

FACIAL ECZEMA

Facial Eczema (FE) is a disease which causes liver damage leading to production loss and sometimes death. Fungal spores produced by the fungus *Pithomyces chartarum* growing on pasture produce a toxin which when ingested by cattle damages the liver and bile ducts. The damaged liver cannot rid the body of wastes, and one of the breakdown products of grass builds up causing sensitivity to sunlight, which in turn causes “sunburn” of the skin.

Symptoms: The first sign of FE is a drop in milk production occurring soon after the intake of toxic spores (subclinical FE). Cows are restless at milking time, seek shade, and lick/kick their udder. Another drop in production occurs when physical symptoms (clinical FE) become obvious. Unpigmented/thin skin will thicken and peel. The worst areas are usually: white coated areas (pink skin), teats, inside of hind legs, the extended udder region.

Effects: Not all animals affected with Facial Eczema show physical symptoms (ie. clinical FE) even when liver damage has occurred. Milk production of animals with subclinical FE can be depressed by up to 50%. It is estimated for every 3 in 100 cows showing clinical signs, about 70% of the herd may have subclinical FE! Badly damaged liver tissue will not regenerate, instead it forms scar tissue. Severe weight loss and/or death may occur at the time of damage, or months later when the animal is under stress eg. Calving.

Occurrence: The fungus produces the spores when grass temperatures remain above 12°C for two or three nights, and humidity is high (usually January to May). The fungus itself grows on soft litter at the base of the pasture so hard grazing during danger periods increases the risk of spore intake - as does topping which increases the build-up of dead litter. Early exposure to low levels of spores will sensitise animals. They then get FE at lower spore intakes than animals not previously exposed to spores. FE damage can occur from long term intake of low numbers of spores, short term intake of high numbers or a combination of both.

Prevention/Control:

Screening using Spore Counting: Spore counting is the best test we have to give an indication of FE risk. It is a good tool for determining regional *trends* and can help map hot spots however it does have its limitations and should not be relied on. We have several “monitor farms” that we sample each week to look for trends across the district but regular spore counting on your own farm is best practice. The young spores are the most damaging so detection of a rapidly increasing spore count is essential. Pastures may be toxic once spore counts reach over 40,000. Long-term grazing of pastures with lower spore counts is also dangerous. Spore counting is available at both Whakatane and Opotiki clinics.

Zinc treatment: The only available medical prevention known to lower the risk of FE. Needs to start about 2 weeks before Facial Eczema risk. See below for the various means of zinc treatment.

TREATMENT OPTIONS

Farm Management

- Minimise build-up of dead litter by not topping
- Avoid hard grazing if at all possible (use supplements to reduce grazing pressure)
- Avoid grazing known "hot-spots" during danger periods
- Don't forget to treat replacement heifers grazing off the farm
- If older cows haven't recovered by May, they probably won't - cull
- In areas where Copper and Selenium are deficient, supplement with these minerals immediately AFTER Zinc treatment ends
- Zinc is toxic in high doses; care should be taken when calculating dose rates – *ideally weigh cattle for accuracy.*

Zinc Sulphate water treatment: In line dispensers > adding Zinc to the tank supplying the water reticulation system > and floating in-trough dispensers are all means of water treatment. Direct addition of Zinc Sulphate to the water trough without using a dispenser is not recommended. Water treatment is only suitable for long term dosing not crisis dosing during danger periods. Water treatment is not suitable where stock have access to alternative water sources e.g. streams and drains. Zinc Sulphate should be introduced over about 5 days (1/4 of the required dose on day 1, 1/2 on day 2, 3/4 on day 4 etc.) so the stock get used to the taste which can also be helped by palatability supplements such as Caramillo.

Intraruminal bolus: The recommended treatment for young stock and dry stock.

Faceguard	Time Capsule (avail. on request)
Zinc	Zinc Oxide
Lasts 6 weeks	Lasts 4 weeks
Less toxicity with top up dosing	Toxicity issues when using for extended dose lengths
Easy to handle/store	Capsules damage easily
\$17.82/150kg calf for 10 weeks	\$15.65/150kg calf for 10 weeks equivalent

Fungicide spray: Spraying pastures with fungicides can reduce the growth of the *fungus* by about 60%. It does not kill the spores that already exist – it kills the fungus that produces the spores. Check spore counts before and after spraying, and before grazing, to ensure pastures are below acceptable levels. Spraying should cover all areas including fence lines and under hedges. Pasture will be safe for 4-6 weeks after which they will need to be resprayed. Do not consider spraying at spore counts over 200,000 as the fungicide will not be effective. *Spraying needs to occur before spore counts rise.*

Zinc Oxide oral drench: The least common method due to labour intensity. Long term dosing gives the best protection which is 80-90% effective. Crisis dosing (treating previously non-treated animals with higher rates of Zinc during danger periods only) is 60% effective. Milkers are best dosed daily. Dosing at greater than three day intervals may cause milk fever in some milking cows particularly Jerseys, but even daily dosing (if too high) can cause milk fever. Young stock and dry cattle can be dosed at weekly intervals. Daily dosing is 80-90% effective, twice weekly (milkers) and weekly (dry stock) dosing is 70-80% effective.

ZINC DOSING

Extended/lengthy periods of zinc treatment is not good for cattle and can lead to toxicity causing pancreatitis and severe illness. Therefore we do not recommend you start zinc dosing too early in case the Facial Eczema season ends up lasting into May. We usually begin screening for FE in mid-December by spore counting on several monitor farms. This information is provided on the website and in clinic, and can aid in deciding when to start zinc treatment. It is extremely hard to predict what the spore counts will do as it is highly weather dependant but when the counts start to trend up and conditions remain favourable (usually around the beginning of January), Zinc should be started. You should aim to have zinc in the water about 2 weeks prior to danger periods.

We recommend blood testing a sample of each class of stock to assess zinc levels during supplementation. This will give you a good insight into whether your cows are either in the “protective range” of zinc levels, or below this range therefore requiring an increased dose, or in toxic levels (especially for oral drenchers). Contact us for more details.

Zinc Sulphate HEPTAHYDRATE (Standard Strength) – 8g/100kg of cow/day

The most popular water treatment in our region. Dissolve in water before adding to water tank.

Zinc Sulphate MONOZINC (High Strength) – 5.5g/100kg of cow/day

This is a concentrated zinc sulphate for treatment of water troughs and inline. Mix with water before adding to trough or dispenser and allow to cool.

Weight dependant dosing: All zinc supplements are dosed on live-weight. It is ESSENTIAL to dose cattle to an accurate weight particularly young stock. The risk of under-dosing is insufficient protection and the risks of overdosing are toxicity leading to illness, ill-thrift and fatalities. We have our own weigh scales and provide a weighing service at \$2/calf or \$2.5/heifer, I strongly recommend you utilise this service especially if a long season and therefore extended treatment periods are expected.

Use the following table as an *approximate* guide to cow weights by breed and age if in good condition and grown well:

Breed/Age	Approximate Weight
Friesian Cow	535
Friesian x Jersey Cow	480
Jersey Cow	440
Friesian R2 in January	390
Jersey R2 in January	320
Friesian R1 in January	160
Jersey R1 in January	130

TREATMENT

If clinical Facial Eczema occurs:

- Remove from pasture
 - It is the breakdown product of the green pigment in pasture that causes the sunburn so not only do you need to remove the source of the spores but you need to remove the green out of the diet so it doesn't continue to cause photosensitization.
 - Provide meal and alternative non-green feeds like silage hay.
 - PK is ok but go easy, a radical diet change could result in acidosis. But in general the effects of the change in diet < Facial Eczema symptoms.
- Provide affected animals with shade
 - They need to be in a DARK barn/shed
 - Standing in a paddock or yard with shade from a tree is NOT shady enough (the ambient light is enough to cause severe sunburn)
 - Put cow covers on
- Apply Filtabac cream generously on white areas and udder. This can be continued as long as necessary.
- We have some injectable products that may aid in the recovery – please speak to a vet for more information.
- If in doubt – call us out.

All the best,
Martine Murtagh BVSc

