



## Promoting Soil & Plant Health Through Bio-Nutrition & Bio-Agronomy



Reliance on manufactured crop protection chemicals and fertilisers alone to control crop pests and diseases and to supply all the required nutrients to produce profitable crops, is becoming ever more challenging and cannot be sustainable.

[www.patchworkgps.com/tricet](http://www.patchworkgps.com/tricet)



**Tricet UK are at the cutting edge of Bio-nutrition, developing new agronomy from the statistical evidence taken from extensive trial work.**

Our range of products have been developed to promote greater biological activity in the soil and plants, leading to enhanced resilience, health, quality and yield in all crops, including cereals, legumes, roots, brassicas, vines and soft and top fruits.

Reinforcing the development of natural life and fertility back into our soils stimulates crop development by raising the plant's natural defences, thus reducing reliance on conventional crop protection and fertilisers.

## **Why Bio-Nutrition for Agriculture?**

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**Bio-nutrients can be used to supplement and enhance existing agricultural inputs:**

- Tricet Micronised Bio-nutrients are more efficient than conventional compound fertilisers
- Bio-nutrition increases beneficial micro-organisms in the soil. This has direct action on plant health as well as providing specific and precise nutritional needs, resulting in increased yield, quality and profit
- Tricet's Bio-nutrition complements standard conventional crop nutrition and crop protection providing a synergistic effect

# Tricet Products

## Tricet Pro-Soil



*Increases soil health & fertility*

## Tricet Pro-Foliar



*Improves yield & quality*

## Tricet Pro-Fortis



*Maximises nutrient uptake*

## Tricet Pro-Growth



*Complete foliar nutrition*

# Bio-Nutrition



# Bio-Nutrition

## What is Bio-Nutrition?

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Bio-nutrition products are compounds, substances and micro-organisms that, when applied to soils and plants, improve crop vigour and resilience to stress, leading to improved yield and quality.



Bio-nutrition includes soil and seed treatments and/or foliar sprays that stimulate, not only the development of microbial and soil fauna populations, but the development of the plant. These treatments also compliment and support natural bio-activity, leading to a greater and more efficient uptake of nutrition to maximise yield and quality potential.

Using Bio-nutrient agronomy techniques is an important part of a sustainable farming system.

The precise and timely application of Tricet UK's Bio-nutrient range of products will positively affect plant growth, quality and yield through:

- Improved soil health and fertility, stimulating complementary soil micro-organisms
- Increased plant resilience to abiotic and biotic stress
- Improved water efficiency
- Improved efficiency of metabolism from greater nutrient uptake and translocation
- Enhanced brix values, flavour, colour, crop yield and quality

# Bio-Nutrition Agronomy

## What is Bio-Nutrition Agronomy?

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Bio-nutrition Agronomy comes from using precisely applied, specific, Tricet UK Bio-nutrients at appropriate crop growth stages; encouraging a relationship between plants, soils, nutrition and beneficial micro-organisms to enhance nutrient uptake and positively affect plant defences and resilience, to adverse environmental conditions.

Bio-nutrition Agronomy is part of the Integrated Farm Management toolkit. Bio-nutrition Agronomy and IFM are Natural Partners.

Trials and demonstrations support the understanding of how these products deliver the clear benefits of improved yield and quality.

Farmers and their advisers are under pressure to produce healthy productive plants whilst reducing reliance on inputs of synthetic fertilisers and pesticides. Bio-nutrition Agronomy provides a pro-active beneficial input.

When certain Bio-agents and compounds are applied to plants in low concentrations, biochemical, genetic and physical defence mechanisms are released. These compounds are known as elicitors. The Tricet UK products mimic these compounds and so activate the plant's defence mechanisms, the plant believing that it is under attack. A range of pathogen related proteins and protease inhibitors are then produced by the plant to limit the activity of the pathogen's enzymes.

### We can influence plant health through our nutrient based programmes:

- Creating a healthy relationship between soil and crop
- More able to withstand fungal and insect attack
- With a stronger plant leaf and stem surface
- Feed with precision and care to become more resilient to stress and pest attack
- Better able to stand stronger and taller



# Your Soils

Soils that have been heavily cultivated over a long period are typically low in organic matter. They also tend to have very low or unbalanced populations of microflora, and can be acidic, with excessive magnesium or aluminium. As a result, they present several problems for a farmer.

They will have unbalanced cationic exchange capacity. Get to know your soils with a health check at cost with Tricet UK.

Fertilisers leach out quickly or get tied to excess metals, and become inaccessible to the plant.

They will have low water retention properties, and plants may be susceptible to disease, drought stress and nutrient deficiency.

Together with IFM and Bio-Nutrient Agronomy, we can treat and repair such soils.

The end goal of bio-nutrient agronomy is to produce high-yielding, healthy crops while reducing chemical fertiliser inputs and pesticides.

If you select the best bio-nutrients, you can reduce the use of conventional inputs and repair the soil sustainability. This should result in improved efficiency and results.

## Benefits of improving soil quality

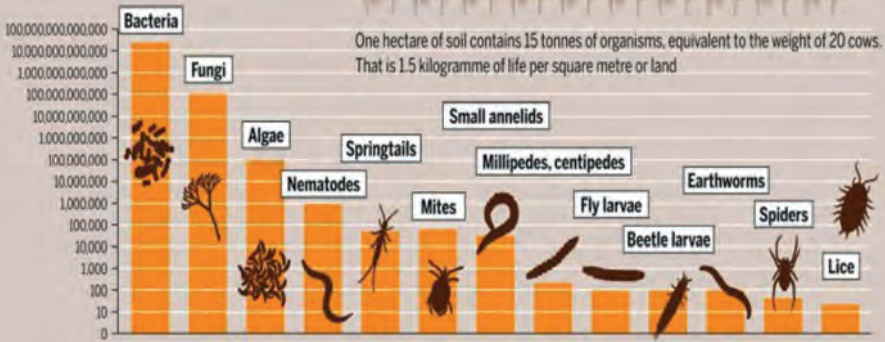
- Holds more nutrients (holds 5 Xs more)
- Holding more WATER
- Soil workability
- Less energy inputs
- Plant health and performance
- Soil bio-diversity
- Better establishment
- Success under STRESS
- Production efficiency with less pesticides and fertilisers
- Food sustainability



## What we should find in well maintained topsoil

### TEEMING SOILS

Number of living organisms in 1 cubic metre of topsoil in temperate climates, logarithmic scale



## What is Soil Organic Matter?

We measure 1% (low) to 5% (ideal) SOM in cultivated soils: 50gms per kg

### Soil Organic Matter is:

Stabilised OM - Particulate OM, Humic Acid, Fulvic Acid, Humin.

Dead and decaying parts of plants/animals & myriads of living organisms.

In a UK well developed pasture, the weight of SOM below the ground is equivalent to 2000 sheep/Ha above ground (800/acre) mycorrhizal fungi synthesize Glomalin – a glycoprotein present in large amounts in healthy soils.



Tricet

# Pro-Soil & Pro-Soil

*Contains micronised chitosan*

*Organic*

## For all Soils to Enhance Health & Fertility

A unique formulation of plant extracts, enzymes, minerals and metabolites, for all soil types to help maintain, sustainable, healthy and productive soils.

### Key Benefits:

- Can be applied to all soil types, pre sowing or pre emergence
- Utilises old crop residues
- Improves soil structure, increases worm populations
- Feeds soil life, accelerates nutrient recycling
- Improves water & nutrient uptake
- Encourages strong root development
- Helps break the cycle of higher inputs

Healthy productive soil  
leads to **higher yields**  
and **improved quality**



The combination of nutrients and enzymes in **Pro-Soil** accelerate decomposition of crop residues by enhancing the activity of the indigenous beneficial soil micro-organisms.

This enhanced activity leads to reduced residue for pathogens to overwinter and the release of more natural nitrogen for the following crop. Boosting natural nitrogen initiates the faster germination of weeds, giving an earlier opportunity for effective control, such as black-grass.

**Pro-Soil** has a specific action in the soil that helps suppress harmful microbes. This has a strong impact on soil and root diseases and helps to build the plants natural defence mechanisms.

#### USAGE

- Standard dose rate: 1 L/ha in 100 - 200 litres of water
- Apply 2 L/ha where there are high levels of plant/crop residues
- **Pro-Soil** can be applied to all soil types and all crop situations
- Soil application, applied pre-harvest, post-harvest, pre-planting or pre emergence
- Compatibility test is recommended when tank mixing

**Pro-Soil** can be tank mixed with most systemic and contact herbicides. It is a natural surfactant and will enhance the efficacy of other products, therefore, it is not recommended to add additional adjuvants in a tank mix as this may cause scorch on young growth.

**Pro-Soil** can be used in a programme with other Tricet products, creating a synergistic effect.

**Pro-Soil: Part of your Integrated Farm Management Programme**



# Tricet Pro-Soil Trial Results

In all of our trials where root development and early bio-mass were recorded, regardless of crop or soil type, **Pro-Soil** treated plots always showed increased root development and increased bio-mass over control plots.



Crop / Location / Year	Untreated	Treated	% Difference Treated over Untreated	Yield Increase over Control
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### Maize, Newark 2019

Roots	104 gm	136 gm	+30%	+12%
Tops	547 gm	663 gm	+21%	

### Wheat, Cambridge 2018

Roots	72 gm	120 gm	+40%	+5.7%
Tops	280 gm	404 gm	+30%	

### Beans, Lincolnshire 2016 PGRO

Roots/Vigour	2.84	3.11	+9.5%	+8.5%
Nodulation	2.59	2.71	+4.63%	

### OSR, Norfolk 2021

Roots	142 gm	168 gm	+5.5%	+8.4%
Tops	630 gm	922 gm	+32%	

All crops with enhanced root systems resulted in **increased yields**



July - August 2015

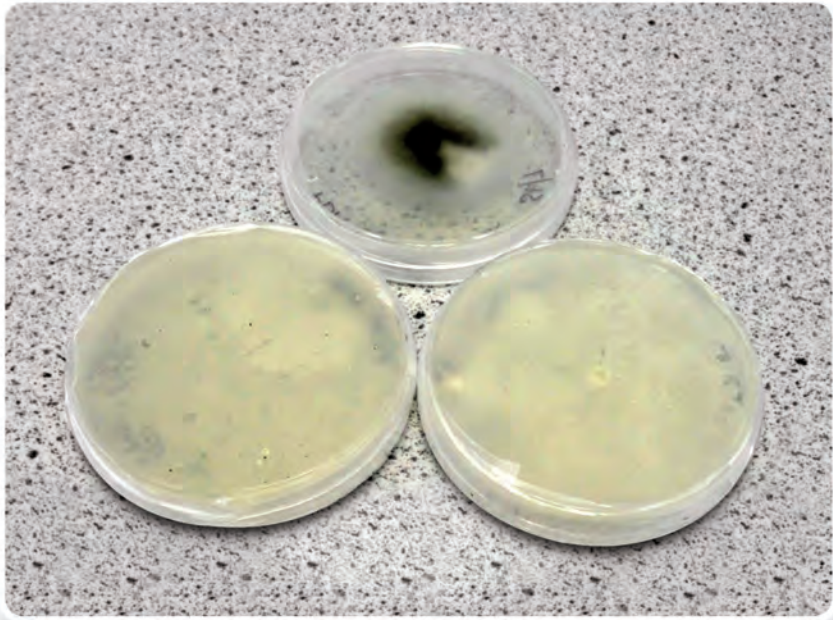
## Objective

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To investigate *in vitro* effects of **Pro-Soil** as a pathogen control product on various pathogens.

### 1 Gaumannomyces plates

Control plate (top) 2 test plates (bottom) 9 days after plating, note creamy white bacterial growth on test plates. No fungal growth observed from central agar plug on test plates.



## 2 *Fusarium graminearum*

There was a clear fungistatic effect on colony growth of *Fusarium*, which was evident from 2 days after plating, and persisted until 12 days after plating, when colonies on untreated agar had expanded to reach the edge of the plate while colonies on treated agar had expanded on average to half that size.

## 3 *Rhizoctonia solani*

Colony diameters were again reduced in this pathogen on the treated plates compared to untreated, with mean colony diameters being approximately halved after 12 days.

## 4 *Pythium violae*

Colonies of *P. violae* grew rapidly and had reached the edge of control plates and treated plates after five days. There was a slight reduction in mean colony diameters in treated versus untreated plates 1 and 2 days after plating. Treated plates also appeared to have less dense mycelium than untreated plates, even though radial growth was not greatly reduced.

## Conclusions

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The product as tested showed **fungistatic** rather than fungicidal activity, and markedly suppressed the growth of *F.graminearum* and *R.solani*. In the case of *P violae*, effects on colony radial growth were much more limited, though the visual appearance of treated versus untreated plates indicated that fungal biomass could be affected. The product was not sterilised when applied to the agar (i.e not autoclaved, or filtered), and this would reflect its state when applied in the field. Bacterial colonies developed on all of the plates to some extent, and must thus reflect the natural state of the product. *Fusarium*, *Pythium* and *Rhizoctonia* all grew over bacterial colonies, however *Gaumannomyces* did not, and colonies did not develop at all on treated plates, whereas they grew normally on untreated controls.

**Dr Jane Thomas NIAB**, 11th August 2015  
Head of Department Pathology & Entomology



# Tricet Pro-Foliar

*Contains lactobacilli*

## For all Plants to Enhance Yield, Quality & Resilience

**Pro-Foliar** is a unique formulation of plant nutrients designed to provide the building blocks for strong healthy growth at the key stages of plant development. Resulting in less environmental stress and assisting the plant to reach its full genetic potential.

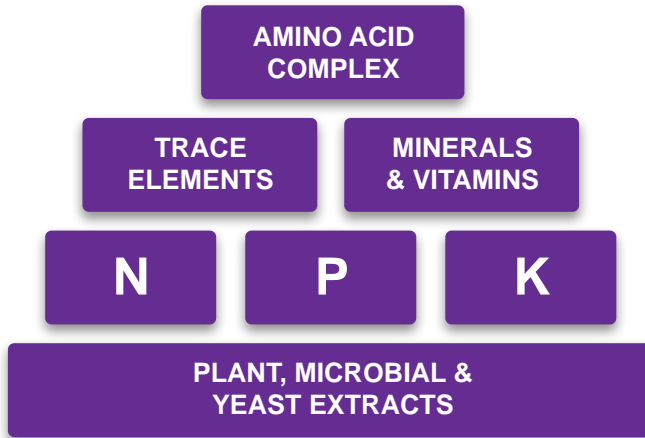
### Key Benefits:

- Contains easily absorbed natural nutrients for rapid uptake
- Accelerates root and plant development
- Enhances the plant's resilience to pests and diseases
- Reduces abiotic stress
- Contains Ecocert-certified micronised trace elements for increased nutrient uptake efficiency
- Contains natural adjuvants

Helping to break the cycle of higher inputs for a **reduced environmental footprint**



## Pro-Foliar contains all of the Building Blocks for Growth



### USAGE

- Standard dose rate: 0.5 - 1 L/ha in 150 - 200 litres of water. **Pro-Foliar** can be tank mixed with most agricultural products, however it is recommended to do a bucket mixing test before use, as generic formulations of branded products may vary
- Apply 0.5 - 1 L/ha per application. Final dose rate will be 1 - 4 L/ha depending on crop species. Some fruit crops will require sequential applications at 10 to 14 day intervals while the crop is fruiting
- **Pro-Foliar** contains natural wetting agents and therefore additional wetters should be avoided particularly in multi-product tank mixes to avoid scorch
- **Pro-Foliar** is best applied in dull or low sunlight conditions

**Pro-Foliar** is quickly and easily absorbed by the plant and can be tank mixed with other products for ease of application. The natural surfactants in **Pro-Foliar** means additional wetter's would not be necessary in tank mixers (cost saving).

**Pro-Foliar: Compliments Sustainable Farming Technology & Solutions**



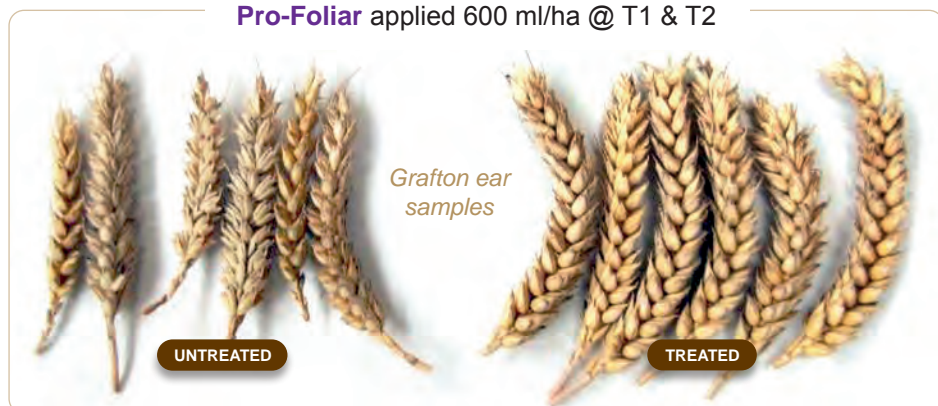
# Tricet Pro-Foliar Trial Results

2017-2021 Inclusive

Location	Crop	Untreated	Treated	% Yield Difference
Norfolk	OSR	198 g	213 g	7.5%
Nottinghamshire	Maize	55.5 t/ha	59.5 t/ha	7.2%
Nottinghamshire	S.Barley	8.2 t/h	8.9 t/h	8.5%
Suffolk	Wheat	63.76 kg	77.37 kg	21.0%
Norfolk	Carrots	83.47 t/ha	87.15 t/ha	4.5%
Suffolk	Onions	34.07 t/ha	36.44 t/ha	5.0%
Cambridgeshire	Peas	449 g	480 g	6.9%
Norfolk	Potato	52 kg	60 kg	15.3%
Suffolk	Wheat	997 g	1159 g	16.2%
Norfolk	Wheat	837 g	937 g	11.9%

10 trials spanning 4 counties over 5 years gave an **average yield benefit across all crops of 10.8%**

## Farm Trial - A. Johnson & Son, Suffolk Pro-Foliar applied 600 ml/ha @ T1 & T2



## Potato Trials - Acorn Seeds Ltd, Norfolk

Location	Variety	Total Yield Kg	Marketable Yield Kg 40-75 mm	Marketable % Yield Increase
<b>Norfolk</b>				
Control / Kg Treated / Kg	Maris Piper	60.0 66.8	56.1 63.0	+12.2%
<b>Suffolk</b>				
Control / Kg Treated / Kg	Maris Piper	50.1 58.9	48.8 56.4	+15.5%
<b>Cambridgeshire</b>				
Control / Kg Treated / Kg	Maris Piper	72.3 88.2	72.3 85.1	+17.7%
<b>Cambridgeshire</b>				
Control / Kg Treated / Kg	Desiree	42.2 54.1	42.2 51.8	+22.7%
<b>Suffolk</b>				
Control / Kg Treated / Kg	Desiree	59.7 65.6	57.8 63.7	+10.2%
<b>Gloucestershire</b>				
Control / Kg Treated / Kg	Desiree	54.7 69.5	54.7 67.0	+22.4%
<b>Gloucestershire</b>				
Control / Kg Treated / Kg	Estima	53.0 66.0	49.4 63.2	+27.9%
<b>Gloucestershire</b>				
Control / Kg Treated / Kg	Estima	38.9 49.8	38.9 45.5	+16.9%
<b>Cambridgeshire</b>				
Control / Kg Treated / Kg	Estima	64.5 73.3	62.0 72.3	+13.6%



# Tricet Pro-Fortis

*Contains micronised silica*

## The Strength Behind Your Crops

Micronised Silicic acid (3.16 mic) Ca, Mg, Fe, Boron & Fulvic Acid for fast efficient absorption. Use on all plants to stimulate growth, protect against disease and pests, alleviate stress and increase plant immunity.

### Key Benefits:

- Stimulates plant growth by boosting photosynthesis and chlorophyll content in the leaf
- Strengthens cell walls, deterring fungal pathogens
- Forms abrasive leaf and cell wall surfaces, deterring insect attack
- Aids regeneration of damaged plant areas
- Helps prevent lodging in barley and pea crops, by improving structural integrity
- Increases mineral absorption and translocation
- Reduces the impact of abiotic and biotic stress
- Increases plant immunity by boosting phenolic compounds

Providing **strength**,  
**resilience** and **protection**  
for better, cleaner,  
standing crops



Silicon is the second most abundant mineral on the planet, but in an unavailable form. Plants uptake silicon as Silicic acid, but conversion in the soil from silicon to silicic acid is not readily available to the plant.

We know that a healthy soil should contain 100ppm of monosilicic acid, and in the UK there are very few soils that measure up to this standard.

**Pro-Fortis** is a unique formulation of micronised silicic acid, calcium, boron, iron and Fulvic acid designed to provide monosilicic acid ( $H_4SiO_4$ ) and supporting elemental nutrition to stimulate plant growth.

**Pro-Fortis** strengthens the cell walls to facilitate faster growth and increase the rate of water transportation, creating bigger sturdier plants more resilient to lodging.

Protecting the plant against diseases and pests, it alleviates abiotic and biotic stress and increases plant immunity, thus assisting the plant to reach its full genetic potential.

#### USAGE

- Apply from 1.5 - 2L/ha (foliar), 2.5 - 5L/ha (soil) in a minimum of 50 litres of water. These application rates are crop specific
- Do not pre-mix and store in diluted form use promptly once opened
- All foliar products perform best when applied early morning or late evening
- Minimum dilution 1:50

**Pro-Fortis: Providing Stability & Resilience against Disease & Pests**



# Tricet Pro-Fortis Trial Results

## Westerwolds Ryegrass Trial, Askham Bryan College, York 2019 Dairy Silage

	Untreated	Treated	Increase
D.M	142	226	+59.15%
Sugar	107	146	+36.45%
Selenium	0.11	0.24	+118.18%

Selenium is required for normal growth and fertility plus helping prevent disorders such as mastitis and scour.

**Andrew Fisher**, Independent Agronomist



## Permanent Ley Lamb Finishing Trial, Scott Flett, Luskentyre 2020 Grazing

	Untreated	Treated	Increase
D.M	233	314	+34.76%
Sugar	204	302	+48.04%
Cobalt	0.03	0.08	+167%

Sodium (increased palatability) +17.8%, Zinc +53%, Selenium + 33% & Cobalt a massive 167% increase. All these elements are essential for healthy livestock, which enables faster growth rates and earlier finishing.

**Andrew Fisher**, Independent Agronomist



**Maize Trial, J. Miller, Home Farm, Newark 2020**  
**Fresh Silage**

	Untreated	Treated	Increase
D.M	276	310	+12.32%
Starch	181	346	+91.16%
By Pass	33	120	+263.64%
Yield	21.07 T/ha	22.36 T/ha	+1.3 T/ha

Plus 1.3 T/ha yield increase with virtually the same D value with a massive increase in the starch level, which would be equally advantageous for AD or forage.

**Andrew Fisher**, *Independent Agronomist*

**Sugar Beet Trial, J. Miller, Home Farm, Newark 2021**  
**Beet**

*Averages of a 5  
Replication Trial*

	Untreated		Treated	
	Field 1	Field 2	Field 1	Field 2
Sample Dirty Weight - Kg	7.66	10.72	8.90	14.10
Sample Clean Weight - Kg	7.26	10.20	8.38	13.42
Sugar - %	18.00	18.10	18.05	18.10
Yield - T/ha	72.60	102.0	83.80	134.20
Adjusted Yield - T/ha	81.62	115.4	95.08	152.40
Sugar - T/ha	13.06	18.47	15.20	24.34

*Sample analysis conducted by British Beet Research Organisation*



# Tricet Pro-Growth

## A Complete Foliar Nutrition for all Crops

**Pro-Growth** is a unique formulation of macro, micronutrients and minerals complexed with essential amino acids. The liquid formulation adds ease to efficient and accurate application for rapid intake.

### Key Benefits:

- Direct liquid application
- Can be tank mixed
- Fast absorption into the leaves
- Reduces stress from nutrient deficiency
- Improved yield and quality
- Provides flexibility to your nutrient programme

These benefits  
enhance **yield,**  
**quality** and **profit**



**Pro-Growth** is a complete and balanced plant nutrient formulation designed to feed and stimulate the plant at all key growth stages.

It can be used as a management tool alongside conventional fertiliser programmes to either extend the opportunities to feed the crop or to apply when environmental conditions are more suitable for rapid foliar uptake than soil applied granular applications. This will lead to more efficient use of the total fertiliser programme and will reduce waste and negative environmental impact.

#### USAGE

- Apply 2.5 - 5 L/ha in 200 to 300 litres of water to crops for immediate boost or at 14 day intervals in a programme while crops are actively growing
- **Pro-Growth** can be tank mixed with most crop protection products, check compatibility before use
- Suitable for all crops for foliar nutrient application however it is not intended to address soil nutrient deficiencies
- During hot weather or on stressed crops only apply early morning or late evening. The combined effects of fertiliser and sunlight on the foliage could cause scorching and tissue damage

As a liquid it is accurately applied and quickly absorbed by the leaves giving rapid response and no waste through leaching or evaporation.

**Pro-Growth: Providing Opportunity to Maximise Early Crop Potential**



# The Role and Availability of Plant Nutrients

**In an ideal world the soil should provide all of the nutrition for any plant's needs, however soils worldwide are not in great condition and there is much work to be done on soil restoration.**

Soil ph. can greatly influence the availability and take-up of plant nutrients. Some nutrients are more available in acid soils and others in alkaline, a soil ph. of 6.5 to 7.5 will provide the best general status for most availability of essential nutrients, however nutrient imbalances can easily cause "lockup" and render nutrients to be unavailable. Weather and environmental conditions can also cause nutrients to be unavailable, i.e. too wet, too dry, too cold, too hot.

Nutrients applied directly to the soil can very often be lost through lock up or leaching in poorly managed soils. Foliar application of nutrients on the other hand can be applied with targeted accuracy and be immediately available to the crop, with very efficient uptake and beneficial response.

It has been reported in trials that foliar feeding resulted in about 95% efficiency of nutrient use, versus only about 10% efficiency of nutrient use from soil fertiliser application.

When fertilisers are applied to plant leaves, nutrients generally enter the plant through the cuticle which is a thin, waxy layer on the outside of the leaves and stems, and through the stomata which are pores on the leaf and stem surfaces. Nutrients may enter from both the top and the underside of the leaves.

Foliar nutrient applications compliment soil applied nutrients and should be used as a tool to maximise the use and efficiency of soil applied nutrition. Too often soil applied nutrition is overdone, planned targeted applications of foliar nutrients in combination with soil applications will improve the timings and efficiency of the whole nutrient programme, leading to cost savings and healthier higher yielding crops.

*Ideally foliar feeds should be applied in the cooler morning or evening hours.*

# Tricet Pro-Growth Trial Results

2020-2021

## Carrot Trial, Sandringham

Treatment	<20 mm		21-30 mm		31-40 mm		>40 mm		Total		Est Yield T/ha	% Difference
	No.	Wgt Kg	No.	Wgt Kg	No.	Wgt Kg	No.	Wgt Kg	No.	Wgt Kg		
1	53	1196	276	18520	40	4946	1	182	370	24.84	62.10	-
2	53	874	309	19614	58	7140	1	290	421	27.91	69.75	11%

Treatments:

1. Untreated Control
2. Pro-Growth @ 2.5L/ha Full Canopy

## Winter Bean Trial, Hunston, Suffolk

Totals and Averages over 4 Replications

Treatment	Totals of 4 Reps				Total Wgt	% Diff	Estimated Yield T/ha
	No. of Pods	No. of Beans	No. per Pod	Wgt GMS			
1	384	1103	2.87	712	712	0%	3.59
2	444	1280	2.88	856	856	17%	4.33

Treatments:

1. Untreated Control
2. Pro-Growth @ 1L/ha Early Flowering

## Wheat Trial, Angus Wheat Consultants, Beyton Suffolk

Variety AWC 19, 12m Plots x 4 Replications

Treatment	Total Wgt of 4 Reps	Average Wgt / Kg	Difference	Estimated Yield /ha	Value @ £180 T/ha	Difference £/ha Over Control	Cost Benefit £ /ha
1	68.39	17.09	-	7.08	1274	-	-
2	71.33	17.80	5%	7.43	1337	63	£55.00
3	73.60	18.40	8%	7.64	1375	101	£69.00

Treatments:

1. Control
2. Pro-Growth @ 2.5L/ha @ Early Tillering
3. Pro-Growth @ 2.5L/ha @ Early Tillering & T1, T2, T3



# The Role and Importance of Amino Acids in Soil and Plants

## What exactly are amino acids?

Amino acids are organic compounds that are comprised primarily of carbon, oxygen, hydrogen and nitrogen. This “cocktail” of essential elements forms the building blocks for proteins, which are the basic components required for living cells to exist. Plants are able to synthesize amino acids by obtaining carbon and oxygen from the air, hydrogen from water and nitrogen from the soil, combining these key ingredients together in order to generate amino acids through the formation of complex biochemical pathways (e.g., photosynthesis).

## Amino acids: the essential nutrient for soil and plant health

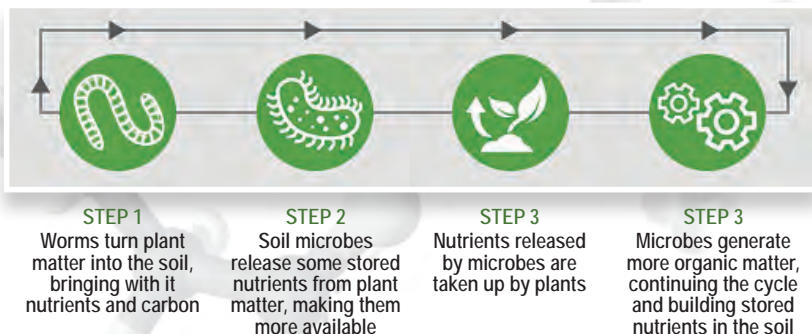
Amino acids also serve as a vital food source for the untold billions of microbes found in the soil. The carbon found in amino acids is one of the primary energy sources for these tiny soil microbes, which metabolize the carbon in order to continue building their populations.

The prevalence of amino acids in the soil and in the plant is directly proportional to the overall health, quality and yield of the crop you’re trying to grow.

There are thousands of different species of beneficial microbes that contribute to the health of soil and plant life.

The life cycle of these microbes is very short, as they die off they release vital organic compounds back into the soil that can be used for nourishment as well. This delicate give-and-take relationship between the microbes, soil and plant life depends upon amino acids to thrive, so it stands to reason that the soil with the highest quantities of amino acids will ultimately provide the highest level of nutrition for the plants.

## How Microbes Increase Soil Nutrient Availability & Build Soil Organic Matter

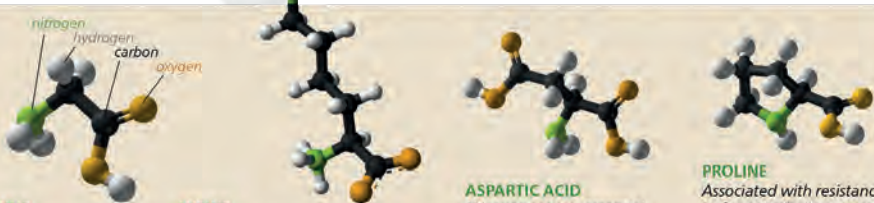


Amino acids have various prominent functions in plants. Besides their usage during protein biosynthesis, they also represent building blocks for several other biosynthesis pathways and play pivotal roles during signalling processes as well as in plant stress response.

The importance of amino acids and complete balanced nutrition in soils and plants should not be underestimated. It is essential for, and flows through the whole food chain, from soils, to plants, to animals and to humans (*we are what we eat!*).

The amino acid complex used in the formulations of **Tricet Pro-Soil**, **Tricet Pro-Foliar** and **Tricet Pro-Growth** contains a minimum of 18 essential amino acids, including the following:

### Key Amino Acids



**GLYCINE**  
High complexing power, aids in photosynthesis, precursor of chlorophyll.<sup>2</sup>

**LYSINE**  
Important plant nitrogen reserve, aids in chlorophyll activation, stomata regulation and pollen development.<sup>5</sup>

**ASPARTIC ACID**  
Nitrogen source, essential for synthesis of other amino acids, important during early growth stages.<sup>7</sup>

**PROLINE**  
Associated with resistance to fungal infection, essential for overcoming stresses such as drought, temperature extremes and salinity.<sup>8</sup>

For more information please contact

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**BIO-NUTRITION** FROM TRICET UK



**THE STRENGTH BEHIND YOUR CROPS**

[www.patchworkgps.com/tricet](http://www.patchworkgps.com/tricet)