



NEUTROG[®]
Biological  Fertilisers

Health Food for Vines

HEALTHY APPROACH

A PRO-ACTIVE APPROACH

Regular & pro-active applications of Neutrog's products have demonstrated their ability to improve consistency & quality of fruit, whilst maintaining optimum yields.

It is Neutrog's philosophy and belief that the key to achieving this is to ensure the soil sustaining the vines is kept in a manner that maintains the full balance of essential plant nutrients at all times – it is often the deficiencies in even the most minor trace elements that restrict the vines from reaching their full potential, and creates inconsistencies across the vineyard.

Consistent and regular feeding of the soil with an organic fertiliser containing the full range of micro and macro essential nutrients provides the vines with the greatest opportunity of consistently producing to their maximum potential in both yield and quality.

This pro-active approach allows vines to take up nutrients from the soil as they are required, rather than reactive "force" feeding with specific water soluble nutrients – often identified as being deficient, after vines are seen to be under-performing.

Organic fertilisers not only supply nutrients to the soil, but most importantly, provide the catalyst for stimulating the natural processes that occur in the soil – this generates organic matter and encourages strong root growth, which ultimately provides a greater soil surface area, from which the vines can draw nutrients and moisture. The root system obviously also plays a significant role in the stability of the vine. Whilst mulches & water soluble nutrients have shown to provide many benefits, they can discourage & restrict root development, and as such a balance of inputs should be maintained.

Healthy, nourished vines with well developed root systems will perform better, and are far more resistant to pest and disease. In addition, they have a far greater tolerance to stress caused by excessive heat, cold or lack of moisture. Vines that have had organic inputs regularly applied, particularly seaweed, have often demonstrated an increased ability to tolerate frost – the effect of the organic input has been shown to increase the freezing point of the sap cell. The quantity and regularity of

such applications obviously needs to take into consideration the existing soil condition, the grape variety nutritional requirements, and the cost of doing so.

A QUALITY PRODUCT

Each Neutrog product undergoes a unique composting process and is subject to a steam conditioning treatment. These processes stabilise the nutrients, maximise nutrient availability and ensure the product is free of any parasites, pathogens and weed seeds. Importantly, the resultant product retains the microbiology necessary to provide a "living" fertiliser.

The process and its effects are similar to that achieved by stockfeed manufacturers – the manufacturing process de-natures the grain protein, allowing the nutrition to be more readily and efficiently digested by the animal. In a similar fashion, Neutrog's process ensures the nutrients within its products are more readily available and efficiently absorbed by plants – hence, the reason why smaller quantities and volumes of Neutrog will outperform larger volumes of manures and composts not manufactured in a similar manner.

A CERTIFIED PRODUCT

Neutrog is granted organic certification after its methods and processes for manufacturing these particular products are audited, to ensure that they comply with the guidelines set down by the certifying body.

Certification ensures compliance with national production standards, including low heavy metals, no GMO's and other residues, and allows for trace back of all raw materials to their origins. Whilst Neutrog only currently certifies 3 products (Bounce Back, Rapid Raiser and Blade Runner) utilising the BFA certification process, all Neutrog products are subjected to the same rigorous procedures, and as such end users can be confident that each Neutrog product maintains a similar standard.

HEALTHY PRODUCTS



Bounce Back | 3:2:1,5 plus trace elements

A CONSISTENT PRODUCT

Neutrog sources its primary raw material (poultry manure) from two major poultry producers – each of which monitors nutrient feed inputs and results in consistent nutrient levels in the raw manures. The raw manures are then composted over an 8-10 week period in 500 tonne batches, before being screened, steam treated, pelletised and dehydrated. Testing is carried out throughout the process.

Neutrog's process, from sourcing raw material to the final product has been developed over 18 years to ensure the resultant products are uniform and consistent throughout. This ensures uniform nutrient application and immediate nutrient availability when applied.

CARBON/NITROGEN RATIOS

The carbon/nitrogen ratio of Neutrog's three core organic products ranges from 8-12. These levels are achieved by removing carbon during the manufacturing process and dehydrating, allowing us to maximise and stabilise the organic nitrogen content. This allows us to optimise growth above and below ground.

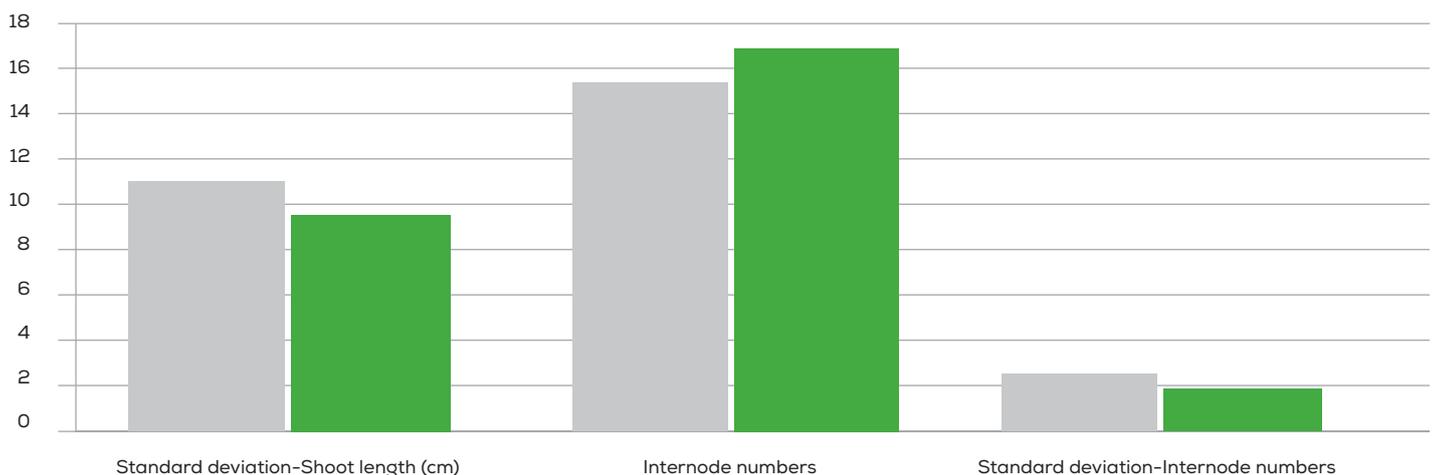
The application of organic materials with a high carbon/nitrogen ratio can create a nitrogen deficiency within the soil – these materials are normally easily identified through their high fibre content.

NEUTROG FERTILISER TRIALS HAVE DEMONSTRATED THE FOLLOWING:

- Increased shoot length
- Increased shoot length consistency
- Increased node numbers
- Increased consistency of internode numbers
- Increased consistency for internode length
- Increased consistency in bunch and berry size
- Increased consistency in stalk thickness and strength.

Bounce Back trial: 1 tonne per hectare

Control Bounce Back



HEALTHY RESULTS



Rapid Raiser | 4:3:2 plus trace elements

ORGANIC MATTER

The organic matter and carbon levels of the soil play a crucial role in the health and development of plants. Many growers assume that the level of organic matter in the soil can simply be increased by adding any form of organic matter to the soil. As such, the focus tends to be on adding volume rather than anything else – whilst this makes logical sense it is not necessarily the case.

A recent trial by Neutrog demonstrated that an application of 2 tonnes per hectare of Rapid Raiser increased the organic matter level (1.4%) of the soil by 27% more than the level achieved (1.1 %) through the application of 10 tonnes per hectare of cow manure. This result clearly indicates it is not the volume alone of organic matter applied, but rather, its ability to stimulate the natural processes occurring in the soil that increases the organic matter levels. Significantly, the same trial demonstrated that the application of cow manure increased available sodium levels (161 ppm) by 250% over that measured following the Rapid Raiser (46 ppm) application – the former, far exceeding desirable levels and likely to negatively impact upon the crop potential. For the record, Neutrog's 3 core organic products (Bounce Back, Rapid Raiser and Seamungus) have organic matter levels from 55-65% along with humic acid levels from 3-5%.

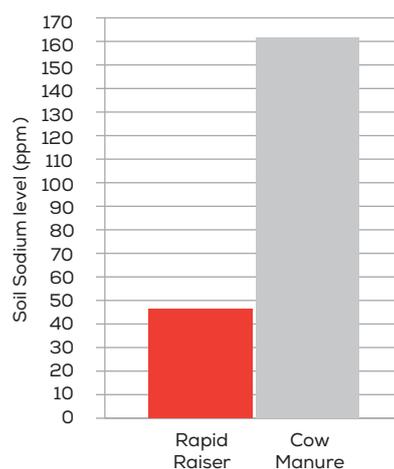
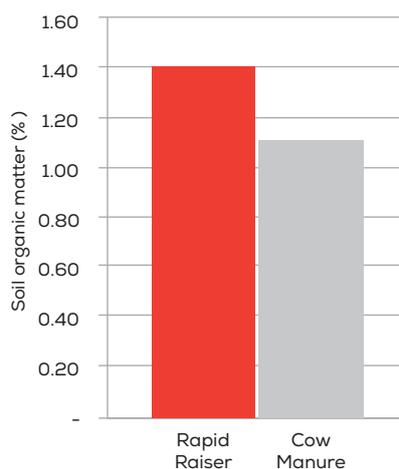
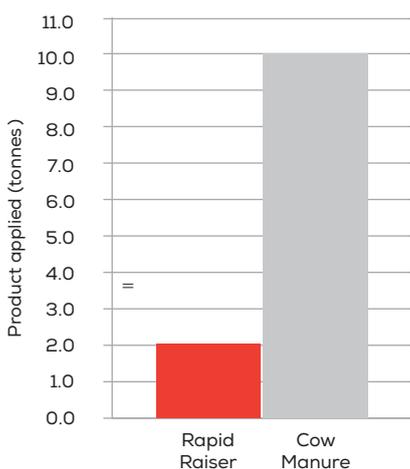
RISK MANAGEMENT/QUALITY ASSURANCE

By their very nature, organic materials have various "risks" associated with them.

Disease – harmful bacteria such as salmonella, coliform and E.coli etc., are present in many organic materials, particularly manures. These obviously have the ability to infect staff coming into contact with the products and the potential to contaminate produce grown. However Neutrog's composting system, coupled with its steam treatment "pasteurisation" process, along with regular laboratory testing, guarantees that these harmful bacteria are no longer present within Neutrog's fertilisers, and as such they are safe to handle and spread.

Contamination – contamination of the soil and/or fruit by excessive levels of heavy metals, chemical and pesticide residues or elements such as sodium can have both an immediate negative impact and serious longer term consequences. Neutrog carries out regular laboratory testing in its own right and as part of its certification requirements.

Trial: Rapid Raiser vs Cow manure



HEALTHY FERTILISING



Seamungus
4:1:1.5
plus trace elements



Under Cover
6:6:1
plus trace elements



COST EFFECTIVE

At a recommended application rate of 1 tonne per hectare for new and established vines, the Neutrog product is directly cost effective against alternative applications. This does not take into consideration potential savings in areas such as spreading and weed control, or intangible benefits such as increased pest and disease resistance nor better risk management.

APPLICATIONS

To maintain healthy consistent vines and fruit quality, Neutrog recommends a yearly application on established vines.

New Plantings & vines to 3 years old

- Rapid Raiser @ 1 tonne per hectare.

Established Vines

- Bounce Back/Seamungus @ 800 – 1200kgs per hectare.

Cover Crops

- Under Cover/Rapid Raiser @ 100 – 300kgs per hectare.

Prescription Mixes

- Additional nutrients can be added to any product if required.

SEAMUNGUS

Your crops will just love Seamungus...

Jam packed full of goodness, Seamungus is a soil & plant conditioner, manufactured by composting seaweed, fish, humic acid and manure.

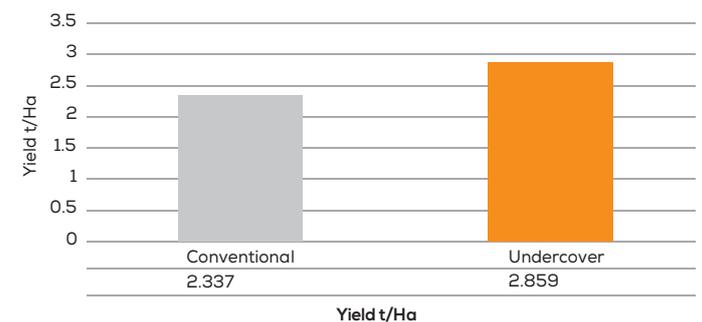
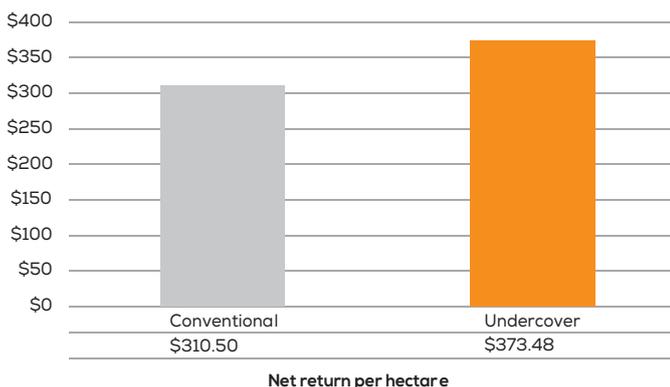
Seamungus undergoes a unique composting process, specifically developed to stabilise the nutrients, maximise nutrient availability and to ensure the product is free of any parasites, pathogens and weed seeds. Most importantly, the resultant product retains the microbiology necessary for a "living" product.

UNDER COVER

Under Cover has been specifically developed for broadacre cereal and cover crop application.

Under Cover combines the "best of both worlds". Its organic base provides a full range of plant nutrients in a slow release form, whilst the carefully selected water-soluble nutrients have been added to maximise the performance of each application.

Under Cover trial



The trial shown was conducted at Sedan in SA on "Yippie" wheat, sown at 50kg per hectare 11/07/05 and harvested 28/12/05. Significant improvements were also seen in wheat density and screenings.



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