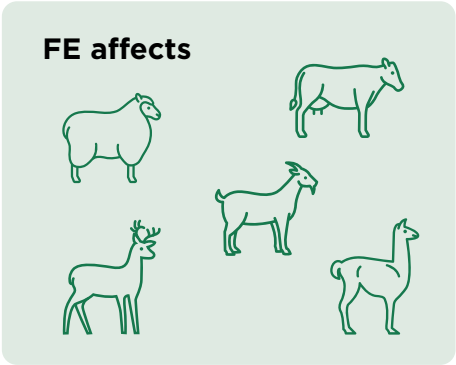
FACTSHEET

Facial Eczema 101

What is Facial Eczema (FE)

Facial eczema (FE) is a serious disease affecting grazing livestock. It's caused by a toxin produced by a fungus called *Pseudopithomyces toxicarius*. This fungus grows in warm and humid environments, mainly in ryegrass pastures where there are high amounts of leaf litter.

There's no cure for FE. Even if animals survive, they may never fully recover. Their health and production can stay compromised for life.



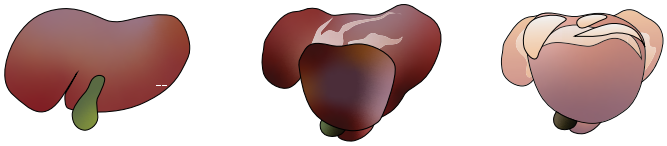
What does it do to the animals?

The spores of the fungus produce a toxin, sporidesmin, which primarily causes liver and bile duct damage leading to reduced production (meat, milk, and wool). These signs of disease are hidden and can go unnoticed.

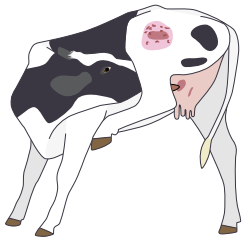
In some animals, this liver damage will lead to obvious signs of disease such as photosensitisation (hiding from the sun) and sunburn on lighter areas of the body like the face and udder.

Facial eczema causes pain and suffering and can reduce the average lifetime productivity of the animals by up to 25%.

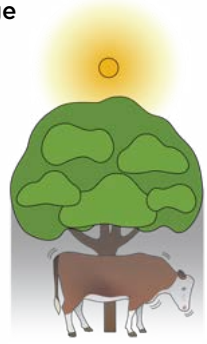
It is thought that for every animal with obvious signs of disease, there could be at least 10 or more animals with hidden signs of disease.



Liver damage



Sunburn or scabbing



Seeking shade

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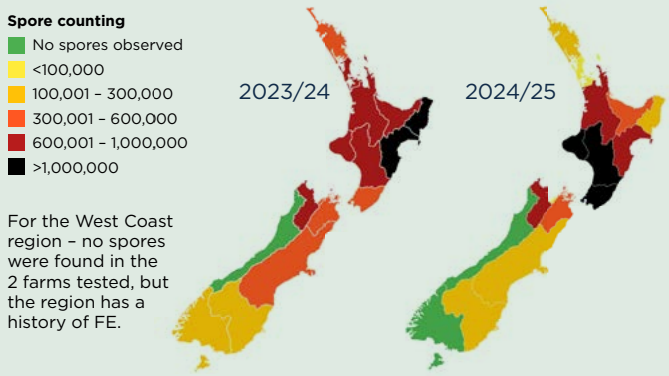
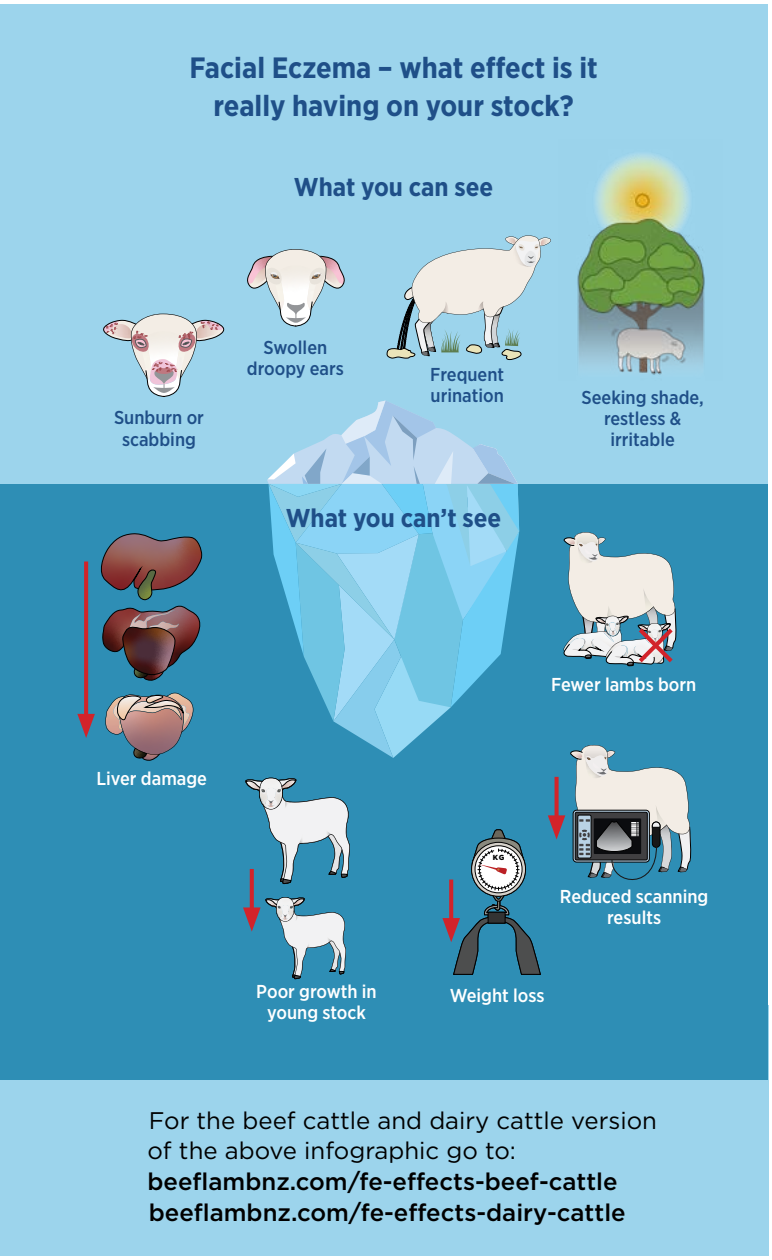
Where it is found in New Zealand

Traditionally, FE was thought of as a North Island problem. Recent studies have confirmed clinical cases from Tasman/West Coast to Northland in every region.

The FE spores have been found in every region of New Zealand but at low levels in Canterbury, Otago and Southland. As this disease is caused by a fungus, any environment that is suitable for its growth may be at risk of FE. With a warming climate, FE will continue to increase its range further south and possibly to higher altitudes than originally experienced.

Mapping facial eczema risk across NZ





For the beef cattle and dairy cattle version of the above infographic go to:
beeflambnz.com/fe-effects-beef-cattle
beeflambnz.com/fe-effects-dairy-cattle

How do I know if my animals have FE?

No single sign confirms FE, you need to look for a combination of factors. Common signs of FE are listed below, but others may also occur.

CLINICAL (VISIBLE) FE – LOOK FOR THESE SIGNS:

- Swollen, puffy, droopy, or thick ears
- Swelling of the face or underside (jaw, belly)
- Yellowing of the gums or eyes
- Sunburn or scabs (especially on areas of light skin)
- Weight loss or poor rumen fill
- Tiredness
- Rubbing or seeking shade
- Aggression or signs of pain (like colic)
- Liver damage confirmed by blood tests (GGT often over 200 IU/L), post-mortem or histology.

SUBCLINICAL (HIDDEN) FE – LOOK FOR THESE SIGNS:

- Reduced production, such as:
  - Poor scanning results
  - Abortions
  - Unexplained weight loss
  - Lower milk production
- Liver damage confirmed by blood tests (GGT over 70 IU/L), post-mortem or histology.

To confirm clinical FE (visual FE) or subclinical FE (hidden FE), you must either:

- Be in an area known to have toxic FE spores, or
- Have tested and toxic spores are present.

Note: GGT can be raised due to other things aside from FE like liver fluke or hepatotoxic plants like ragwort, St Johns Wort, blue lupins.

When it happens

- **Most cases:** January to May
- **Sometimes delayed:** FE can be seen in ewes or cows in spring time. This is caused when animals have suffered several seasons of sub clinical facial eczema (liver and bile duct damage) and the extra stress of calving / lambing and milk production tips the liver into liver failure.

What can you do?

These are the tools in the toolbox for farmers to monitor and manage FE:

KEEP AN EYE ON THE WEATHER

The fungi grow best in warm moist environments. Night time temperatures of 12-13°C for several nights with high humidity are the perfect conditions. Spore counts can rise rapidly, particularly if you have had a warm, dry spell and there is a small amount of moisture to create humid conditions.

MONITOR FE SPORE COUNTS

Monitoring spore counts early in the season, well before they climb creates the opportunity to optimise FE management on your farm. Check out the regional monitoring of pasture carried out by your vet clinic. Once spores are at 20,000 spores/gram, you should start monitoring on your farm to know when to start making management decisions. There are two ways you can monitor your spore counts:

Pasture spore counts – identify the risk of the pasture your livestock will be grazing. It is recommended to monitor paddocks prior to putting stock in. There is large variability within and between paddocks.

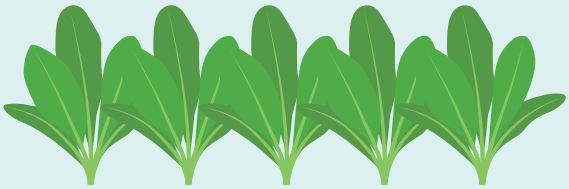
Faecal spore counts – identify the risk to your livestock through what they are actually eating. This method only assesses risk on the pasture your animals are currently grazing.

For pasture and faecal spore counts, the important thing is monitoring the trend of spore counts. If they are trending upwards, make sure you start your animal management plan when your pasture counts get to 30,000 spores/gram. For faecal spore counts, be vigilant when your spore counts get to 100,000 spores/gram dry weight of faeces.

SELECT LOW RISK CROPS AND FORAGES

Crops are a good way to protect your stock during high FE risk times (summer and autumn). Examples of these are fodder beet, brassicas, chicory, red clover and sulla. These may also have the additional benefit of improving internal parasite management https://beeflambnz.com/knowledge-hub/blnz-wormwise-programme/worms-your-farm-system/forages-and-worms

For a list of lower risk FE forages see this factsheet https://beeflambnz.com/knowledge-hub/PDF/facial-eczema-pasture-species.pdf



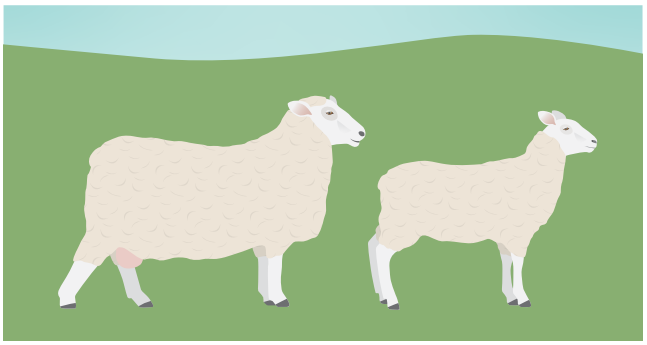
AVOID HARD GRAZING TO MINIMISE FE RISK

Because FE spores live mainly at the bottom of the sward, hard grazing increases your FE risk. Light grazing and short intervals are optimal to minimise exposure to FE spores that are mainly in the bottom of the sward. Ensure this tool is used as part of your farm system so you do not inadvertently reduce the quality of your pasture.

OPTIMISING PASTURE HEALTH AND BEING AWARE OF OVERGRAZING REDUCES YOUR FE RISK

Using safe paddocks based on FE spore counts is a good idea and fencing off areas you know are hot spots, like gulleys.

Reduce dry matter in your sward – the dry matter is where the fungi prefer to grow, so the more dry matter you have, the greater the risk of more FE spores. Another alternative is to offer supplementary feed during high FE risk periods to avoid or reduce the number of spores the animals are eating.



GENETICS

For sheep, breeding values for FE tolerance have been incorporated into the genetic evaluations for over 30 years. Breeders testing for FE tolerance can be found on nprove.nz and here are some questions you might think to ask your ram breeder about FE: https://www.youtube.com/watch?v=g4_Z8_4XwSs

For cows, talk to your breeding companies as they offer FE tolerant sires in their bull catalogues.

Healthy, well-fed stock will cope better with stress and disease, but targeted FE prevention remains essential.

ZINC PROTECTION

Zinc can be administered by bolus, drench, through water or feed to potentially minimise animal health impacts. Effective zinc management relies on correct dose rates and for best results, administered before spore counts rise over 30,000 spores/g of pasture. Don't stop your zinc management until you know the risk is gone. Monitor your counts before you stop.

FUNGICIDE SPRAYS

Fungi go through several life stages, and fungicides can slow them down by targeting some of these stages before they get going. To be effective for facial eczema, fungicides need to be applied before the fungus starts producing spores, which is often when pastures are still green and actively growing. It's important to remember that these products are not specific for the fungus associated with FE and can affect other beneficial organisms in the environment. As with zinc, always use appropriate safety precautions when handling and applying fungicides. Please follow all manufacturers instructions.

For developing an animal management plan for FE or further advice, please get in touch with your vet or animal health advisor.

MORE INFORMATION

This Factsheet is supported by the Facial Eczema Resource section on the Knowledge Hub Facial eczema resources | Beef + Lamb New Zealand. This is where you will get the most up to date information coming out of the Eliminating Facial Eczema Impacts Programme.

If you have further questions relating to Facial Eczema please talk to your vet.

EFEI Eliminating Facial Eczema Impacts

beef+lamb new zealand

Ministry for Primary Industries
Manatū Ahu Matua