

LIFESTYLE FARMING

IN AUTUMN



ACORN TOXICITY

Poisoning by tannins and volatile phenols in plants of the Oak is relatively common. Ingestion of acorns is the most common cause, but ingestion of leaves and young shoots can also cause toxicity. Clinical signs of toxicity develop soon after ingestion (within days), and young animals seem to be more severely affected than older animals. It is often seasonal, occurring in autumn when the acorn 'crop' is at it's highest and more are present on the ground around the trees.

Symptoms

Oak tannins are nephrotoxic, and result in renal (kidney) dysfunction. Affected animals will often present with some of the following clinical signs:

- Diarrhoea (black and watery, sometimes bloody)
- Increased urination
- Lethargy
- Reduced appetite
- Dehydration
- Oedema (swelling under the jaw or abdomen)
- Sometimes sudden death may occur

Diagnosis

Diagnosis can be difficult, so generally a diagnosis is made based on a history of the animal recently grazing in an area where there are oak trees/ acorns present on the ground (Autumn).

Blood tests may be run to identify the level of injury that the internal organs have undergone (kidneys) and could be helpful in determining the prognosis of an individual animal.

Treatment

There is no specific treatment for acorn toxicity, but animals should be removed from the area where the oak/acorns are present. Fluid therapy with IV fluids is generally cost-prohibitive, but providing ad-lib access to oral fluids, energy supplementation for lethargic animals and ad-lib feed (hay and grass) as a form of nursing care, may be beneficial. If the animal is spending more time lying down, then a soft and sheltered area should be provided. In severe cases, prognosis is poor to grave.

References: Parkinson TJ, Vermunt JJ, Malmo J & Laven R (2019) Diseases of Cattle in Australasia (second edition). Pg 418.

IN THIS EDITION



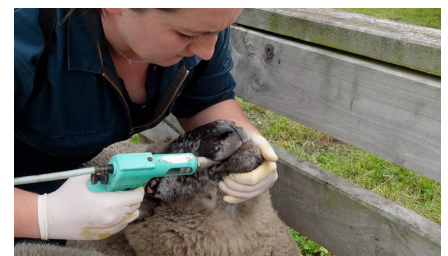
Hoof Care

Page: 2 - 3



Fly Strike

Page: 4



Drenching

Page: 5 - 8

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HOOF CARE

for small ruminants and pigs



Checking the hooves of your sheep, goats, alpacas and pigs should be performed at least twice a year. It is a good step to add at the same time as other animal health protocols such as shearing and drenching.

What's normal?

A normal, healthy hoof should have a hard horn (wall) around two toes, each with a softer horn (sole) at the base. The wall bears the animal's weight, so a healthy hoof has a wall that is usually a little proud of the sole to allow this to occur. The skin between the toes (interdigital skin) should be pale pink and dry, usually with a fine layer of hair.

Common abnormalities:

Things you should look for, that indicate there is an issue, include:

- Swelling
- Redness
- Heat
- Foreign body (e.g. a stone)
- Injury or wound
- Smell (once you've smelt foot rot, you will know what we mean!)
- Presence of pus

Take a photo; these can often be helpful with diagnosing a condition of the hoof, as well as assessing response to treatment.

There are several conditions of the hoof that can occur. Factors that may predispose an individual to developing one of these issues can include: environmental changes (especially wet weather), species and even breed variation.

When to seek help

If your animal is experiencing lameness, then we suggest taking a close look at the leg (if it is safe to do so) to see if you can identify any abnormalities. Remember to take some photos as these can often be helpful with diagnosis and assessing response to treatment.

If you are unsure about what the issue is, or if you suspect that prescription medications are required for treatment (e.g. for a toe granuloma or hoof abscess) then please phone the clinic to arrange a consultation with one of our large animal vets.

If you are having ongoing lameness issues with your herd then we also recommend a consultation with one of our large animal vets to discuss what the predisposing factors may be, and to help you establish a treatment and preventative management plan.

Prevention is key!

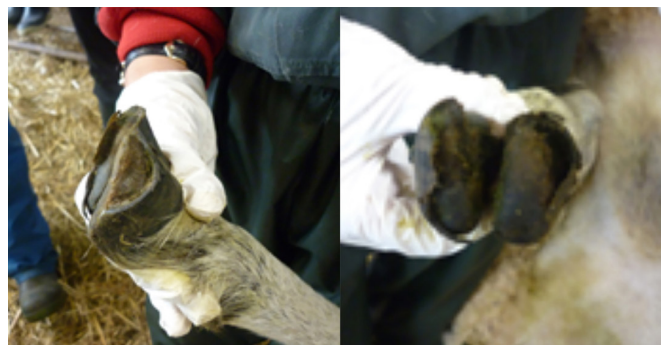
There are some management practices that can be easily implemented to reduce the occurrence of these hoof diseases. The main things to consider is; don't overstock your paddocks and ensure animals have access to a dry area. Of course, weather and other environmental factors are often out of our control, however rotational grazing of paddocks so that animals can be in the driest paddocks during a wet weather event is often achievable. Other things to consider include:

- Providing adequate shelter for all animals to prevent overcrowding
- Provide adequate water trough access to prevent overcrowding
- Minimise the number of times animals are yarded

Some of the more common conditions we see are:

White line disease (shelly hoof):

This is when the horn of the wall and sole separate, forming a pocket on the other edge of the hoof. This pocket exposes animals to secondary disease as dirt and mud etc. becomes impacted, creating discomfort and providing an ideal environment for infection to occur. The reason for shelly hoof occurring has not been clearly identified, but wet terrain and nutritional imbalances are thought to be predisposing factors. Treatment is achieved by therapeutic trimming; removing the flap of hoof wall in an inverted 'U' or 'V' shape (as pictured).



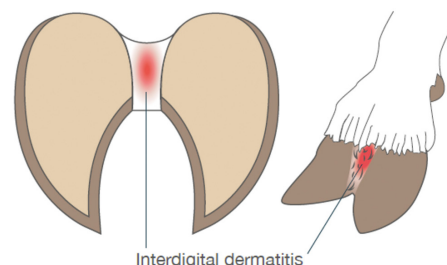
Foot rot:

This is an infection of the hoof caused by the bacterium *Dichelobacter nodosus*. These bacteria are normally found in the environment and on animals' hooves; it is an overgrowth of the bacteria (usually caused by a wet environment) that leads to infection and resulting foot rot. Infections are most likely to arise in warm and moist environments (especially spring and autumn). Antibiotics are generally required to treat, an injectable, topical (spray) or a combination of the two may be recommended, depending on the infection's severity. If you suspect you have an animal suffering with foot rot then please contact your veterinarian to be able to have this diagnosis confirmed and a treatment plan put into place.



Scald:

The same bacteria that causes foot rot can also be responsible for a more superficial infection of the hoof (interdigital dermatitis, referred to as scald). Predisposing factors for this infection include a high stocking rate, chronic exposure to a wet/damp environment (which softens the hoof and surrounding skin), and a trauma to the hoof (for example a scratch by a thorn or branch). If left untreated, or if there have been many animals affected on the property, then foot rot can be a complication of this condition.



Toe abscess:

This is the result of damage to the hoof (generally a puncture to the sole) which allows bacteria to enter and an abscess to form within the hoof itself. As you may expect, this is incredibly painful, and often the animal will be bearing minimal weight on the affected leg. The hoof itself will often be hot to touch, and as the disease progresses pus will be released through the skin of the coronary region (just above the hoof). If you suspect your animal has a toe abscess, then please call to arrange an appointment with your vet. Draining the abscess and pain relief is required for treatment, and often antibiotics are indicated.



Toe granuloma (strawberry):

As the name suggests, this condition can look as though there is a strawberry stuck to the sole surface. It is the result of damage to the sensitive tissue of the hoof, which may be from a previous infection (such as foot rot), injury to the hoof or inadvertently by over-trimming. The exposed tissue is often red, sensitive and bleeds easily when touched, and the animal will likely be very lame (often bearing minimal weight). If you identify a toe granuloma, please seek veterinary advice as treatment can be complex and antibiotics often need to be prescribed.



FLY STRIKE

What is flystrike and how does it happen?

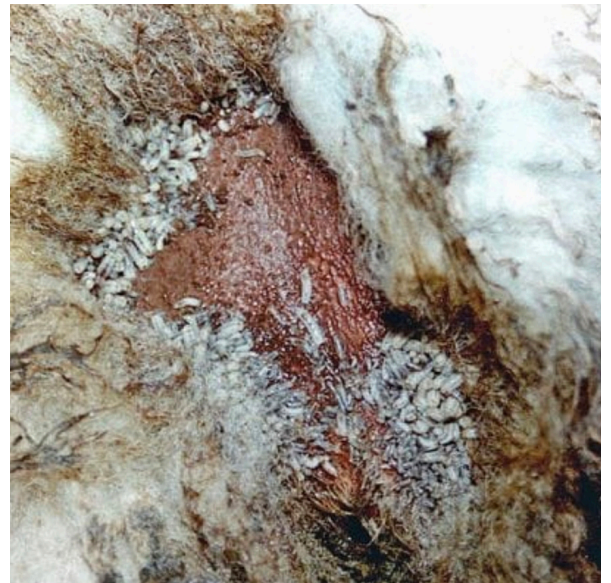
- Flystrike occurs when flies lay eggs on dirty, daggd area of a sheep's fleece.
- These eggs then hatch into maggots which eat away at the sheep, eroding the skin, muscle and tissue.
- As this process progresses, more flies are attracted to the damaged area, which worsens the problem.

What are the symptoms?

- Sheep appear irritated, restless, and off food in the early stages.
- Some animals may show no signs until a large amount of damage has occurred.
- Wool loss only occurs in the later stages.
- Skin blackening and sores with a foul odour can be visible.
- Maggots can be physically seen with the human eye on the animals.

How can we treat it?

- Treatment should be initiated immediately when flystrike has been noticed.
- Ring for veterinary assistance if your sheep is dull and lethargic.
- Move your sheep to a small pen or yard: this makes it easy to monitor your sheep. Provide plenty of water, feed and shelter.
- Clip and clean the area: a wide clip beyond the affected area is needed, as eggs and maggots can be hidden within the wool outside the edges.
- Clean and remove any maggots and eggs that remain.
- Products available to purchase from the clinic which can be used in the case of flystrike:
 - Cyrex
 - Zapp Encore
 - Maggo



How to prevent it?

- The key to prevention is shearing your sheep, and regularly! Keeping a short clean fleece reduces dags and areas the flies can lay eggs.
- Cyrex can be used as a preventative treatment just before the risk period (December).
- Having a good drenching program reduces diarrhoea and therefore minimises dirty fleeces.



SHEEP DRENCHING

Sustainable worm management

Managing worm burdens is becoming one of the most challenging tasks facing owners of production animals. What you do now has a huge impact on the future as drench resistance is becoming more common. "Business as usual" is no longer an option because reliance on chemical drenches is a worm control practice that is not sustainable.

Infection with intestinal parasites costs production. Worms cause damage to the gut lining leading to inefficient feed utilisation and scouring. Most worms feed off the gut lining "robbing" the animal of nutrients and some worm types suck blood which can lead to death from blood loss. High worm burdens cause appetite suppression and increased demand on the immune system. In sheep, dirty tails from the effects of internal parasites can also lead to further problems with flystrike and downgrading of fleece.

Age and immunity

Youngstock provide a fertile breeding ground for multiplying worm populations and are the major source of pasture contamination. Grazing youngstock in the same area year after year will therefore contribute to higher larval challenge on pasture.

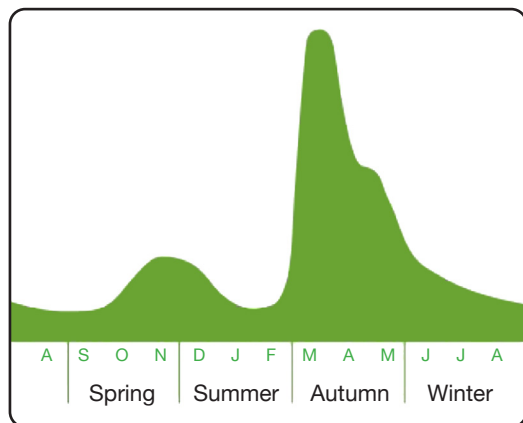
In sheep, immunity to worms is not fully developed until 18-20 months of age. Because young animals need large amounts of protein and energy to grow, they are more susceptible to the effects of parasites. The immune system is also protein and energy hungry and becomes depressed through stress.

Healthy adult animals can still become susceptible to parasites despite having a fully developed immune system, particularly around stressful events such as lambing and feed shortages.

Successful worm management strategies therefore should aim to minimise exposure at critical points of the farming calendar without selecting too strongly for resistant worms.

Seasonal pattern of larvae on pasture

The danger periods are from spring to early winter with peak larval numbers occurring in autumn. Warmer, wet conditions allow worms to complete their lifecycle faster with fewer eggs developing over the winter months due to colder conditions.



The number of eggs and larvae on pasture is much higher than the number of worms inside animals. Simply killing worms inside the animal is only part of the overall strategy as no drench can completely eliminate the effects of larval challenge.

◀ Generalised seasonal pattern of infective larvae on the pasture arising from untreated sheep.

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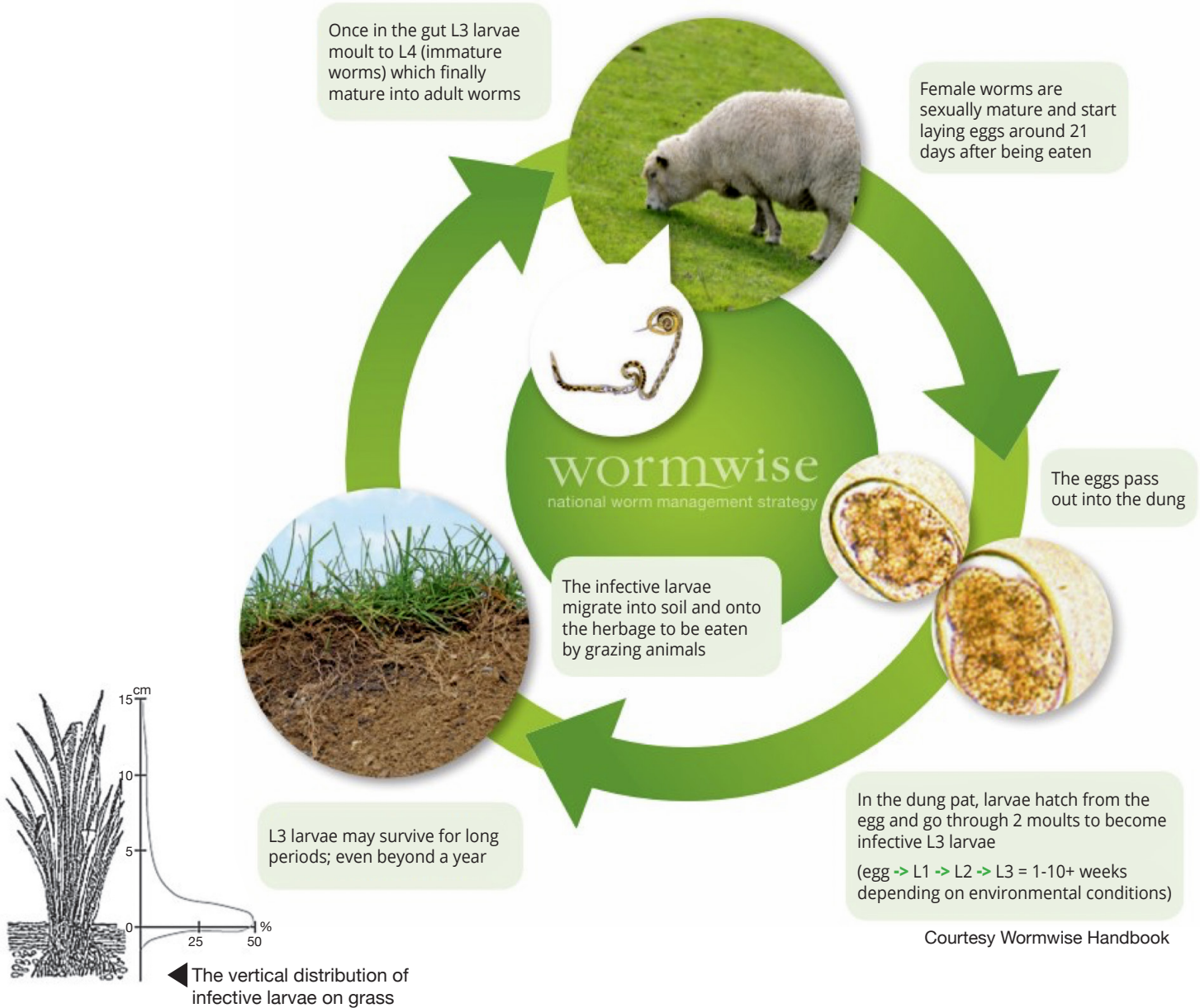
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The lifecycle of common intestinal parasites



There are several different types of intestinal worms that infect livestock. The most important ones are roundworms with three phases in its lifecycle: egg, larva and adult. The adult stage lives in the stomach or intestines and when mature sheds eggs which pass out in the dung. An immature worm hatches out of the egg in the dung pat and then progresses through four larval stages. Some of these occur within the dung pat, whereas the third larval stage (L3) is the infective stage and can migrate out of the dung pat onto soil and grass where it can be eaten by a grazing animal.

The development of worms from egg through larval stages to maturity requires a moist environment and warm temperatures and takes about 21 days under ideal conditions. At low temperatures, development is slow, whereas development is much faster in warmer temperatures. 20-25°C is optimal to rapidly complete the lifecycle.

Monitor and treat

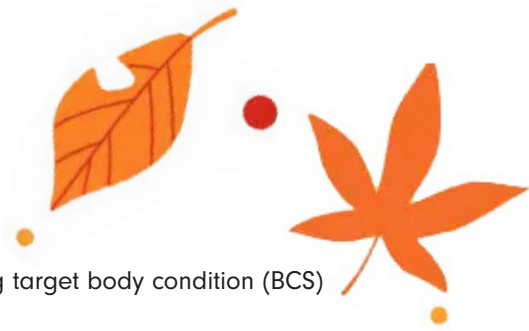
Before deciding on an appropriate drenching strategy, it is important to know what is happening on your property. Monitoring weight gains and stock condition will give a visual indication of the effects of worms.

Collecting samples of faeces to perform a faecal egg count (FEC) is the most useful guide to determine when to drench. Then conduct another FEC 7-10 days after drenching to determine the effectiveness of the drench and whether any drench resistance is developing.

Collect a fresh, (heaped teaspoon) faecal sample, in a plastic pottle or freezer bag, and bring to the clinic.



MANAGEMENT OPTIONS:



Grazing Management

- Well-fed ewes don't need drenching and are net removers of larvae. Achieving target body condition (BCS) will contribute to good lamb growth rates and better immunity.
- Lighter BCS ewes have higher FECs. Setup a plan from weaning to reduce the number of lighter conditioned ewes pre-winter and pre-lambing.
- Monitor pasture length. Most larvae are in the bottom 2cm of pasture and grazing low increases the intake of larvae.
- Reduce overstocking. The higher the stocking rate, the higher the potential worm burden.
- Graze young animals ahead of older animals.
- Cross graze with other species (e.g. sheep with cattle). As most parasites live in the bottom 2cm of pasture, cattle would need to graze closer to the ground to be useful as sheep worm vacuum cleaners.
- Any lambs left in autumn should be moved onto crop to reduce exposure and further contamination of pasture.
- If finishing lambs on pasture, ensure the pasture has been grazed by cattle for a few months prior to reduce larval contamination.
- Resowing pasture after a crop can wipe out most problem parasites.
- Larva can survive for many months, even years in the right conditions. Cold weather only slows development and does not kill them. Spelling pasture will reduce the level of contamination but under NZ conditions spelling for 12-24 months may be necessary to wipe out most larvae.
- Aim to reduce the number of larvae consumed in the first place. Drenches will only remove the adult worms and larvae from the gut whilst the drench is active. They don't prevent the ongoing ingestion of infective larvae which remain on pasture.

Animal Management

- Maintain refugia. "Refugia" refers to part of the worm population that is able to reproduce without having been 'screened' as drench survivors - they are taking 'refuge' from the drench. Undrenched ewes are usually low egg producers and contribute susceptible worms to refugia.
- Don't drench and shift animals. Drenched animals should be returned to the same paddock they came from for a week or so.
- Leave a proportion of animals un-drenched. Recommend 5-10% of heavier, well-conditioned animals to provide a refugia of susceptible worms. The main exception is late summer/early autumn when Barber's Pole is most active or if there is a high degree of pasture contamination (i.e. successive lamb rearing on same paddocks and a dry season where animals are grazing closer to the ground).
- Quit lambs early, selling pre-autumn will reduce pasture contamination and set ewes up well for mating and the next lambing season.
- When buying in stock, purchase from a supplier without a drench resistance problem.
- Quarantine introduced animals for 2-3 days and drench with at least 4 actives. This will require 2 drenches, twice at 24hour intervals (4 drench doses total). Then move to contaminated pasture to dilute out any multi-drench resistant survivors. DO NOT move them onto "clean" pasture - this will ensure a strong selection pressure for resistant genes. A drench check is advised using a FEC 7-10 days after quarantine drenching.
- Consider introducing ram genetics with improved animal resistance to worms.
- Consider bringing in ewes to pre-seed paddocks with drench-susceptible parasites.



