

# Power to the Ground



**Nitrosol**<sup>®</sup>  
Biological Fertilisers

CUSTOMER NEWS • OCTOBER 2022

## Power to the Ground Indeed

Welcome to Nitrosols first electronic Newsletter. And congratulations to you all who have adopted a more biological approach to your growing requirements whether you are agricultural or horticultural.

The evidence is overwhelming that we have given mother nature and her soil a hard time over a very considerable period of time, with the bulk application of synthetic fertilisers.

It is truly time we looked after the last frontier of soil, the microbiology. Nitrosol does just that.

The Nitrosol philosophy is to use a combination of readily available biological nutrients such as amino acids together with trace minerals and apply these in the “little and more often” approach as a foliar spray. This results in fast nutrition and stimulation of the plant itself to encourage natural processes such as photosynthesis. The plant is better able to provide carbohydrates and other nutrients which benefit the plant itself, as well as the surrounding biology, that in turn provides the plant with nutrients from the soil. In short, Nitrosol helps to promote a healthy biological system that can sustain itself naturally.

Over the last decade we have invested heavily into new and improved manufacturing procedures to blend one of the most highly regarded fertiliser materials, blood and bone, both fish and meat into a solid in suspension. We are proud that our formulations are produced from materials in the food chain that are not used for human consumption and would otherwise end up as landfill. Recycling at its best!!

Make the most of our 10% spring special for your fertiliser application, see page 4 in this newsletter.

To change tack, I can't help myself by hoping, that this current lot in Government will wake up and realise that agriculture and horticulture are the mainstays of this country and act accordingly. They say, chance is a fine thing.

In the meantime, keep looking after your land and treating it the way it should be treated...with Nitrosol!!

Stay well,  
Love life.



## Nitrosol Blending Versatility

One of the most popular requests for a blend of Nitrosol products is a combination of Nitrosol Oceanic together with Nitrosol Nitrogen Booster. This is used by many farmers on pasture.

### Why use a Nitrosol blend?

- Convenience – Nitrosol is compatible with many products and can be combined quite easily, usually on farm just before spraying, but in some cases can be blended in our factory, volumes permitting.
- Cost and time effective – Applying different products at the same time saves on application costs and reduces soil compaction from more traffic than necessary.

### What can be blended?

Many other agricultural products can be combined with Nitrosol and sprayed at the same time. Check with us for compatibility.

### Interested in a specific blend?

Talk to us about your application, we can advise on the compatibility and application rate as well as the application method, (air, ground, fertigation etc).

# Benefits of Foliar Feeding

Article below as seen in Dairy News publication, 6 September issue. Written by Bernard Kimble, Technical Manager, Nitrosol Limited

## **LIQUID FERTILISERS are foliar fertilisers.**

A foliar fertiliser is a fertiliser product that is designed to be applied directly to the leaves of the plant. Although the first recorded use of foliar fertilisers was in 1843, this practice remained limited for years.

A lot of research has been done on the benefits of foliar fertilising in the last 30 years. It was noticed that applying synthetic chemical fertilisers like urea, phosphates and potassium salts etc could be absorbed directly by the plants and provide fertilising benefits, and that if this was done the amount of fertiliser could be reduced.

There were limitations as not enough was known about how to penetrate the waxy cuticles of foliage or even why this occurred at all. Use of chelating agents such as Ethylenediaminetetraacetic Acid (EDTA) have been used to improve trace mineral uptake, but environmental concerns are beginning to limit the use of EDTA. In recent years the benefits of amino acids as chelating agents have been proven and these are becoming more widely used.

## **Foliar feeding has been found to be beneficial in the following ways:**

1. When soil conditions such as drought or cold conditions limit the availability of nutrients to the plant from the soil through transpiration.
2. Reduces the waste of fertiliser through leaching, runoff or volatilisation as occurs with many solid fertilisers.

3. Reduces the risk of over fertilising that has been found to have detrimental effects on beneficial soil organisms such as earthworms and beneficial microbes such as nitrogen fixing bacteria.
4. Faster uptake of nutrients resulting in quick response especially when nutrient deficiencies are present. This could be due to low nutrient levels in the soil or conditions such as low pH that prevents nutrient availability.
5. Ideal method for the concept of a little more often which reduces waste and improves soil health when formulated correctly.

Foliar feeding is more targeted and thus more environmentally friendly than bulk soil applied fertiliser. In addition to the fact that amino acids have been found to be very useful chelating

agents for trace minerals such as iron and zinc, and commercially synthesised amino acids like glycine (commonly used as chelating agents in some commercial foliar fertilisers), research has shown that mixed amino acids have additional benefits, some of which are:

- Attract moisture to the foliage to which they have been applied, which in turn assists with amino acid and other nutrient absorption.
- They act as building blocks for proteins that are essential for plant growth and function.
- They stimulate plant growth and enzyme production and activity.

- They work synergistically with other nutrients to the benefit of the plant.
- They reduce fertiliser requirement by complexing nutrients and helping to transport them to where they are needed in the plant.
- They contain not only nitrogen but carbon and some like methionine and cystine also contain sulphur.
- They have a stimulating effect on root growth which in turn allows for more efficient absorption of nutrients from the soil.
- They improve photosynthesis, resulting in higher carbohydrate production which benefits the plant and the beneficial root dwelling organisms.
- They also feed the beneficial organisms living within the plant that help the plant

minerals that had caused problems, none more so than the so-called "bush sickness" in New Zealand, due to natural deficiencies of cobalt in our volcanic soils.

Kauzal strongly believed that the best way of providing the deficient minerals was through the pasture that the stock was grazing on, and so he went about developing a liquid fertiliser that could be sprayed onto the pasture and be rapidly absorbed by the pasture to stimulate good pasture growth, as well as provide the essential minerals that were in short supply. And so Nitrosol, a liquid foliar fertiliser was born.

His development included a process to liquidise and stabilise this by-product, at the same time introducing key trace minerals such as zinc, selenium and cobalt. He knew that the benefits for plants was greater than expected and had something to do with the use of hydrolysed protein. Later research into the benefits of foliar applied amino acids would help to explain the extraordinary results that were seen with the product.

Recently we have witnessed a paradigm shift in the mindset of many farmers and growers, towards taking greater care of their soil biology in the knowledge that it is the sustainable path for the future, to provide more nutritiously dense food products for animals and humans.

in different ways including fighting off disease and plant eating insects.

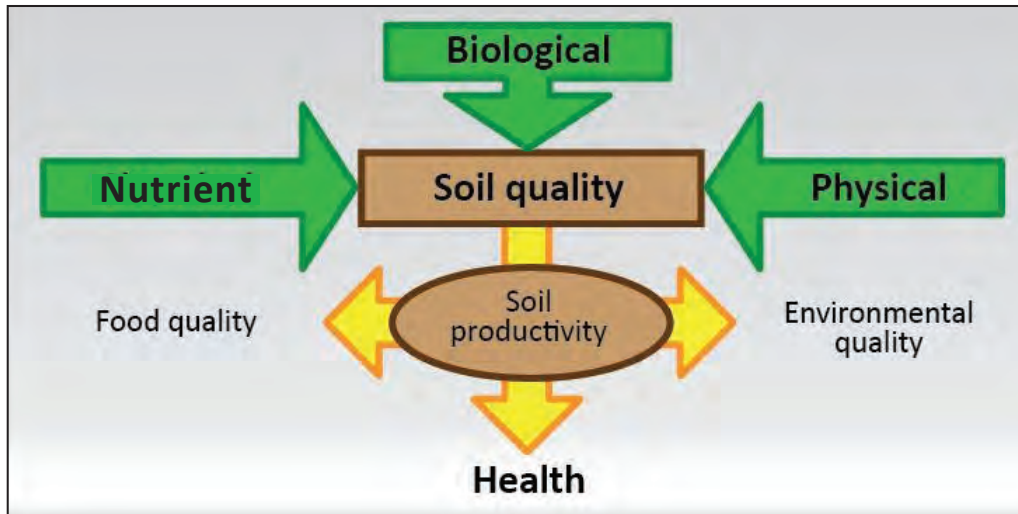
Enter Nitrosol, the brainchild of Dr Peter Kauzal, a veterinary scientist who worked in Australia fifty years ago. He developed this new generation liquid fertiliser by using a by-product of the New Zealand agricultural industry with a good source of nitrogen, phosphorous and potassium. He identified that the soil, and therefore pasture, plants and crops were lacking vital nutrients, trace elements and minerals.

Agricultural stock health was struggling in some areas due to the shortage of critical trace

“ Nitrosol works in harmony with the environment and is cost effective. ”

# Understanding Soil Science

### Improving soil quality with Nitrosol



The Nitrosol difference is in treating the soil as an entire system where the nutrient, physical and biological properties of the soil are combined to produce a healthy productive soil.

#### NUTRIENT PROPERTIES INCLUDE:

- Presence and availability of macro and micro nutrients
- pH of soil affects solubility and mobility of nutrients
- pH can also affect solubility and mobility of elements such as aluminium that are toxic to plants.

The little often approach of Nitrosol helps to avoid big pH swings that can negatively affect the availability of nutrients as well as making

toxic compounds more soluble and harmful to plants. Nitrosol also provides nutrients to the plants through foliar feeding at times when weather conditions limit translocation of nutrients from the soil to the plant. (dry and or cold conditions) This approach also reduces the risk of root burn and a negative effect on osmosis which is critical for nutrient absorption by the roots.

#### BIOLOGICAL PROPERTIES INCLUDE:

- Biodiversity and nutrient cycling. Earthworms for example, cycle organic matter and together with beneficial micro-organisms break down minerals to make nutrients more available

- Low pest numbers and the ability to suppress disease. Beneficial micro-organisms compete with harmful micro-organisms for dominance in soil.

Nitrosol also acts as a nutrient for soil organisms and stimulates photosynthesis. This results in more carbohydrates being made available by the crop to feed micro-organisms in the soil that in turn make soil bound nutrients available to the roots of plants. Some micro-organisms fix atmospheric nitrogen (plants can't fix nitrogen themselves). Other micro-organisms digest bound soil minerals (like phosphorus) and make them available to plants.

#### PHYSICAL PROPERTIES INCLUDE:

- Particle size and distribution affects soil type clay, sandy etc
- Water retention, infiltration and drainage affected by soil type and organic content
- Thermal stability improved by biological activity and organic and moisture content.

Nitrosol cannot change soil particle size but it can encourage biological activity which can affect soil temperature and soil cycling and porosity.

#### ABOUT NITROSOL

Our Nitrosol products are strongly oriented towards promoting 'life' in the soil. Nitrosol is

made from protein-rich natural sources that also contain calcium as well as a full range of plant available nutrients, minerals and trace elements. These all feed and nurture plants through both foliage as well as roots. The organic content includes soluble amino acids and carbohydrates which contribute to the development of the soil biology. This leads to better nutrient uptake by plants, raising brix levels and increasing dry matter production.

Farmers and growers find that Nitrosol makes a significant contribution to enhancing the life in their soils, improving crop yields and quality, improving the health of their grazing animals and also reducing their reliance upon, **the overuse of chemicals which are often expensive and potentially harmful.**

Enhancing your soil biology with Nitrosol has the added benefit of sequestering carbon and fixing nitrogen, a fact that will have **growing importance in the years ahead.**

#### ON-SITE SOIL APPRAISAL

We understand that all soil is unique. If you would like tailored advice on how to best improve the quality of your soil, one of our experienced team can visit for an on-site appraisal. We look forward to helping you with your query.



10%  
OFF

# Nitrosol Spring Special

**Nitrosol**<sup>®</sup>  
Biological Fertilisers

ORDER NOW UNTIL 30 NOVEMBER 2022

Now is the time to apply your Spring fertiliser.



100%  
New Zealand  
Owned &  
Operated

Fertiliser prices have gone sky-high, but not with Nitrosol!

Grab your 10% Spring Special now on the below manufactured natural liquid fertilisers.



## NITROSOL OCEANIC

1000lt \$4252.50 was \$4725.00

200lt \$891.00 was \$990.00



## NITROSOL ORIGINAL

1000lt \$4158.00 was \$4620.00

200lt \$869.40 was \$966.00



## NITROSOL NITROGEN BOOSTER

1000lt \$2695.50 was \$2995.00

200lt \$585.00 was \$650.00

### Spring Special Terms & Conditions:

- Order now until 30 November 2022 • Available for orders DIRECT only with Nitrosol Ltd
- Prices exclude GST & delivery and are subject to change without notice.

**100%**  
New Zealand  
Owned &  
Operated

# Nitrosol Product Range

**Nitrosol**<sup>®</sup>  
Biological Fertilisers

## NITROSOL ORIGINAL

Nitrosol Original ovine blood and bone for use in all horticultural crops and home gardens. Nitrosol Original has a balanced NPK of 11.5.7 plus trace elements and minerals and recommended for use in all horticultural crops and home garden.

20lt **\$185.90** • 100lt **\$615.00**  
200lt **\$966.00** • 1000lt **\$4620.00**



**SEE  
SPRING  
SPECIAL**

## NITROSOL MICROLIME

Nitrosol MicroLime is a finely ground high purity calcium carbonate used to increase pH or supply calcium. Certified Biogro organic input and IFOAM accredited.

25kg bag **\$17.50** • 1 tonne bag **\$630.00**



## NITROSOL CALCIPRILL

is a 2-6 mm lime granule made from finely ground, high purity limestone. It is low in dust, easy to spread and breaks down rapidly in moisture. It gives you the option of using your own fertiliser spreading equipment for a timelier application and can lower the risk of introducing off-farm pathogens or weeds.

500kg bag **\$225.00**



## NITROSOL OCEANIC

Nitrosol Oceanic is a liquid fertiliser manufactured from deep-sea fish blood and bone plus trace elements and minerals with a balanced NPK of 11.5.7.

20lt **\$193.05** • 100lt **\$625.00**  
200lt **\$990.00** • 1000lt **\$4725.00**



**SEE  
SPRING  
SPECIAL**

## NITROSOL MAGSULPHATE

includes 7.5% organic carbohydrates to feed and stimulate biological activity in the soil. Magnesium is an important plant nutrient that is often found to be deficient in New Zealand crops. Sulphur is essential for productive pastures, crops and animals.

200lt **\$300.00** • 1000lt **\$1421.00**



## NITROSOL ORGANIC

is a new liquid organic fish fertiliser developed for use as a certified input for organic farmers. Silky smooth and not gluggy with a vastly improved odour. Certified Biogro organic input and IFOAM accredited. NPK of 6.1.3

20lt **\$200.20** • 100lt **\$635.00**  
200lt **\$998.00** • 1000lt **\$4777.00**



## NITROSOL NITROGEN BOOSTER

Nitrogen Booster is a high nitrogen liquid formulation containing a balanced blend of nitrogen rich materials from plant based amino acids and dissolved urea. Nitrogen Booster has 21.5% nitrogen.

20lt **\$115.00** • 100lt **\$425.00**  
200lt **\$650.00** • 1000lt **\$2995.00**



**SEE  
SPRING  
SPECIAL**

## NITROSOL SEAWEED FLAKES

100% soluble seaweed flake derived from Ascophyllum Nodosum. Certified Biogro organic input and IFOAM accredited.

2kg pack **\$58.00** • 20kg box **\$529.00**



## NITROSOL GIBB A90

is a water soluble powder of gibberellic acid, a naturally occurring plant growth promotant.

**Apply at only 9gms per hectare.**  
540g tub **\$475.00**



Please note prices exclude GST & delivery, and are subject to change without notice. Purchase your products direct from Nitrosol Limited or your local rural merchant, eg: Farmlands, PGG Wrightson, Fruitfed, FarmSource, Horticulture etc.

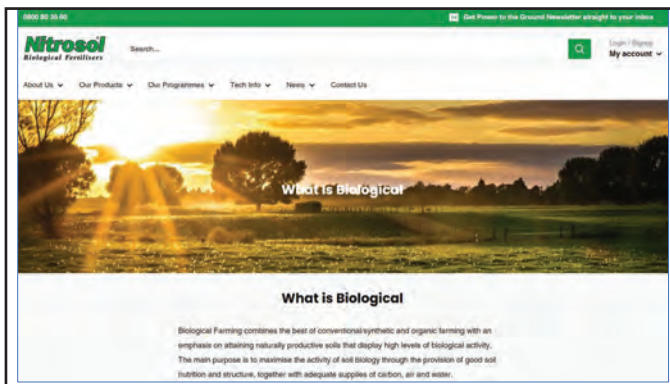
# Power to the Ground

# Nitrosol<sup>®</sup>

Biological Fertilisers

Have you seen our new website yet?

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



Our new website was launched on 7th September. If you haven't already, take a good look around over a cuppa.

Take a look at our full product range including application rates and fact files, programmes by industry, technical info, help and advice, soil science info and trials. Plus keep in the loop with our latest news and see what some customers have to say about their experience with Nitrosol. Need more information? We're just a phone call or email away.



## Credit Card Payments

Visa / MasterCard only

Nitrosol Ltd now has the facility to accept Credit Card payments. You will need to have a current email address. Please contact us on **0800 80 30 60** and we will be happy to explain the procedure.

KEEP INFORMED, FOLLOW US:



## Customer Testimonials

*Jerome Hardy, Grower & Avocado Technical Consultant, Northland, NZ*

"Nitrosol has formed an integral part of avocado orchard health for as long as I can remember. In young orchards, high health is the best defence in these disease-prone early years and I regard regular foliar sprays of Nitrosol Original + Phosphonate as the single most important input, right from planting. In older trees, foliar application of Nitrosol Original is a very effective winter nutrition option, especially when the orchard is carrying a heavy crop and needs the support of a healthy, dark green canopy. What I also like about Nitrosol is that the NPK content is tested, dependable and guaranteed and the grower knows what he is getting."

*Glen, Spray Contractor, runs his own farm.*

"A complete waste of money", was the honest response that Glen gave us when we first asked how his hay paddocks were doing, "I couldn't see any visual difference what-so-ever between the Nitrosol paddock and the controlled one. But when I started to rake it I noticed how dense the Nitrosol treated hay was, it obviously tillered out so much more and had seemed to be thickened up at the base a lot more than the other paddock even though the two looked exactly the same before I cut. I got about 90 bales to the acre off the controlled paddocks, which I consider pretty good really, yet I ended up with 134 bales to the acre off the Nitrosol paddocks!" ... Not a waste of money after all.

*A Southland farmer's experience.*

We thought we would summarize the results of a Southland farm using Nitrosol since March 1995. The pastures received three applications of 15 litres per hectare plus lime, at the time the farmer sent us his comments. This farmer said that the grass looked so good you could eat it yourself. The following are his observations:

- Twenty-year old pasture, which showed a marked increase in the prevalence of clover with larger and broader leave.



**100%**  
New Zealand  
Owned &  
Operated

- Lambing percentage was 142% when previously it had been between 120 and 130%.
- The lambs were really healthy, with good wool colour right throughout the season.
- More wool off 1200 ewes than neighbour off 1400.
- Little or no dags on the lambs at tailing compared to lambs weaned on one Nitrosol paddocks.
- They hay paddocks yielded 143 bales per acre compared to previous levels of 110 bales/acre.
- Very good recovery of pasture following grazing.
- Contented and healthy looking breeding stock.
- Average lamb price of over \$40 compared to district average of \$36 to \$38.
- Better pasture recovery after cold weather, particularly after heavy snow.

*Bert Jordan, Palmerston North (customer since 2016)*

I rang Bert to see how he felt about his first order of Nitrosol and Lime and what his perceptions were of the results. He is a Nitrosol convert. He said he could not believe the difference in his stock. he said they are happier, more settled, spend a lot more of their time lying in the paddock chewing their cud than they did before and there are far fewer cow pats. He also said that he has been amazed at the results in his vege garden as well. A massive crop of tomatoes and capsicums, and all looking really good. Bert has been giving 1 litre samples to his mates to try who have also been impressed. He said if I ever needed a recommendation for anyone in the Palmerston North area.. "send them along".

PAGE 6