Biozest®

The Profitable & Sustainable Farming Solution for Conventional & Organic Production

Biozest has been developed, tested and proven on New Zealand farms.

Biozest increases pasture productivity and ruminant efficiency to increase returns and reduce the environmental impact of farming.

- Increases pasture productivity, palatability and performance
- Increases ruminant efficiency (milk and meat production) and reduces waste (urea and greenhouse gases)
- MPI approved (ACVM exempt)
- Approved by BioGro (5943).



www.biozest.com
09 238 3893
info@zestbiotech.co.nz

Zest Biotech
15 The Glade (South) Pukekohe
AUCKLAND 2120 NEW ZEALAND

What Is Biozest?

- Biozest is a pasture spray for organic & conventional farms.
- Biozest helps pasture naturally resist stress and damage and improves pasture growth, quality and resilience.
- Biozest treated pasture is more easily converted to valuable meat and milk instead of waste products like urea and greenhouse gases.
- Biozest is manufactured from plant extracts, fatty acids, plant compatible organic acids and wetting agents.



Key Benefits and Trial Examples

Increased Pasture Productivity

Set A - Harvested Sunday 21 October.								
	Spray 1	Spray 2	Spray 3	Locked up	Hectares	Bales (total)	Bales (per ha)	% increase in yield per hectare
Treated	**26/06/2017**	**30/06/2017**	**n/a**	**15/07/2017**	**9.17**	**110**	**11.3**	**117%**
Untreated				15/07/2017	8.2	43	5.2	p=0.005 (99.5% confidence level)
Set B - Harvested Friday 24 November								
	Spray 1	Spray 2	Spray 3	Locked up	Hectares	Bales (total)	Bales (per ha)	% increase in yield per hectare
Treated	**26/06/2017**	**30/08/2017**	**13/09/2017**	**20/09/2017**	**3.48**	**71**	**20.4**	**115%**
Untreated				20/09/2017	4.1	39	9.5	P=02 (98% confidence level)

In this baleage trial, all Biozest treated paddocks, in both set A and Set B, outperformed the untreated paddocks. Overall, the Biozest treated paddocks yielded over **2.2x as many bales** as the untreated paddocks.

Increased Milk/Meat Production

This trial was carried out on a dairy farm on the Hauraki Plains. In autumn, gestating cows grazed Biozest treated pasture and untreated pasture in cycles of approximately 8 to 10 days.

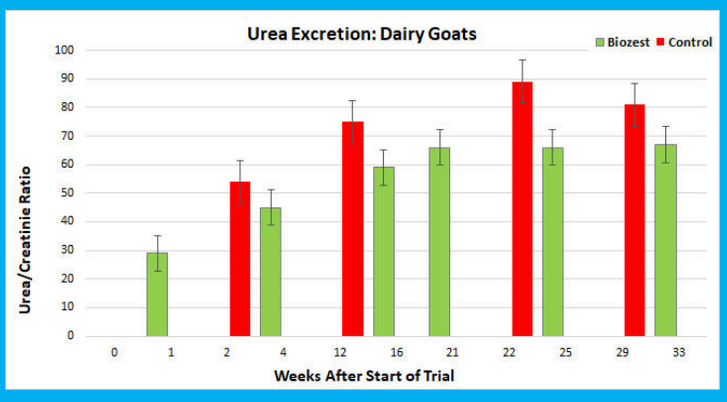
Milk Solids Production				
		MS (kg/day)	% Protein	%Fat
Control		753	3.36	4.18
Treated		817	3.47	4.69
% increase		**8.50%**	**3.30%**	**12.20%**

Dairy cows grazing on Biozest treated pasture produced **8.5% more milk solids and 12.2% more fat per litre** compared to when they were feeding on control (untreated) pasture.

Reduced Urea and Greenhouse Gases

Urine tests from dairy goats that were fed treated and control pasture in rotation showed that less urea is discharged when the dairy goats are fed Biozest treated pasture.

The average decrease in urea excretion is 26% (2-tailed t-test p=0.03).



How Does Biozest Work?

1. Increase Pasture Productivity

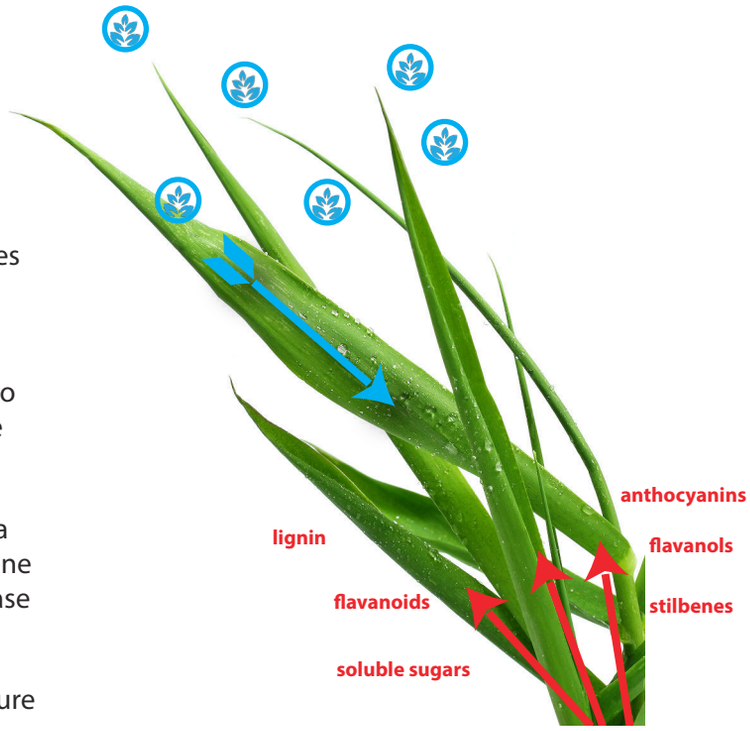
Biozest is applied to pasture as a liquid spray.

All plants have receptors on their surfaces that detect changes (such as high UV light, pest attack or disease) and trigger an immune/defence response from within the plant.

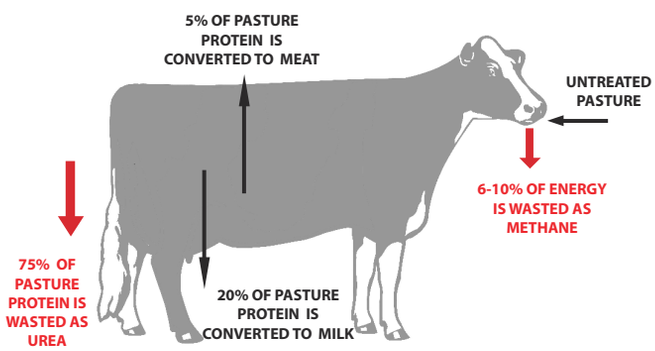
Biozest is designed to be detected by these same receptors so that plants respond to Biozest via the same immune/defence system.

This triggers the 'phenylpropanoid pathway' - production of a wide range of bioactive molecules which sustain plant immune systems, assisting plants to overcome stress from pests, disease and environmental effects such as frost or drought.

By producing these bioactive molecules Biozest treated pasture is more resilient and more productive.

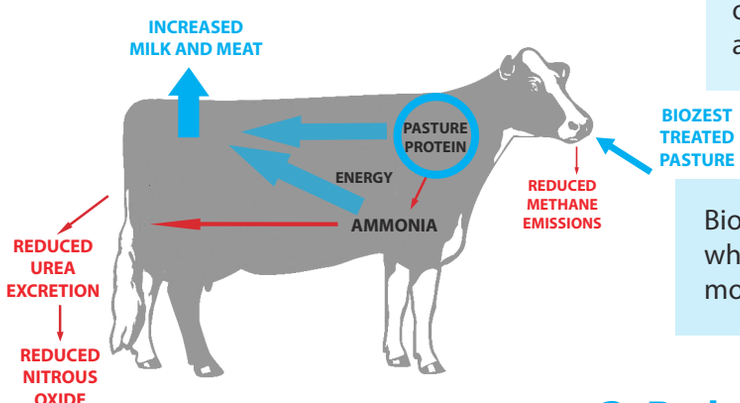


2. Increase Ruminant Efficiency



Ruminants are inefficient. Only 20-25% of pasture protein is converted to milk or meat. The rest is lost as waste via urine and manure while energy is lost as methane gas.

The bioactive molecules (phenylpropanoids) in Biozest treated pasture protect the protein so more pasture is converted to milk or meat instead of being broken down to ammonia and excreted as urea.



Biozest treated pasture also has higher levels of soluble sugars which provide energy at key stages of digestion and allow even more pasture to be converted to milk or meat.

3. Reduce Waste

Pollution is the result of wasted resources. Urea is a loss of valuable protein and methane is lost energy. By utilising more pasture protein for milk or meat and reducing urea production, the building blocks for methanogenisis are diverted away to other metabolic pathways. Biozest enables ruminants to better utilise the pasture they are fed - so waste in the form of both urea and methane will be reduced.

Directions For Use

Fill sprayer tank with water.
Shake Biozest container several times to reconstitute content.
Add Biozest & rinse container into tank.
Agitate thoroughly before spraying.
Compatibility with additional products must be tested prior to application.

Dairy Farms
Rate:1 litre of Biozest (in 50 to 500 litres of water) per hectare.
Initial Treatment: 2 applications 3 to 5 days apart.
Follow on treatment: 1 application 3 to 5 days after grazing.

Dry Stock Farms
Rate:1 litre of Biozest (in 50 to 500 litres of water) per hectare.
Initial Treatment: 2 applications 3 to 5 days apart.
Followed by 1 application in spring, summer, autumn and winter.

Stock Finishing Paddocks Only
Rate:1 litre of Biozest (in 50 to 500 litres of water) per hectare.
Initial Treatment: 2 applications 3 to 5 days apart.
Follow on treatment: 1 application 3 to 5 days after grazing.

Testimonials

"Man alive did I see some results. Growth was up to 30kg of dry matter a day, compared with 10kg to 15kg normally. The grass just took off. Everything grew, clovers and all. And the cows ate it all, right down and evenly across the paddock - even the urine and dung patches"
Mike Walsh, Opunake

"I've noticed vastly improved recovery on frost damaged pasture, thicker pasture swards and thicker appearance. The clover seems to be more prominent and larger leafed. Cows and calves have responded well and chose to graze the treated side for most of the day."
Stan Matenga, Whangarei

"Dung is considerably thicker or more solid. Cows seem to graze the paddock harder. When changing to control paddocks dung is thin again."

"...effect on milk production was almost instant. As soon as cows go onto Biozest treated pasture the fat and protein content shot up... Urine samples from grazing of treated and untreated paddocks show biozest reduced urea excretion by 33%."
Henry Schipper, Hauraki Plains

"Biozest is a good product and it has helped us take our milk production from 33,000kg milk solids to 44,000 with the same number of animals. The goats processed grass more efficiently and lab tests show urea excretion reduced by 37%"
Jeff Graham, Pukeatua, Waikato

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