

PHYTER is a fertiliser adjuvant containing *Trichoderma viride* fungal spores and Mycelia, cultured by Landcare Research, for use in conjunction with MOANA products. This combination of organic nutrient and PHYTER, boosts microbial levels in soil and on plants.

ACTION

Phyter is introduced to the leaf or soil mixed with Moana products to act as food for the Trichoderma, boosting its population. Worldwide research has proven the ability of Trichoderma to suppress the fungi considered harmful to plants. These fungi include:

- Botrytis
- Fusarium
- Sclerotinia
- Armillaria
- Phytophthora
- Pythium

Soil fungi are widely recognised for their role in the organic breakdown of soil-bound nutrients in forms readily available to plants. Moana products and Phyter enhance this process.

USES

Phyter may be used in Agricultural, Horticultural or Viticultural situations where it is desirable to either increase the prevalence of, or re-establish, *Trichoderma viride* spp. in the soil and plant environment.

DIRECTIONS FOR USE

Soil Application:

Dilute 20L of Moana Natural in 400-600L of water in your spray tank, then add 100mls Phyter and mix. Spray direct onto the soil within the drip line of the tree, approximately 40L per large tree,

Apply in early morning or evening to avoid fast evaporation, soil should be moist to assist uptake.

Foliar Spray:

Dilute 5-10L of Moana Natural in 250-400L of water in your spray-tank, then add 100mls Phyter and mix. Spray onto the leaves until they just start dripping. This should cover an area of 1 Hectare of vines. Apply early morning or early evening.

WARNING

Phyter is a living *Trichoderma viride* fungi which is easily destroyed by contamination from other chemical fungicide, herbicide and insecticide residues. All application equipment should be thoroughly flushed before use. Phyter must not be mixed with undiluted Moana products.

STORAGE

Phyter has a 90-day shelf life from the date of manufacture, subject to being stored in cool conditions, out of direct sunlight. Do not freeze.

PATENT NOTE

The method of mixing Phyter with Moana products is a patented process. Phyter must not be used with other forms of nutrient or fertilisers.

To Suppress Facial Eczema and Boost Pasture Trace Elements

DESCRIPTION

Using Phyter and Moana products as a joint application to combat Facial Eczema on pasture and also replace Boron, Copper, Zinc, Cobalt, Selenium and Iodine in pasture as required for plant and animal health.

ACTION

Facial Eczema spore population builds up after summer / autumn rains and humid weather. The Trace elements will be more easily absorbed once the grass becomes greener. Please note timing of application is important.

USES

To accurately measure the trace elements in pasture, a leaf test is required to see what needs replacing. Using the leaf test as a starting point, use the Moana Chelate pamphlet as a guide of how much Moana trace element to apply to restore the pasture back into balance. Then add fungi (Phyter) which uses the Moana Chelates as a food to increase its population to help control Facial Eczema.

NZ TRIALS

MOANA® & PHYTER® Products in Pasture with Facial Eczema Spores.

AIM

To see if facial eczema spores were affected when MOANA Zinc, MOANA Copper, MOANA Natural and PHYTER were used.

FINDINGS

Spore counts before spraying:- 55000

PLOT	TREATMENT	SPORE COUNTS POST SPRAYING		
		5 days	8 days	22 days
1	Benlate 300g/ha, Topsin 700 mls/ha		100,000+	
2	2L/ha Moana Zinc, 500ml/ha Moana Copper, 100 ml/ha Phyter			6-8000
3	Benlate 300g/ha, Topsin 700ml/ha		100,000+	
4	2L/ha Moana Zinc, 500ml/ha Moana Copper, 4L/ha Moana Natural, 100ml/ha Phyter	No change in spore count		6-8000
5	Benlate 300g/ha, Topsin 700ml/ha		100,000+	
6	2L/ha Moana Zinc, 500ml/ha Moana Copper, 4L/ha Moana Natural, 100ml/ha Phyter	No change in spore count		6-8000
7	Benlate 300g/ha, Topsin 700ml/ha		100,000+	

SUMMARY

The plots treated with MOANA zinc, MOANA copper, and PHYTER had the same effect as those that had the same treatment plus MOANA Natural. The spore counts were a lot lower in the plots that were treated with the organic products. With a more regular spray programme it could be possible to get the spore count lower.

MOANA® Copper & MOANA® Zinc in Pasture.

AIM

To see if the level of copper and zinc in pasture is increased with using these two MOANA products.

TREATMENTS

MOANA Zinc | 2ltr/ha
MOANA Copper | 500ml/ha

FINDINGS

Plot	BEFORE	AFTER	BEFORE	AFTER
	Zn (ppm)	Zn (ppm)	Cu (ppm)	Cu(ppm)
B1	51	59	11	17
B2	48	71	11	20
B3	41	66	8	18
Mean	46.7	65.3	10	18.3

SUMMARY

There was a statistically significant difference in both trace element levels after spraying with the MOANA products.

NZ Trials: Dr R G Collin Ruakura, Job Code 16050/0500

ANIMAL HEALTH 29

Scientists take the fight to facial eczema

BY ROGER COLLIN - AgResearch Ruakura

A UNIQUE method of dealing with the deadly disease of facial eczema in livestock is being investigated by researchers at AgResearch, Ruakura.

This involves using non-toxic strains of the facial eczema fungus, which are sprayed on to pasture to compete with the toxic strains already present. Field trials on farms, over the last three years, have proven that the non-toxic biocontrol fungus can reduce the toxin that causes facial eczema by as much as 80 per cent.

In one trial, one half of a paddock was treated with the biocontrol fungus while the other half was left untreated. A fence was placed between the two halves of the paddock.

A group of lambs grazed the treated half of the paddock, while a second group grazed the untreated half.

Blood GGT levels were measured throughout the

trial to detect any facial eczema induced liver damage. There were no increases in GGT levels in lambs on the treated half, indicating that they were free of facial eczema. However, lambs on the untreated half of the paddock showed rises in GGT levels indicating that they suffered liver damage caused by the facial eczema fungus.

The biocontrol method is currently being refined to produce a low cost long-lasting product which will give protection against facial eczema for an entire season with one spray. It is hoped that future developments of this product will be available to farmers to complement existing methods for the control of facial eczema.

Last season was particularly severe for facial eczema, with livestock being affected around the Waikato. A survey of liver damage in dairy herds by Tony Fraser (Animal Health Laboratory, MAF, Ruakura), showed that 1998 was the worst year for cattle liver damage since 1990.



MOANA Natural | Extra | Chelates

www.biofert.co.nz

FREEPHONE 0800 722 246

PH +64 (0) 9 233 6491

FAX +64 (0) 9 233 6492

EMAIL admin@biofert.co.nz