patients.

- Oclacitinib is not licensed for use in cats and so far only small studies have been performed.

- TIP! it is important to look to look out for other / extra cutaneous signs in allergic cats – feline asthma, allergic otitis, sinusitis, conjunctivitis.

UPDATE: MRSP METICILLIN RESISTANT STAPHYLOCOCCUS PSEUDINTERMEDIUS

- Sadly this is becoming far more common in both otitis externa and pyoderma, primarily in dogs
- If MRSA (aureus) is cultured, owners should contact their human GP as animals are likely to have caught this from their owners; this is primarily a human (hospital) pathogen. It does not transmit easily between animals although there is higher risk to humans
- Regular vet practice visits and antibiotic usage increase the likelihood of MRSP infections, along with allergic skin disease
- Send a swab for bacterial culture and sensitivity in cases that are responding poorly to antimicrobial treatment and write on the submission form that you are concerned about MRSP – if MRSP is cultured we would be very happy to discuss the results with you
- MRSP is not more virulent than MSSP – there are no clinical markers, the clinical presentation will be the same; only culture and susceptibility testing will differentiate them
- MRSP is adapted to dogs and cats. It can transmit between dogs. There is a zoonotic risk but long term carriage is not supported by humans
- Topical therapy is important and will reduce contamination to the environment and this should be the first step in treating surface and superficial pyoderma; chlorhexidine (daily) and fusidic acid are very effective
- Although MRSP and MRSA are typically resistant to most or all clinically relevant systemically used antibacterials, this resistance does not extend to topical antibacterial therapy. In vitro studies have consistently shown low minimum inhibitory concentrations (MICs) for antibacterial agents in products licensed for topical use in canine pyoderma.
- We would encourage speaking to a dermatologist regarding treatment of these cases and managing the underlying cause in these cases e.g. allergic skin disease
- Practice and personal hygiene is critical when examining these patients. See these patients in the car park / in isolation and at the end of the day. Full PPE should be used. The most recent comprehensive guidelines can be found here: https://onlinelibrary.wiley.com/doi/10.1111/vde.12444
- A useful resource for owners: https://tinyurl.com/3r2e337e