

Facial eczema

Another good reason to grow a specialist summer forage

The only positive thing that can be said about facial eczema (FE) is that it is another good reason to grow a specialist summer forage.

Forages like lucerne, chicory, plantain, red clover and rape don't harbour the fungus that causes FE outbreaks. They are also excellent feeds for lactating hinds and fast-growing weaners.

Ignoring FE is not an option in districts where it occurs. Outbreaks can be costly in deer herds, causing an immediate loss of production in young stock and in many cases a permanent reduction in their life-time performance.

Because FE tends to recur in the same districts it is practical to prepare for outbreaks. On farms where crops cannot be grown, deer can be fed on baleage/silage with grain, or pastures may be sprayed with fungicide. Dosing animals with zinc is a less preferred option, but may have a place on some farms.

Initial signs of FE in deer may not be obvious. Nor is there a complete cure for deer that have been affected by FE. So it is important to put preventive measures in place before the risk period.

Look for the signs

FE occurs in most ruminant species and, as the name suggests, it often results in skin lesions. In deer, skin lesions may not be as obvious as a wide range of other signs.

Wapiti/elk and their crosses are more susceptible to FE than red deer, and all deer are more susceptible than cattle or sheep.

Affected deer may show jaundice (seen as yellowing of the whites of the eyes), they may be lame because of laminitis and they may have impaired vision. Excretion of the toxin through the kidneys and bladder can cause bleeding and ulcers in the urinary system.

Newly-weaned deer in March are very vulnerable, because their pasture intake increases after weaning. To reduce the risk, post-rut or late-rut weaning could be considered, leaving fawns on hinds until spore counts drop below 40,000/gm pasture.

Stags are vulnerable because of their increased pasture intake pre-rut (late January/February) and again post-rut (April/early May), times when spore counts may be high. Their decreased pasture intake during the rut may protect them to some extent at this time.

The most common signs of FE in weaners are poor growth or weight loss and scouring. Dry hinds may not gain weight over winter, they have lower conception rates and poorer lactation yields. Stags can develop a characteristic arched back as a result of pain when urinating.

Sunburn (photosensitivity) is seen only in extreme cases as most skin surfaces are protected by hair. When it does occur it is most likely to affect the ears, eyelids and muzzle, however the tip of the tongue and around the anus and vulva can also be affected.

Sunburnt (photosensitive) areas become red and painful. Affected deer seek shade and can be extremely restless, frequently shaking their head and ears and trying to rub or lick their sunburnt skin.

Diagnosis

Your vet will make a diagnosis of FE based on the clinical signs and the results of laboratory blood tests to confirm FE-related liver damage.

Key points

- Facial eczema (FE) is one of the main causes of reduced productivity in deer throughout the North Island and in the north of the South Island.
- FE is caused by a fungus that grows in the dead litter at the base of ryegrass-dominant pasture in late summer/autumn.
- Monitor fungus spore counts in ryegrass-based pasture during risk periods and prepare to remove deer when spore counts rise to significant levels. Counts of >40,000/gm pasture are potentially dangerous.
- The fungus toxins damage the liver and sometimes the intestine and urinary system. Signs in deer can include skin lesions, but other signs – like weight loss and scouring in weaners and an arched back during urination in stags – may be more obvious.
- When signs appear in any deer remove the mob from the paddock immediately. Do not return deer to that paddock until counts drop to safe levels.
- Consider establishing FE-safe summer forage crops on farms where this is practicable. These crops also provide excellent feed for lactating hinds and weaners.

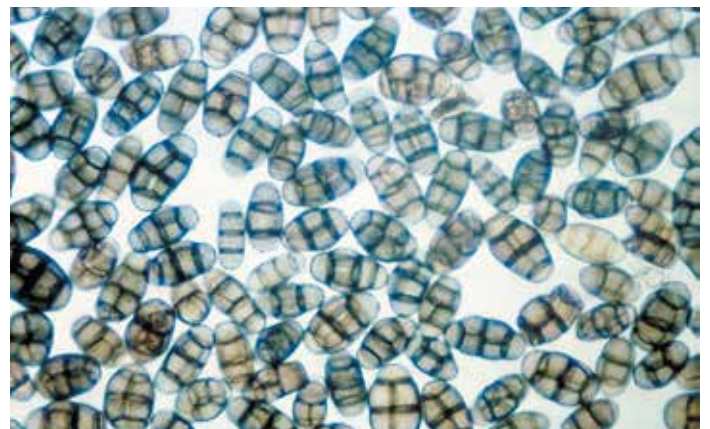
What causes FE?

FE is caused by the spores of a fungus, *Pithomyces chartarum* that lives year-round in the base of the pasture. Normally it poses no threat to deer. But when grass minimum temperatures remain above 12°C for two or three nights and humidity is high (this is common from January to May in the North Island), the fungus produces high numbers of spores, particularly on north-facing slopes.

The risk is greatest in ryegrass-based pastures and least in chicory, clover, legumes and brassicas.

Because the fungus grows on dead litter at the base of the pasture, the risk is greatest when stock are hard-grazed, where pastures are short as a result of dry weather, and following topping.

Deer are at risk when spore counts exceed 40,000 per gram of pasture. In some seasons in some localities, spore counts can reach 10 times this level.



FE (*P. chartarum*) spores under the microscope

Once swallowed, the spores release sporidesmin, a toxin that in high concentrations causes severe injury to the liver and bile ducts. As a result of the liver damage, toxins enter the digestive tract in the bile and damage the intestine. When they build up in the bloodstream, they can cause sensitivity to light, even blindness, and they can damage the urinary system, leading to pain during urination.

FE spores can remain at the base of the pasture for several weeks after the climatic conditions that caused their growth have passed. Spore counts are the only way to be sure that pasture is safe to graze again.

Control and prevention



Chicory and short-rotation ryegrass

An excellent feed for lactating hinds or weaners during an FE-risk period, but to be sure it's safe, do a spore count first

There are several ways to control or prevent FE.

Monitor pasture spore counts and keep deer off potentially dangerous pasture

- Up-to-date spore counts in FE-prone regions are publicised weekly on www.asurequality.com. If you are in an FE area, make use of this valuable free service. Spore counts over 40,000 are considered dangerous.
- In addition, you can monitor spore counts on your farm before and during the risk period. Your vet can help you do this in individual paddocks as the basis for planning a grazing rotation and spraying programme.
- Once spore counts reach 20,000/gm pasture it's time to take action. If you have silage available or crops of summer brassicas, maize, chicory, lucerne, plantain, short-term ryegrass or clover, be prepared to move your deer off pasture and onto these. If you are not already growing a specialist late summer feed on your farm, this is another good reason for doing so.

Treat pasture to help suppress the fungus

- If you don't have crops, spray pasture with carbendazim fungicide (150 gm/ha). Each application will reduce

spore counts for up to six weeks after spraying, so typically two sprays are needed each season.

- Continue to monitor sprayed pasture to make sure that spore counts remain within safe levels.

Treat deer to help protect them

- Dosing with zinc should be seen as a second line of defence. Add zinc monohydrate to stock water or dose deer with oral zinc boluses. Zinc boluses provide up to six weeks protection in cattle and sheep. However they haven't been properly tested in deer, and deer seem to be prone to regurgitating them. Discuss the pros and cons with your vet.
- Remember that overdosing with zinc can be toxic. In all its forms zinc can result in reduced growth rates and may reduce blood copper concentrations.
- If you decide to treat with zinc, start early to ensure it is in the animals' systems before they eat risky pasture.

Other strategies

- Minimise dead litter in pasture and don't make deer graze too low.
- If you don't have a summer crop to wean your fawns onto, delay weaning until spore counts have dropped to safe levels.
- When deer show early signs of FE, remove them from ryegrass-based pasture (see below).
- Provide fodder other than pasture – such as chicory, legumes, tall fescue or summer turnips – or conserved feed like baleage/silage and grain.
- Longer-term, breed resilience into the herd by selecting breeding deer that seem relatively unaffected by FE.
- Maximising weaner growth can help offset the effects of mild toxicity.

Treatment

Once signs develop, the only effective treatment is to take deer off the toxic pasture and supply alternative feed. It might be possible to house them in a dark shed especially during daylight hours or provide them with effective shade. Severe cases may require veterinary treatment with fluids and vitamins.

While these measures will allow deer to recover from the worst effects of FE, the liver damage caused by repeated or severe FE can result in a permanent loss of performance. Monitor breeding animals in the season following an outbreak and cull those that fail to meet performance targets.

More >>

DINZ Deer Hub: www.deernz.org/FacialEczema

Facing up to facial eczema, Beef+Lamb NZ: <http://bit.ly/BeefLambFE>