



How tolerant is tolerant?

Sheep breeders, concerned with the confusion surrounding the sale of facial eczema (FE)-tolerant seed stock, have recently launched the FE Gold brand.

The aim of the brand is to identify the ram breeders who have achieved the highest level of FE tolerance in their flocks. For buyers, the brand provides an assurance that they are buying genetics which have had years of breeding, selecting and testing for FE behind them.

The criteria for qualifying for the FE Gold brand includes having tested for FE for a minimum of 10 years, be testing at 0.6mg/kg (this where the animal is dosed with the toxin and bloods tests assessing liver damage measures how tolerant the ram is to the FE causing toxin) and test 10% of sale rams.

Once qualified, breeders can use the logo in their advertising material and will have their names listed on the FE Gold website; www.FEGold.co.nz

The initiative is in response to rams being incorrectly marketed as being FE tolerant when they have not been tested and are simply the progeny of FE tolerant rams whose genetics have potentially been diluted.

Alastair Reeves , a Romney breeder and member of the steering committee that established the brand, explains that as breeders, they can't control their genetic material once it's sold. But they can educate clients to ask the right questions about what they are buying. These include asking what percentage of sale stock has been tested (tests are expensive but FE Gold breeders test a representative sample of at least 10% of their sale rams) and the level of tolerance. Alastair says the FE Gold brand not only protects buyers, it also protects the enormous investment in both time and money that breeders have, over many years, have invested in selecting FE tolerant sheep.

'The investment generations of breeders have made, prior to ourselves, shouldn't just be sold for \$1000.'
Breeders wanting to use the FE Gold brand need to apply every year to ensure they meet the criteria however, Alastair says there is some flexibility with breeds which have not had the years of testing and selection behind them. For some breeders, the establishment of a set of criteria as put the impetus on them to lift their testing, selecting and recording to another level in order to qualify for the FE Gold brand.

The steering committee which launched the brand is made up of people representing a number of different sheep breeds; romney, coopworth and perendale. Neville Ames from Ramguard, which does the FE testing, is also on the committee and Mark Young from SIL is also involved in the initiative.

Alastair says while there are treatments for clinical FE, these are expensive in both time and money so breeding sheep that are tolerant to the spores that cause the disease is the best long-term method of control.

While tolerance has a high heritability, it will still take 10 years of breeding with FE tolerant rams to attain a high level of tolerance in the ewe flock.

'You will see improvements right away but it takes selection and time.'

FE resistance remains the Holy Grail, but Alastair says there are a large number of genes involved and so while some flocks can claim to have a high level of tolerance and never show any clinical signs of the diseases, they cannot yet be classed as resistant.

Facial eczema is a devastating disease throughout the North Island and the FE Goldbrand will be a valuable tool in identifying breeders who have been committed to breeding FE Tolerant sheep for a number of years. Neville Amyes from Ramguard (the name of AgResearch's FE testing service) says the .6 threshold established by FE Gold reflects the time and effort taken by breeders to get to that level of tolerance.

He says 20 years ago, breeders started at a tolerance level of virtually zero and getting to .6 has been a long, slow process because, as Amyes points out, FE is not the only trait breeders are selecting for . It takes two or three generations of ewes to get a degree of tolerance in a flock.

Amyes says having FE tolerant rams out in the market is a good thing, however there are different degrees of tolerance and that is what FE Gold is all about.

Unless breeders are actually testing rams, they cannot know what level of tolerance they have and commercial breeders in susceptible parts of the country should ensure they are buying rams from a flock that has been Ramguard tested.

Bruce Orr, livestock genetics manager for PGG Wrightson and Brent Bougen from NZ Farmers Livestock have both welcomed the FE Gold initiative

Orr says this non breed specific group of like-minded and forward- thinking ram breeders are to be commended for their vision and initiative in joining together and facing and addressing the challenges of what is undoubtedly the largest and most debilitating constraint on our sheep industry especially in the top half of the North Island.

What cause facial eczema?

FE is caused by the spores of a fungus *Pithomyces chartarum*, which lives in the base of pasture. Once swallowed, the spores release a toxin which can damage the liver and bile ducts. If the bile ducts become blocked, bile and other waste products build up in the bloodstream and cause sensitivity to light.

The fungus is always in the pasture but when soil and moisture levels are high the fungus grows very rapidly producing vast quantities of toxic spores.

The symptoms of FE include photosensitivity, rubbing heads against stationary objects, drooping red eye and swollen eyes. Exposed areas develop weeping dermatitis and scabby skin which can become infected and flyblown.

FE can cause significant production losses and death.