



# BioActive Soils

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OVERVIEW 2020



# COMPANY

- NZ Owned- Southland based business
- Operating for over 9 years
- 4 years under the current brand
- Biological fertiliser for maximising the health and nutrition of soils, plants and animals



# Product Points Of Difference

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- **Biology** based solid fertilizer
- Feeds both the **soil and the plant**
- **Microbes and nutrients**- sourced from open ocean fish
- Benefit from **100% useable** product: minimise Nitrogen leaching, evaporation and nutrient “lock-up” in soils
- Create **recipe product solutions** tailored to individual needs and issues
- Product Performance Improvement- **30% increase** over last 2 years through extensive trials and testing



# 5 Key Product Benefits

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Every time you apply Bio Active Soil Products:

1. Stimulates strong, healthy **nutrient rich plant growth**
2. **Significantly improves** the soils structure, living micro-organism environment and worm population
3. Provides **immediate and sustained** grass grub, porina and weevil control
4. Builds active carbon in the soil (humus) for **improved moisture retention**- every 1% increase in carbon = 4 litres water holding capacity per cubic m<sup>2</sup>
5. Provides **essential vitamins, proteins, Omega 3 and fats** from fish into the animals health



# Healthy Soils Provide

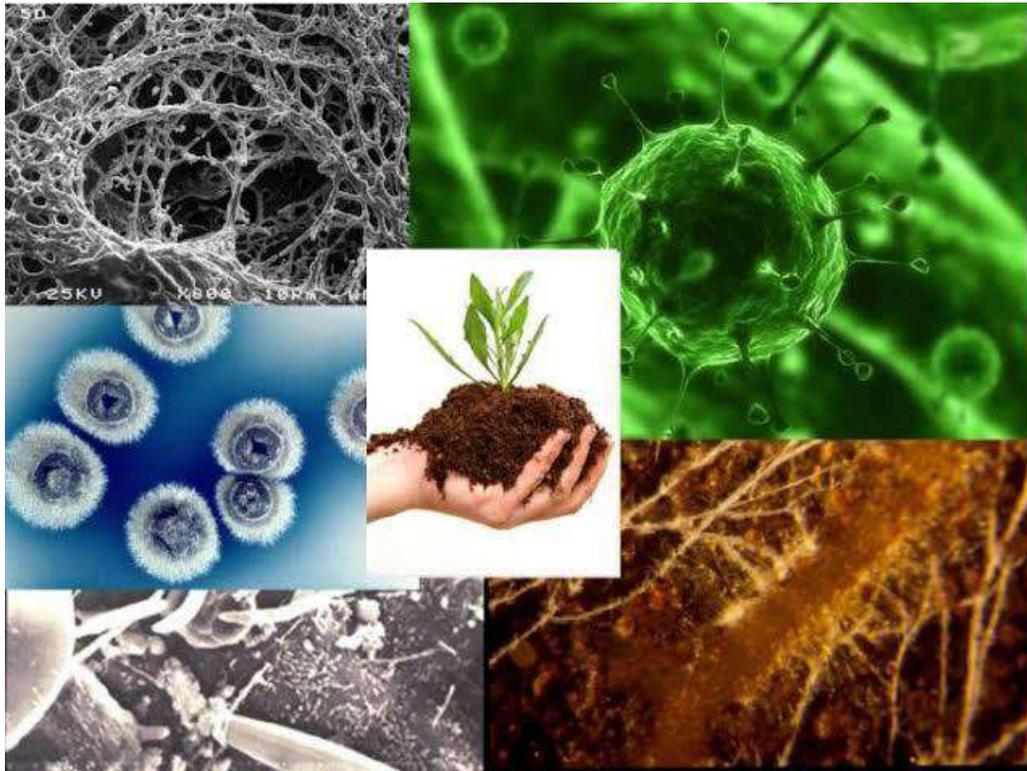
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- ✓ Better **water-moisture holding** capacity
- ✓ Nutrient rich environment for **healthy root development** and efficient uptake by plants
- ✓ **Ideal environment** for living organisms and beneficial bacteria and fungi to thrive
- ✓ A healthy **worm population**
- ✓ Excellent **soil structure** to maximise water, air, mineral and humus functions

# Soil Microbes Improve

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- ✓ **Nitrogen fixation** to stimulate plant growth
- ✓ **Unlocking** essential minerals and elements to develop healthy, nutrient dense plants
- ✓ Key functions in the interaction zone between **soil and roots**
- ✓ Soil degradation **repair**, compaction and anaerobic issues

# Better Soil Biology Improves

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**Mycorrhizal Fungi-** combats disease & significantly increases nutrient and water uptake by plants through root-zone extension



**Humus-** like a sponge in the soil can hold up to 90% of its weight in water



**Earthworms-** a healthy population is a good indicator of the right soil conditions for plants to grow



All Bio Active Soils products are rich with sea-based microbes and minerals for healthy plant and animal development

All base fertiliser products provide active- ongoing protection against grass grub, porina and root weevil



Cobalt, Zinc,  
Copper, Boron and  
Selenium trace  
elements are also  
added if required  
for animal health  
benefits



9 Step  
manufacturing  
process for  
nurturing, growing  
and stabilising  
living organisms  
into the fertiliser-  
carefully  
controlled,  
analysed and  
tested



# Key Products

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**Bio Boost-** ideal for fast plant growth (similar performance to Urea)

**Crop Mix-** specifically created to suite the crop type- brassicas, fodder beet, cereals, maize, composites

**Lick-** animal health supplement full of fish proteins, pro-biotics, vitamins, minerals and trace elements

**Tonic-** an oil-based liquid animal health supplement full of proteins, vitamins and pro-biotics sold in 20 litre containers

Final products are "tailor- made" based on independent herbage test results and a customers pasture or crop-objectives and issues

**eurofins** AR-20-NU-081014-01 1 2

### ANALYTICAL REPORT

<b>REPORT CODE</b> AR-20-NU-081014-01 XXXXXXXX Cl: BioActive Soils Invercargill	<b>REPORT DATE</b> 08/10/2020 BioActive Soils Steve Ellison 123 Black Road RD 9 INVERCARGILL 9879 NEW ZEALAND +64 21 778 918 steve@bioactivesoils.co.nz	
Contact for your orders: Sarah Jones	Order code: EUNZAU-00307401	Purchase Order Number: 721067

<b>Sample Name</b> First Young Grass	<b>Plant Type</b> Pasture Spring	
<b>Sample Code:</b> 816-2020-00250618	<b>Plant Type</b> Pasture Spring	
<b>Sampling Date:</b> 24/09/2020	<b>Main Animal Species</b> Sheep and Goat	
<b>Reception Date:</b> 29/09/2020	<b>Animal Species two</b> Beef	
<b>Analysis Ending Date:</b> 05/10/2020		

MACRO ELEMENTS	Units	Results	Plant Range	Plant Nutrition Desired	Sheep and Goat	Animal Nutrition Desired	Beef	Animal Nutrition Desired
NU251 Nitrogen	%	4.1	4.5-5.5		0.24-0.4	0.6-1.2	0.24-0.4	
NU288 Phosphorus	%	0.39	0.35-0.4		0.6-1.2	0.6-1.2	0.6-1.2	
NU279 Potassium	%	3.3	2.5-3		0.18-0.4	0.18-0.4	0.18-0.4	
NU341 Sulfur	%	0.40	0.28-0.4		0.3-0.8	0.4-0.8	0.4-0.8	
NU056 Calcium	%	0.73	0.25-0.5		0.12-0.2	0.19-0.25	0.19-0.25	
NU187 Magnesium	%	0.20	0.16-0.22		0.1-0.2	0.12-0.3	0.12-0.3	
NU324 Sodium	%	0.10						
NU08G Total Recoverable Silicon	mg/kg	35.7						

TRACE ELEMENTS	Units	Results	Plant Range	Plant Nutrition Desired	Sheep and Goat	Animal Nutrition Desired	Beef	Animal Nutrition Desired
NU196 Manganese	mg/kg	120	25-30		25-40	25-40	25-40	
NU108 Copper	mg/kg	7.3	6-7		5-10	5-10	5-10	
NU046 Boron	mg/kg	9.6	6-15					
NU394 Zinc	mg/kg	21	20-50		20-40	20-40	20-40	
NU188 Iron	mg/kg	160	50-60		10-200	10-200	10-200	
NU097 Cobalt	mg/kg	0.20			0.04-0.2	0.04-0.2	0.04-0.2	
NU232 Molybdenum	mg/kg	0.18			0.05-1	0.05-1	0.05-1	
NU294 Selenium	mg/kg	0.02			0.03-0.3	0.03-0.3	0.03-0.3	
NU017 Aluminium	mg/kg	180						
NU350 Titanium	mg/kg	14						

**REPORT INFORMATION**  
 The Nitrogen Normal Range applies only to pastures sampled in an active stage of growth i.e. Spring and Autumn.  
 For high production dairy pasture the normal range for potassium should be modified to 3.00 ~ 3.50%.

**SAMPLE COMMENTS**  
 816-2020-00250618 First Young Grass  
 Soil contamination : Titanium result between 10 - 40 ppm would indicate slight soil contamination of the sample analysed. Soil contamination can lead to elevated levels of Cobalt, Iron and Molybdenum and can mask deficiencies of these elements

**LIST OF METHODS**

NU017 Aluminium: Microwave digestion, ICP_OES determination	NU046 Boron: Microwave digestion, ICP_OES determination
NU056 Calcium: Microwave digestion, ICP_OES determination	NU097 Cobalt: Microwave digestion, ICP_MS determination
NU08G Total Recoverable Silicon: Microwave Digestion, Determination by ICP-OES.	NU108 Copper: Microwave digestion, ICP_OES determination
NU108 Iron: Microwave digestion, ICP_OES determination	NU187 Magnesium: Microwave digestion, ICP_OES determination
	NU196 Manganese: Microwave digestion, ICP_OES determination

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### BioActive Soils Final Recipe Sheet

Date:	1/10/2020	Job #:	Recipe	Final #	200	
CUSTOMER DETAILS						
CUSTOMER NAME:	XXXXXX					
CUSTOMER ADDRESS:						
Phone:					Mobile:	
Additional Contact Details:						
DELIVERY INSTRUCTIONS						
Freight Company:						
ADDRESS (if required):						
Phone:					Mobile:	
Additional Freight Instructions:						
Specific Mixing Instructions: <b>YOUNG GRASS</b>						
Date Mixed:				Date Dispatched:		
<b>STANDARD INGREDIENTS</b>	<b>Mix Qty</b>	<b>Additional Instructions</b>	<b>NON STANDARD INGREDIENTS</b>	<b>Mix Qty</b>	<b>Additional Instructions</b>	
Fish Mix	20000	With roc salt	Humate	1000.00	Grass grab pasture	
Oyster Shell	4000	Health Fattening	Bio Boost	2300.00		
Guano			Activated P + Gypsum	5000.00	% P+++	
Himalayan Salt			Manganese Sulphate	200.00		
Dolomite			Iron Sulphate	200.00		
SoA			Mag/Carb	6000.00		
Kina/ Seaweed	4000	Health Fattening				
MAP			<b>SUB-TOTAL QTY</b>	<b>14700.00</b>		
Moly			<b>BAGS:</b>	<b># of Bags:</b>		
Boron	200		Bulk Bag (½ tonne):			
Cobalt	20.0		25kg bags:			
Copper	100		1000 Litre Pods:			
Selenium	200		20LTR Containers:			
Zinc	200		<b>BAGGING Comments:</b>			
SoP	4000					
Fish Mix- organic						
RPR/ Hi P						
Uflexite						
Microbe Inoculant						
<b>SUB-TOTAL QTY</b>	<b>32720</b>					
<b>TOTAL QTY</b>	<b>47420.00</b>					
<b>TOTAL MIX</b>	1)Add more Phosphate Also add Moly re clovers strengthening??					

Regular in-field review, measuring and testing is undertaken to ensure performance to objectives are being achieved



Our products excel with deer, and we offer options depending on velvet or meat production

(below photo- award winning velvet- Foveran Farm)



Active Biology at work- a 6 ft shark decomposed within the base fertiliser by micro-organisms after just 3 days at the factory

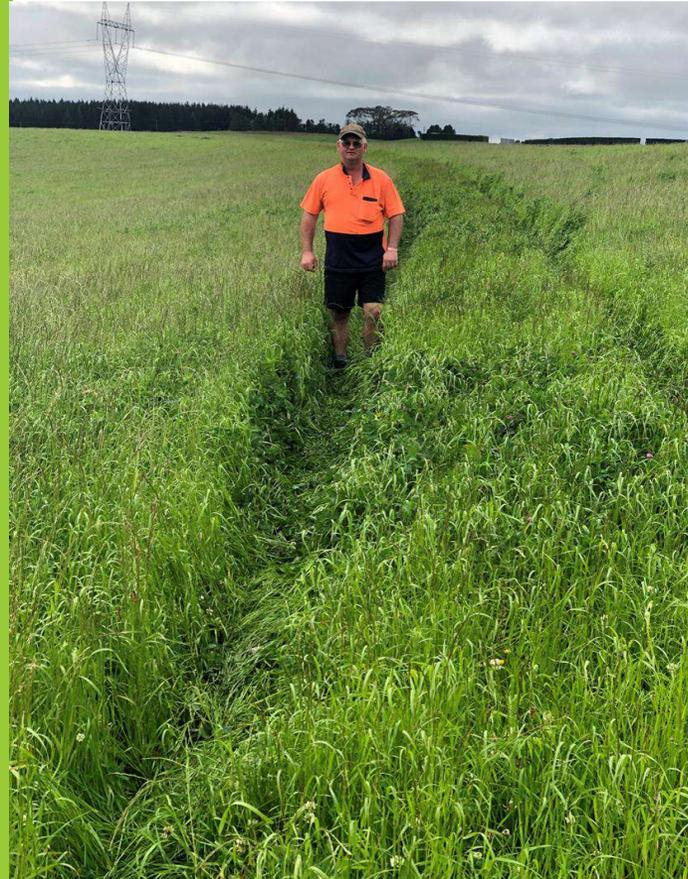


Our products create a healthy soil environment enabling a plants root system to optimally develop-ensuring maximum nutrient uptake to the plant



3rd Cut  
B Moncur Farm  
Southland  
March 2020

Impressive in a  
difficult growth  
Season- no  
sunshine



# Crops using Bio Active Fertiliser at altitude

(top photo Athol- Southland  
Bottom Photo- Lucerne Crop  
Tarras- Central Otago)



Direct Lucerne Crop  
comparison with  
synthetic fertiliser –  
Tarras Central Otago

Sown same day,  
same seed, same  
paddock

(left Synthetic fertiliser, right  
Bio Active fertiliser)



Run Off Paddock  
Dairy Grazing  
Tuapeka Mouth  
Southland  
20th October 2020



Pre First Cut  
Cut & Carry  
Pebbly Hill  
Southland  
27th October 2020



Pre First Cut  
Cut & Carry  
Pebbly Hill  
Southland  
9th November 2020



Showcasing a variety of results using BioActive Fertiliser



## Example Results

**Cut 196 bags of Baleage**/from 3.5 hectares/Morton Mains/Southland

**Additional livestock weight gain/1.2kgs per hogget** in 28 days/Long Gully Station- Tarras/Central Otago

**Increased Stock Carrying Capacity by 35% in 1 year**/same land area/Dairy Grazing/Tim O'Sullivan/Alexandra/Central Otago

**Increased Nutrient Density of a fodder beet crop by over 100%**; 1,200 to 2,800/ Digital EC probe readings/Tim O'Sullivan/Alexandra/Central Otago

# Base Product Example

**Typical Rate**      140kg/hectare

## **Bio Boost (Urea Replacement)**

- Excellent source of Biology- Micro Organisms
- Fast, healthy plant growth
- Maximise soil fertility
- Ideal source of premium calcium
- 100% useable- minimise leaching & evaporation
- Ongoing control of grass grub, porina and root weevil
- Contains essential vitamins, proteins, omega 3 and fats
- Builds active carbon (humus) in the soil
- Includes key plant growth elements- nitrogen, sulphur, potassium and magnesium
- On-going, sustained activity between applications

# EC Measurements

Electrical Conductivity Metre

Measures Ionic exchange between + & -- ions in the soil to show energy or “horsepower” for growth

1. Soil from a paddock 350
2. Urea + water 90
3. Crop Mix + water 16,080
4. Boost + water 16,610

## BioActive Soils Products

### 3. Crop Mix & 4. Boost



# NO<sub>3</sub> Metre

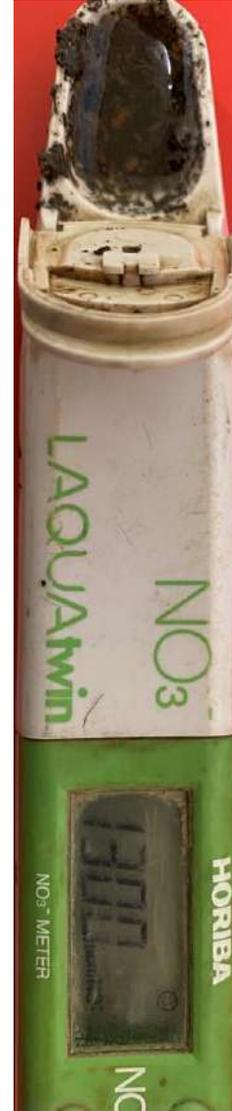
Measures Plant Available Nitrogen Levels



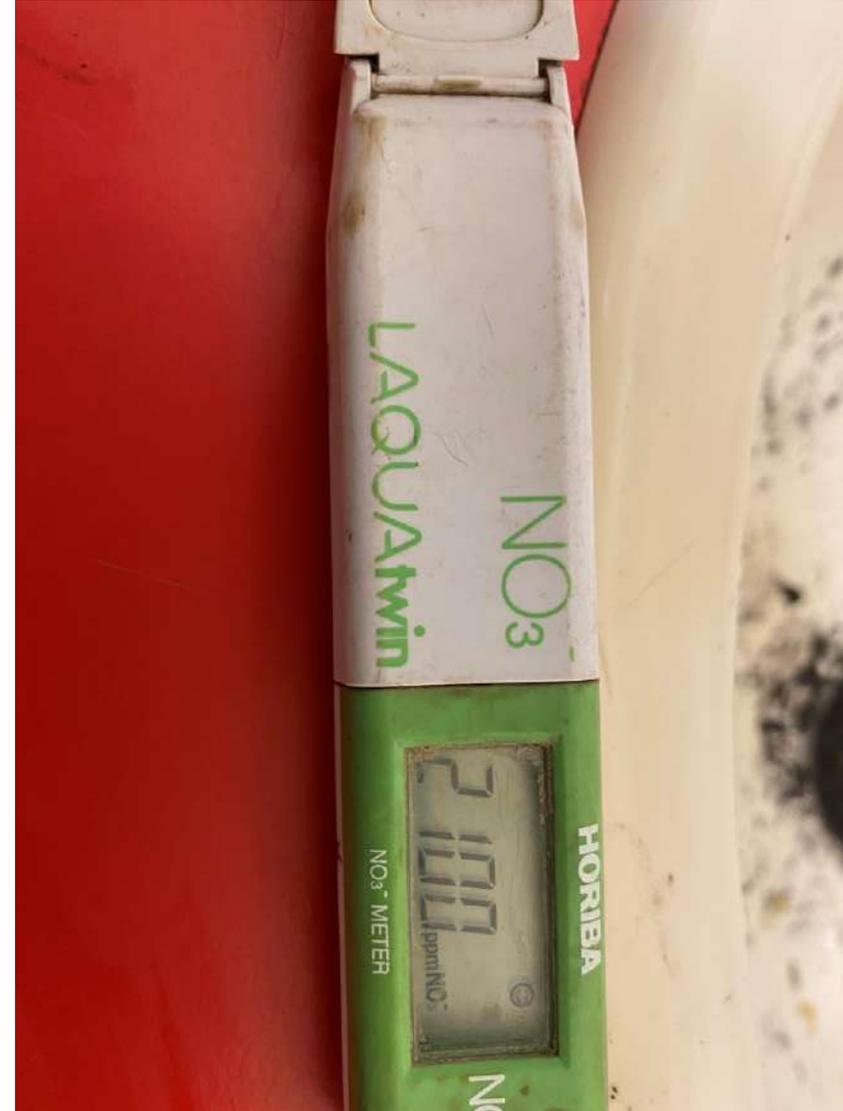
Urea (680) Crop Mix (1,300)



Crop Mix (1,300)



Boost (2,100)



# Key Sales Contacts

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Website

[www.bioactivesoils.co.nz](http://www.bioactivesoils.co.nz)