

# Neutrog's May 2020 Commercial Newsletter



Welcome to Neutrog's May 2020 newsletter.

Neutrog is open for business and are well positioned to supply the additional demands that are being called upon us during the current pandemic. Our staff are thankful that we are less affected than other businesses and industries.

Neutrog's Microbiologist and R&D Manager, Dr. Uwe Stroehler's recent article called '*Nitrogen Fixation in Agriculture by Mutualistic and Free Living Bacteria*' was published in the Autumn issue of the Australian Agronomist magazine - we've included an excerpt below in case you missed it.

We also mention below the progress Neutrog is making to certify our liquid probiotic GOGO Juice. This will give Neutrog a certified liquid to complement our offer of existing certified composts and pellets to sit alongside our chemically boosted and biologically active range of products.

Please feel free to respond and contribute to [marketing@neutrog.com.au](mailto:marketing@neutrog.com.au).

Regards,

John Paynter  
Commercial National Sales Manager



## Coming up

- '*Nitrogen Fixation in Agriculture by Mutualistic and Free Living Bacteria*' by Microbiologist, Dr. Uwe Stroehler
- New video - An Insight into Neutrog
- In the Vineyard - Kies Family Wines
- What's brewing at Neutrog - GOGO Juice certification
- The Importance of Organic Matter
- Around the Grounds - Seymour Racing Club
- International - Vietnam
- Research & Development - Bio Control Research Update
- Productive Pasture in Central Victoria

## A Biological Approach

### 'Nitrogen Fixation in Agriculture by Mutualistic and Free Living Bacteria'

Neutrog's Microbiologist and R&D Manager, Dr. Uwe Stroehler's recent article called '*Nitrogen Fixation in Agriculture by Mutualistic and Free Living Bacteria*' was published in the autumn issue of the Australian Agronomist magazine.

Uwe discusses the role nitrogen fixation plays within plant tissues of legumes or within the soil itself by free living bacteria, and how bacteria can turn atmospheric nitrogen into a plant-useable form such as ammonia.

Here is an excerpt...

**Nitrogen, together with potassium and phosphate, are the most widely used fertilisers in the world. Until the advent of the Haber-Bosch process in the early 1900s which allows the chemical synthesis of nitrogen fertilisers, the world was reliant on organic fertilisers and the ability of bacteria to fix atmospheric nitrogen (Erisman et al., 2008).**

There is no doubt that without the use of chemical nitrogen we would not be able to feed the world's population, however nitrogen from chemical fertilisers comes at enormous cost, both financially and environmentally. Production of nitrogen fertilisers alone requires over 1% of the world's energy, and it's this high energy requirement that is at the crux of turning atmospheric nitrogen into a plant-useable form such as ammonia.

In the atmosphere, nitrogen is a molecule of two tightly bound nitrogen atoms which need to be split to combine with hydrogen to form ammonia or oxygen – which then forms nitrites or nitrates. This occurs in nature during lightning, where the molecules are torn apart and can then combine with oxygen. Alternatively, it can occur via a biological process driven by a number of bacterial species. In the soil, nitrogen fixation occurs either within plant tissues of legumes, or within the soil itself by free living bacteria.



[Click here to read the full article.](#)



# An Insight into Neutrog

Soil is rich in secrets, and Neutrog is on a journey to unearth these secrets. It's a journey we're very passionate about. We are proud to bring you our latest video for your viewing pleasure, which will give you a great insight into Neutrog.

From the very beginning, our products have been developed through working closely with Australian farmers, growers and professional gardeners - the people who rely on the performance of our fertilisers to earn their living - to feed their families.

We also actively collaborate with some of the most respected institutions in Australia including universities and research institutions such as Western Sydney University and the CSIRO. The advances we've made have changed the way fertilisers are produced and, more importantly, the way they perform, creating more sustainable, robust, soil enriched environments.



## In the Vineyard

### Kies Family Wines

Tucked into the rolling hills of the Barossa Valley lies the town of Lyndoch. It is here that you will find the iconic Kies Vineyard. Covering 27Ha, the Kies Vineyard was expanded last year to incorporate another 29Ha next door, known as the Legacy Block, in order to fully utilise their equipment. It was the perfect opportunity to retain a local and historic site – the purchase of which made newspapers including the Financial Review.

The Kies group grow both red and white varieties including Riesling, White Frontignac, Shiraz, Cabernet Sauvignon, Merlot and a Portuguese grape variety named 'Bastardo' which is used for a fortified wine and is unique to Kies.

Vineyard Manager Matt Rosenzweig has been in the grape industry for 27 years, and has been with Kies for the last 5 years. In speaking with Matt, it's obvious he has a strong sense of pride in the property. Matt grew up on a mixed farm, and with a wife and 2 children he finds that his position allows him the freedom to combine family and work – whether it's watching his son race off-road motorbikes or watching his daughter play cricket, who's represented South Australia a number of times. *"At some stage I have to go to work but I don't complain as I'm outside, keeping fit and doing something I'm passionate about"* said Matt.





Michael & Matthew spreading Rapid Raiser.

When Matt started at Kies, the aim was to improve the property, and part of that process was to instigate a fertilising regime. Plans had already been made to broadcast composted cow manure, however Matt had used Neutrog fertilisers in previous roles and wanted to continue to do so for the increased organic matter and diverse range of beneficial bacteria and fungi that he knew Neutrog products would bring, and Management agreed.

Soils vary considerably on the two sites, ranging from deep sand to a dark red clay loam. Soil tests had shown a lack of phosphorus and magnesium, so for the last 5 years a mixed blend of Rapid Raiser boosted with single super and magnesium has been applied post-harvest. *“Obviously it’s working, as our last lot of soil tests showed that things are looking pretty good now”* enthused Matt.

Matt also sows an annual cover crop of beans and oats on alternate rows, and has a permanent sward of medic and sub-clover on the other rows in order to assist with soil protection and weed suppression, as well as preventing erosion. *“It’s a fine balance with cover crops as they can take water from the vines and negatively impact on vigour and yield, but I believe we’ve got the correct balance”* said Matt.

*“Over the last 5 years we’ve had the best yields ever”* said Matt. *“This year, due to the dreadful summer and fires we have had our worst, but overall we’ve been so impressed with the performance of our vines – not withstanding weather - and Neutrog has been a part of that. Whenever we’ve applied Neutrog products it’s rained - that’s my predication of how the season will be. Prior to owning the Legacy Block, it would rain and our Rapid Raiser would be washed into next door, but now that’s not a problem”.*



L to R: Bronson, Gabriella, Michael, Tina, Jesseca and Jordan Kies.

The Kies family work as a team with Michael overseeing the vineyard and winemaking, his wife Tina looking after the cellar door and restaurant, and two of the three children look after the winemaking and marketing.

There is now a purpose-built winery on site, which was another long-term plan put into place last year. Bronson Kies is a 6th generation family member and is the winemaker on site. *“Six years ago, I said to my son Bronson if you become a winemaker then I’ll build you a winery”* said Michael. *“Last October the winery building was started, and we have just finished the 2020 vintage. It’s worked very well, and we are all very pleased with the wines”* concluded Michael.

It’s all about quality over quantity at Kies Family Wines, so whether you’re visiting the cellar door or enjoying a meal or coffee in the restaurant you can be assured of a great experience. For more information visit [www.kieswines.com.au](http://www.kieswines.com.au) or follow on [Facebook](#) and [Instagram](#).

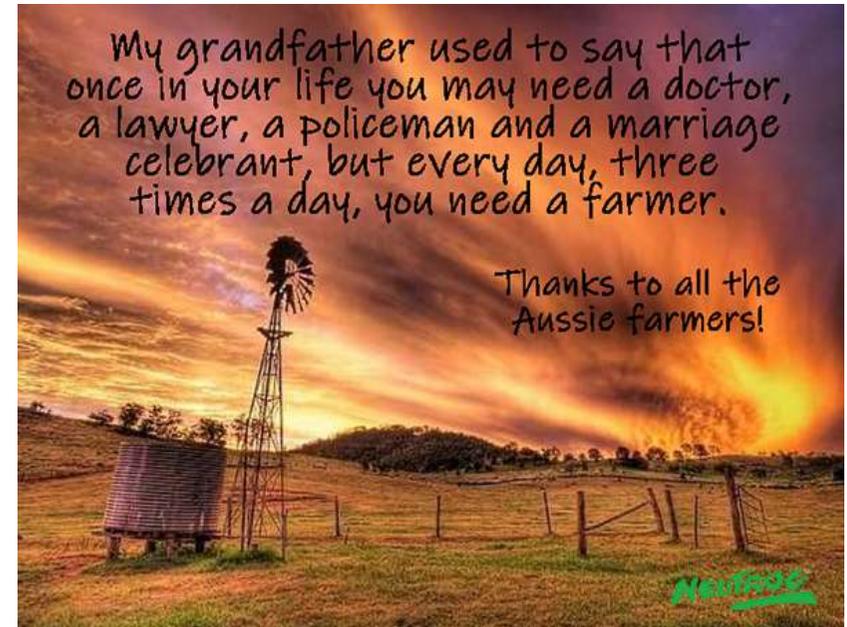
# What's brewing at Neutrog



Neutrog is pleased to advise that following some 3 years of research & development, Neutrog is now able to manufacture and supply GOGO Juice as an ACO 'Certified Allowed Input'.

GOGO Juice is literally teeming with beneficial micro-biology and essentially a pro-biotic for your soil and plants. It combines the "catalytic" power of providing a wide diversity of beneficial bacteria and fungi with the well documented benefits of applying kelp and humates.

Applications of GOGO Juice provide a huge boost of the living micro-biology necessary for your soil and plants to perform at their optimum level, increasing their ability to resist pest and disease and to withstand &/or recover from, heat stress and frost.



## Did you know?

Neutrog can create prescription mixed products to suit your specific requirements.

Look no further when it comes to creating the right balance for your plants and soil - enquire about creating your own prescription mix today.



# The Importance of Organic Matter

David Kay and his children Joanne and David run a cropping farm along with Black Angus and Murray Grey cattle at The Rock in New South Wales.

*"We came to our property purely by chance" said David. "My wife and I happened to be in Wagga Wagga for a weekend away. We'd been looking for a country property with a few hectares and my wife spotted a property going to auction the next day and insisted we attend. I wasn't overly keen as we'd not even viewed the property, and it was much larger than what we were planning to buy.*

*We were standing in the crowd at the auction and I couldn't believe the ridiculously low price" said David. "I asked the bloke next to me why there weren't any bids on it and what was wrong with it, but he said that there wasn't anything wrong...it was just that no-one had any money. It was two days after the wool price collapse in the 90's and sadly, many were affected. The auctioneer went inside to confer with the vendor, he came back out and said he'd take \$250 increases. I put my hand up to bid, and that's how we bought the property which we have loved, lived on and farmed for 28 years. We then came out the next day to see what we'd bought".*



David knew the climate was tough with temperatures below zero during winter and well into the 40's during summer and an average rainfall of 480mm. *"I'm not really an old-time farmer" said David. "I might be an old bloke, but I'm not an old farmer. When we came to the property we had a distinct idea on the way we wanted to run it. I did a lot of research, as I was concerned that I could never find any earthworms in the paddocks".*

*"Every bit of research indicated that using strong chemical fertilisers would increase the acidity of the soil. Soils are already very acidic in the district, and I didn't really want to get into the cycle of applying fertiliser and then have to apply lime to repair the pH of the soil. I knew also that by applying chemical fertilisers I would be killing any microbes which may be in the soil. My research and growing understanding kept bringing me back to what I'd suspected, which was that soil health, including the biology of the soil was a priority" said David.*

The clearest demonstration of the importance of organic matter that David ever saw was when he was out fencing. *"It had been dry for so long that digging the post holes was like breaking up concrete. We came across a cow that had been dead for a while, and when we moved the bones, the area where the carcass had been lying was soft and easy to dig. I could have almost used my hands" said David. "In addition, there were so many worms so I decided then and there to get serious about the soil".*

For a few years, David used a pelleted poultry manure product, but then a gardener friend told David how good Neutrog's Rooster Booster was. *"I researched Neutrog and made contact with them, and moved across to Neutrog's Bounce Back. I've since purchased a number of truckloads of loose bulk, which is applied over a number of my paddocks. My daughter Joanne spreads it in our 10 tonne spreader".*

*"Our property has been barren and dry up until March when we received 75mm of rain. We'd been feeding cattle daily for almost three years, and after our pasture came back, the cows instinctively preferred the pasture that had been fed with Neutrog. My neighbours have been commenting about the amount of pasture we now have compared to other areas in the district. I'm very happy with our progress. I want to re-invest in the soil for my grandchildren and that's something I am proud to be able to do" concluded David.*

# Around the Grounds

## Seymour Racing Club

Horses, racing and a day out - if you love going to the races, some of the most enjoyable days are at a country race meet. The Seymour Racing Club has long been synonymous with country racing in Victoria, however in 2016, Seymour become a premier racing destination with a \$5.2 million racecourse upgrade thanks to the Victorian Government, Racing Victoria and the club itself.



Part of the redevelopment has seen the track widened, new irrigation and drainage systems installed and the growing of new turf. Racecourse Manager, Brett Thompson has taken it from a rye grass track to kikuyu. The track has a sand profile which means that nutrients are leached, so part of the work Brett is doing is to ensure that the track benefits from a slow release fertiliser. To that end, he has been applying Neutrog's Bounce Back.



*"A couple of years ago I was looking for a complete product that would break down slowly and assist with the leaching of nutrition" said Brett. "I felt that Bounce Back was the perfect product to do this, plus the fact that it contains a diverse range of beneficial bacteria was extremely important. As a bonus, the pellets are a very consistent size and easy to spread which is an efficiency we appreciate."*

*"As we've been seeing such positive outcomes, our next step was to trial GOGO Juice. The benefits of a strong and diverse range of bacteria and fungi in the soil are critical to the performance of any plant, and we look forward to seeing the results of that as well" Brett concluded.*

For more information about the Seymour Racing Club, visit <https://country.racing.com/seymour>

**About Bounce Back** – a unique blend of organic materials specially formulated for all your fertilising needs, Bounce Back is a highly concentrated, natural product that promotes faster, healthier, sustained growth for all plants. It encourages the development of earthworm and microbial activity leading to healthy, well-structured soils. Bounce Back is composted and steam treated to ensure the product is pathogen and weed free.



**About GOGO Juice** - literally teeming with beneficial micro-biology and essentially a pro-biotic for your soil and plants, GOGO Juice combines the "catalytic" power of providing a wide diversity of beneficial bacteria and fungi with the well documented benefits of applying kelp and humates. Applications of GOGO Juice provide a huge boost of the living micro-biology necessary for your soil and plants to perform at their optimum level, increasing their ability to resist pest and disease and to withstand &/or recover from, heat stress and frost.



# International Update

## Vietnam

Vietnam stretches 1,650 km from north to south and is only 50km wide at its narrowest part. Over 70% of the population of over 92 million live in rural areas and derive their livelihoods from agriculture production.

Over a number of years, Vietnam's agriculture production has made significant improvements, contributing to national food security, economic development and the reduction of poverty. Cropping accounts for more than 50% of the agricultural sector, and rice is the major crop.

As a result of several land reform measures, Vietnam has also become a major exporter of agricultural produce. It is now the world's largest producer of cashew nuts and black pepper, and the second-largest exporter of rice and coffee.



*Unloading a container of Bounce Back Vietnamese-style*

Over the past ten years, many farmers and growers have been introduced to Neutrog products via Anh and his agents at seminars, trade fairs and through trials carried out on various crops by research centres in a number of key provinces. "All of the Neutrog products have proven themselves to be products of quality and bring many benefits to farmers, as well as the environment. They have shown the remarkable ability to make the soil more fertile" said Anh.

There are a number of difficulties facing Vietnam as they manage their limited land resources. As fertiliser needs increase, the government has encouraged farmers to use organic fertilisers to improve agronomic practices and management. Flowing on from these measures and after a mandatory trial period, Bounce Back was approved for use in 2005, and the following year Rapid Raiser, Blade Runner, Upstart and Kickback were also approved. The approval process is both rigorous and lengthy.

Nguyen Tien Anh from Vietrade is Neutrog's exclusive agent in Vietnam. Based in Ho Chi Minh City, Vietrade is a family business with a large network of agents who distribute Neutrog products into urban and rural areas all over the country. These are used to grow organic rice, coffee and tea, rubber trees, vegetables, flowers and fruit trees.



*Left: Anh supervising a tea trial. Right: The Vietrade office in Vietnam.*

# Research & Development

## Western Sydney University Bio Control Research Update

Last year we reported that Neutrog was collaborating with Western Sydney University, led by Professor Brajesh Singh, in an extensive research project to examine the viability and efficacy of a number of biological control agents (isolates) against some agriculturally significant fungal pathogens - these include Sclerotinia and Rhizoctonia, as well as oomycotes Pythium. All three of these pathogens are major contributors to significant crop loss and yield reduction, not only in Australia, but throughout the world.

Whilst our research was initially focused on Trichoderma, we were surprised to find, via DNA testing, that the best performing fungal biocontrol agents (isolates) in each application (Sclerotinia, Rhizoctonia & Pythium) were shown to be a completely different genus not belonging to the Trichoderma species/family but were actually Penicillium species - potentially in itself a major discovery.



*Tests being conducted in the field by Western Sydney University staff.*

Now that the plate testing has been completed, the next phase of the trial has moved to test these potential biological control agents in a glasshouse setting, which will determine their ability to proliferate outside of a lab environment, and to determine how they impact on soil health and other growth parameters. In total, 20 potential biological control agents will be tested to see whether they can inhibit the growth of the pathogens mentioned.

Research will focus on using these isolates on wheat plants, which will be assessed on the number and severity of wheat seedling lesions. It will also examine plant height, number of leaves, biomass, root length, root morphology and root biomass. This will determine which biological control agents are the most effective in reducing plant damage caused by the fungal pathogens.

In keeping with Neutrog's philosophy, we are seeking to develop a product that has a wide diversity of biological control agents within to ensure that the product is more effective against a broader range of pathogens, and is also more likely to be suited to a more diverse range of environments.



*Wajira from Western Sydney Uni conducting some streak plating in the lab.*

# Productive Pasture

Rick and Helen Lovel's farm 'Loddon Lea' is located at Eddington in Central Victoria. Black Angus cattle are carefully rotated over the property to manage the grazing opportunities. Rick irrigates the flats from the Loddon River, which the property fronts.

*"Carrying quite a few head for the size of the farm requires careful planning" says Rick. "I irrigate a number of times a year and need to time it to ensure that I can keep the cows off for long enough, so that pasture grows back vigorously. We have a beautiful natural pasture with plenty of white and strawberry clover throughout. Once a year when irrigating I apply GOGO Juice, as I've always understood the importance of the soils' biology. The first year I applied GOGO Juice I couldn't believe the size of the clover".*



*Left to right: Rick, Mark, Alex and Meg the kelpie.*

Each year, Rick, along with his brother Mark oversaw the river flats. Mark also runs sheep and crops in the area, and the two brothers work together much of the time to help each other out. Their trusty assistant, Neutrog's Helen Lovel does the important jobs, such as bringing down smoko and running errands back and forth between the machinery sheds and the farm.

*"Our seeder is a 70's model Connor Shea Super Seeder disc, 18 run. It's drawn by one of our ever reliable Leyland tractors, which just keep going" said Rick. "We grow either a grazing barley or oats, and this year it's oats. We have just had a really good autumn break, with 60mm falling late February/early March, so in early April we sowed every bay down. The disc seeder lightly cuts into the soil and drops the Rapid Raiser and oats down as we work. We also attach a set of harrows which are turned upside down, and these are dragged behind the seeder to cover the seed and Rapid Raiser with soil".*



By the time the first cows have calved, the crop will have been up for around two months. As the cows and new calves are separated from the rest of the herd, they are moved onto the crop for its first grazing, so by the time all cows have calved, the land will be locked up for around 6-8 weeks. The cows are put back on for a second graze and are then locked out, and the oats are grown again to be cut for hay.

*"We generally cut enough hay to last the year, which is fortunate as those spoiled cows of ours certainly let you know if they want more. The way we operate works really well for us and a huge part of that is Neutrog" concluded Rick.*

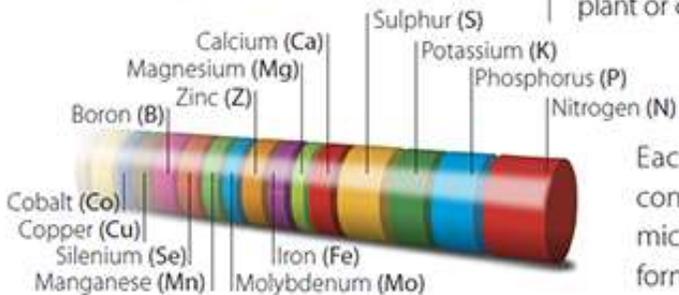
*Left: Seed and feed added to the seeder.*

# Liebig's theory

**Liebig's Law of the Minimum**, a principle developed in agricultural science, is what sits at the core of Neutrog's philosophy.

Liebig's Law states that growth is controlled not by the total amount of resources available, but by the scarcest resource or limiting factor.

This concept was originally applied to plant and crop growth, where it was found that increasing the amount of plentiful nutrients did not increase plant growth. Only by increasing the amount of the limiting nutrient (the one most scarce in relation to "need") was the growth of a plant or crop improved.



Each pellet of Neutrog Fertiliser contains a full range of macro and micro plant nutrients and its pellet form allows for uniform application.

*By using Neutrog fertiliser you reduce your risk and increase your potential by covering more bases.*

Do you have questions about Liebig's theory? Have a chat to us today!



## Application Rates

Click to view application rates for broadacre, horticulture, viticulture and turf, parks & gardens.



## Our Products

Learn more about the incredible range of commercial products available from Neutrog.



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