



the TimeCapsule[®]
FOR FACIAL ECZEMA PREVENTION

The Time Capsule[®]

For effective facial eczema prevention



0800 333 855
agritrade@nzagritrade.co.nz
www.nzagritrade.co.nz


agritrade[®]



**Innovative solutions
for all seasons**



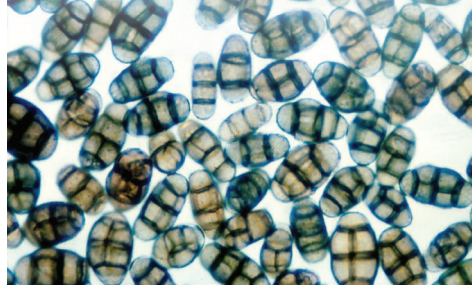
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What is Facial Eczema?

The Sporidesmin

Facial Eczema (FE) is a disease of the liver caused by a mycotoxin (sporidesmin) that affects all ruminants when they ingest the spores of the fungus *Pithomyces chartarum*. The *Pithomyces Chartarum* fungus grows on dead and dying pasture litter when moisture and temperature are conducive to spore growth, usually during the summer and autumn months.

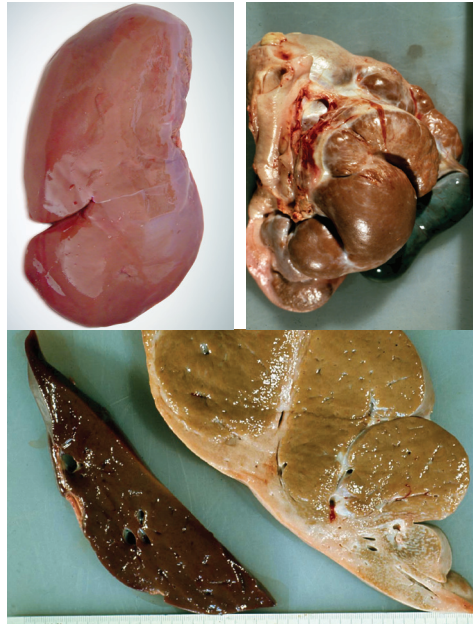


The Liver

Sporidesmin attacks the bile duct cells which impairs the liver's capacity to detoxify and excrete waste products. The destructive effects on the bile ducts and liver cells can cause death as a result of liver failure. At lower levels of FE challenge, most affected animals will survive and recover thanks to the liver's enormous potential for repair and regeneration. However production will be seriously reduced in the short term and with possible long term consequences also.

Top: *Pithomyces chartarum* fungal spores magnified

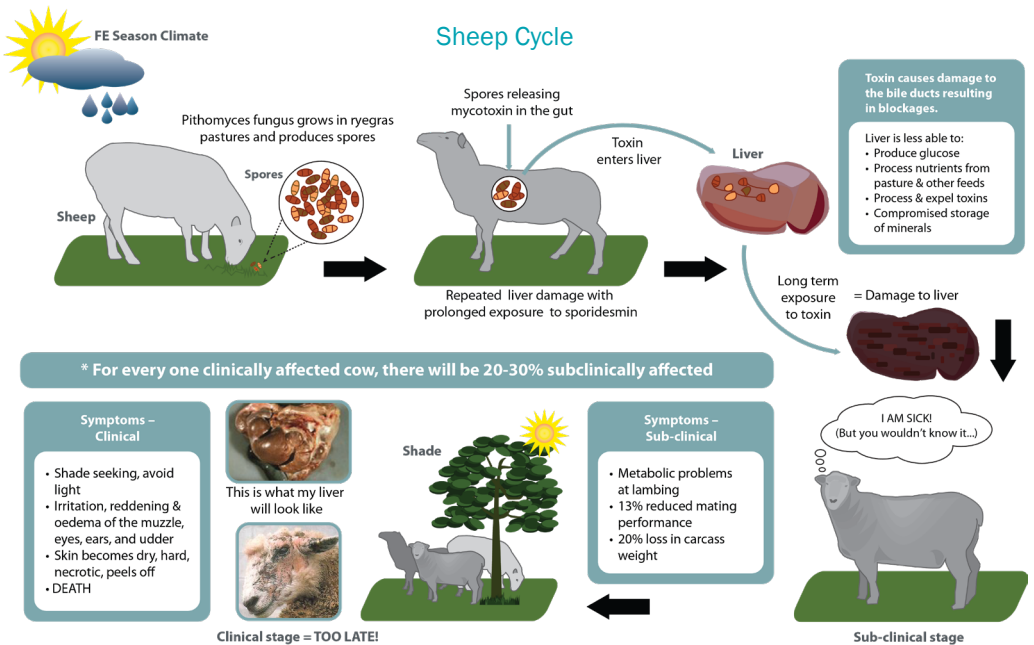
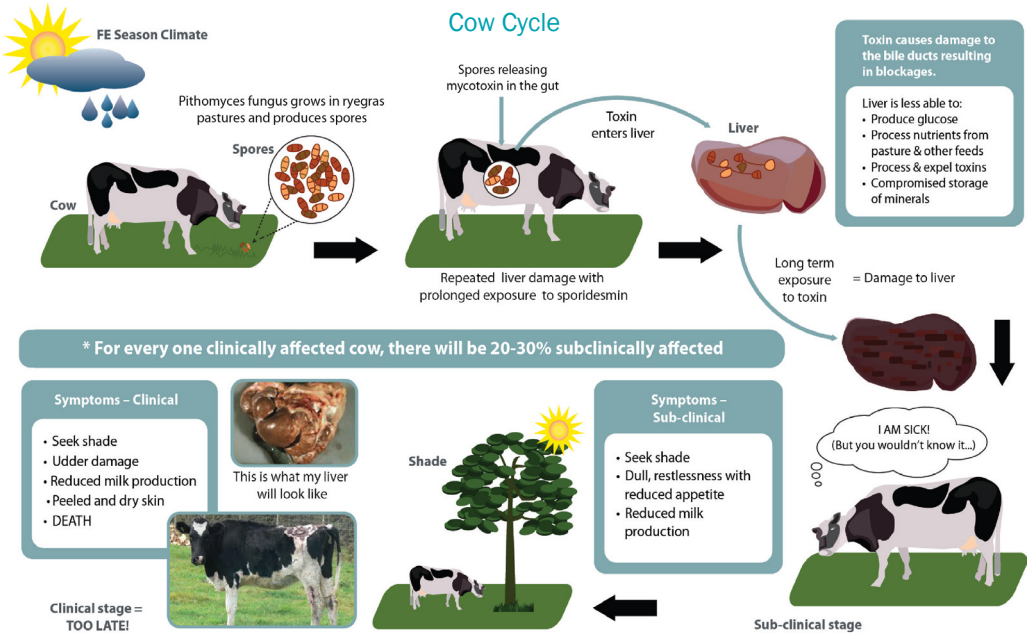
Middle and bottom: Normal liver on left, FE affected liver on right



The conditions for spore growth

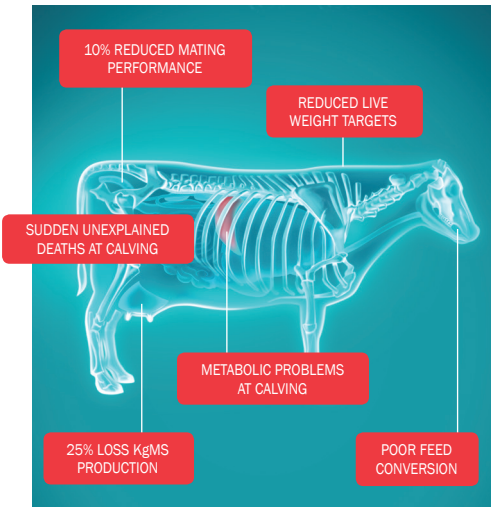
Pithomyces chartarum spores grow quickly on dead or dying grass litter typically found in the base of pasture during summer and autumn months when conditions are conducive to spore development. This is usually when minimum night temperatures are $>12^{\circ}\text{C}$ and there is sufficient moisture. However, a slow build-up of spores and continual exposure over a period of time will also result in similar risk levels.

Facial Eczema Cycles

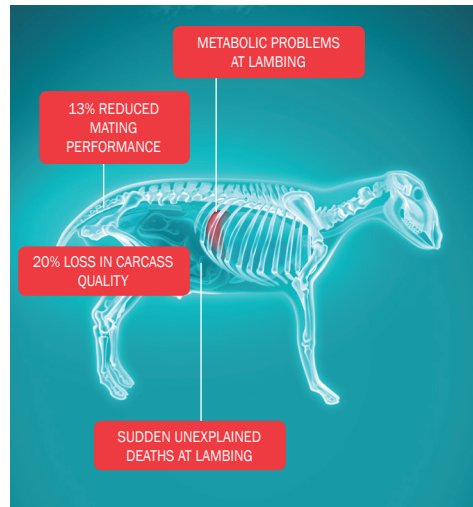


Signs of Facial Eczema

Sub-clinical symptoms of Facial Eczema - Cows



Sub-clinical symptoms of Facial Eczema - Sheep



Dairy Cows

What to look for:

- Cattle seeking shade
- Any kicking, licking at flanks
- Restlessness in the cow shed, kicking cups off
- Sudden drop in milk production
- Any redness and peeling of unpigmented skin
- Sudden or unexplained deaths especially at calving

Sheep

What to look for:

- Sheep seeking shade and avoiding light
- Irritation, reddening and oedema of the muzzle, eyes, ears and udder
- Skin becomes dry, hard, necrotic, peels off
- Un-explained drop off in scanning rates
- Increase incidence of sleepy sickness at lambing.
- Sudden or unexplained deaths especially at lambing

By the time clinical symptoms of FE are visible, liver damage has already occurred. This is why it so important to monitor for presence of FE spores and check for any signs of behavioral changes in the animals and adopt proper preventative options before pasture spore counts rise and clinical signs appear.

Myths about Facial Eczema

Facial Eczema (FE) is seasonal and only occurs from February to March

Not true. Spores can be at damaging levels from December through till June or when conditions allow for rapid growth of toxic spores.

Heavy rain will decrease risk

Maybe temporarily, but when the right conditions return fungal colonies will continue to produce spores, which rapidly lift the counts in paddocks after heavy rains.

Frosts kill off the spores

Fungal colonies **can** continue producing spores after frosts when favourable conditions return. Cold conditions can intensify the toxicity of the sporidesmin. When conditions warm up again the risk will still be present.

Not on my farm

If spore counts are high in the region, spore counts are very likely to be present on **all** farms. Even though no clinical cases are seen, there are likely to be subclinical losses.

Only counts >50,000 cause damage

Continuous exposure to **counts as low as 20,000spg pasture can cause as much damage** as short lived high spikes.

South facing paddocks are safer than North

Not always. Counts can be just as bad on either.

Black cattle don't get FE

Yes they do. FE is a liver disease, black cattle may not exhibit pigmentation and skin peeling.

FE spores only grow during periods of high humidity, light rain, ground temperatures >12°C

They must have dead and dying pasture litter to grow on and can still grow when air temps are <12°C.

Only rye grass pastures pose high risk

High risk factors are rye grass, cocksfoot, browntop, yorkshire fog pastures, and around urine patches (FE spores are known to be nitrophillic).

Fungicides kill all spores

Apply fungicide when the pasture is green and growing at counts <20,000 for best controls – check counts before grazing.

Cows get sufficient zinc from water and feed treatment.

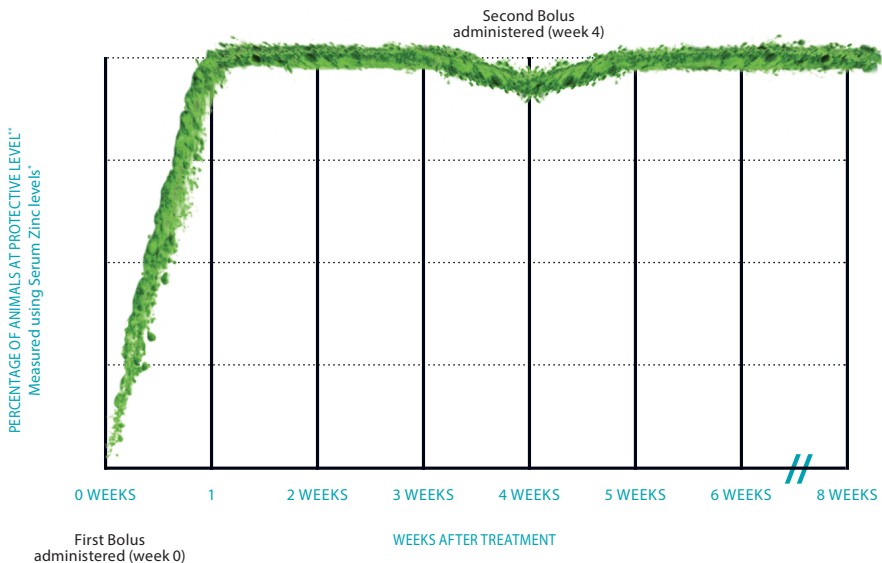
Studies have shown that individual cow zinc levels can vary considerably, dependent on the volume of water drunk or zinc supplemented feed eaten.



Why use The Time Capsule®?

- The Time Capsule is a consistent dissolving bolus, using zinc oxide for FE prevention.
- Requires **one bolus per animal** that releases a consistent daily dose of zinc oxide to protect animals against FE for 4 weeks in cattle and 6 weeks in sheep.
- The Time Capsule leaves no residue, is safe, cost-effective and easy to use.
- There is no withholding period for milk or meat.
- There is no reliance on self-medicating or a consistent water intake to get adequate zinc protection.
- There is **no need** to daily orally drench with zinc oxide.
- Made, tested and proven in New Zealand.

The below graph illustrates results from a 2019 NZ trial approved by an animal ethics committee, conducted by an independent research company comparing serum blood levels in Cattle.



*Serum Zinc levels are a recognised method for reliably proving effective facial eczema protection levels.

**For zinc oxide products, such as The Time Capsule, serum zinc levels greater than or equal to 18µmol/L are considered to provide protection against facial eczema.

The Time Capsule® Product Range

The Time Capsule product range is:

Bolus size	Liveweight	Zinc Oxide/ capsule	Units/ box	Applicator Gun (handle colour)
Lambs	25–40kg	43g ZnO	48	green/black (sheep)
Adult Sheep	40–70kg	67g ZnO	36	green/black (sheep)
For Sheep One Dose	One dose= Releases zinc for 6 weeks			
Cattle	90–130kg	63g ZnO	36	red handle (cattle)
Cattle	130–175kg	98g ZnO	24	red handle (cattle)
Cattle	175–250kg	143g ZnO	18	green handle (cattle)
Cattle	250–400kg	232g ZnO	12	green handle (cattle)
Cattle	400–600kg	365g ZnO	8	black flexi (cattle)
Cattle	>600kg*	*	n/a	black flexi (cattle)
For Cattle One Dose	One dose = Releases zinc for 4 weeks			
*For cattle weighing more than 600kgs liveweight there is the option to double bolus with 2 x 250/400				



Applicators



Time Capsule Applicator Sheep Green

2 heads: Lamb and Sheep



Time Capsule Applicator Small Red

2 heads: 90 - 130kg and 130 - 175kg



Time Capsule Applicator Large Green

2 heads: 175 - 250kg and 250 - 400kg



Time Capsule Applicator Cattle Black

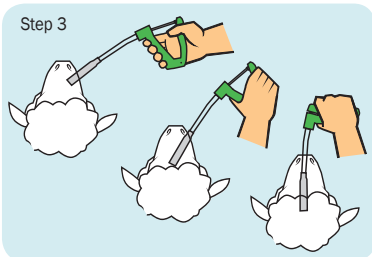
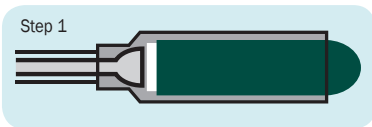
1 head: 400-600kg

Administering The Time Capsule®

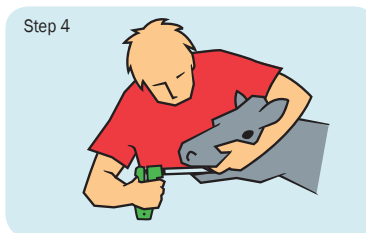
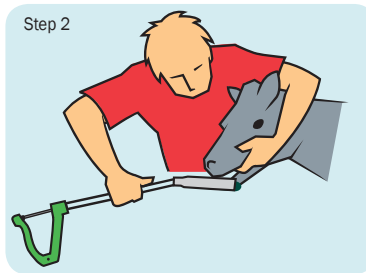
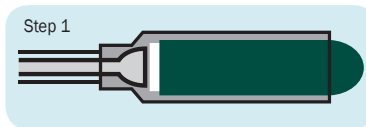
Administering The Time Capsule

By following a few simple steps and with practice, administering the Time Capsule is no more difficult than drenching, and of course you don't have to do it so often.

Sheep application*



Cattle application*



To help with administration:

1. Take your time to become accustomed to the technique and read the instructions carefully
2. Check that the applicator head is free of any damage
3. Keep animals off feed for at least 2 hours before to reduce rumen pressure
4. Have your animals as stress-free as possible
5. Well set up yards and handling facilities will make the job a lot easier
6. Take your time to do the job properly
7. Hold the animal's head straight front and steady, raise the chin, slide the applicator in from the side of the mouth and direct the capsule over the back of the tongue
8. Wait for a few seconds to ensure the bolus has been swallowed successfully.

*The above is only a guide to application.



Find our products
at your local rural
supply store or
Vet.

Learn more about

the TimeCapsule

FOR FACIAL ECZEMA PREVENTION

If you would like more information on Facial Eczema, its effects, The Time Capsule® or its administration, please contact us using the details below:

Freephone: 0800 333 855

Email: agritrade@nzagritrade.co.nz

Post: PO Box 3100
411 Blenheim Road
Sockburn, Christchurch 8140

Website: www.nzagritrade.co.nz

The Time Capsule is registered pursuant to the ACVM Act 1997, nos A7600, A7763, A7931, A9006, A6275 and A10857.
For registration details see www.foodsafety.govt.nz



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