



ED&F Man
Agronomy

Product Technical Information



Innovation

ED&F Man has a long history of innovation, founded in 1783 and a market leader in a number of agricultural sectors and markets. We have developed a new range of soil and plant nutrient products formulated using natural ingredients and designed to enhance crop production in a holistic and sustainable way and help drive the Circular Economy.

Circular Economy of Raw Materials

All our raw materials are derived from natural and renewable ingredients which aligns with our commitment to minimise environmental impact in all areas of our business and to help our customers do the same and promote sustainable agriculture.

Research and development is a key element of our vision and has led to the expansion of a unique range of soil and plant nutrition products. These products will help to ensure our customers achieve cost-effective performance improvements while minimising traditional chemical inputs and getting the most from their chosen system.

Sustainability

ED&F Man is a founding member of Bonsucro, the body formed to develop, support and certify sustainable sugar and molasses production. Under this certification, ED&F Man Agronomy are helping lead the way towards sustainable crop production. Certified sustainable molasses can now be offered to our customers, if you would like to find out more information please get in touch.

Delivering effective performance

Our goal is to improve soil and plant health while also delivering enhanced crop performance by using products which drive improved energy and nutrient supply to the plant. Ensuring the right crop and soil nutrition makes a crop less susceptible to a range of stressors. Getting the right base nutrition for the soil allows everything else to fall into place reducing the reliance on other inputs while increasing both quantitative and qualitative production.



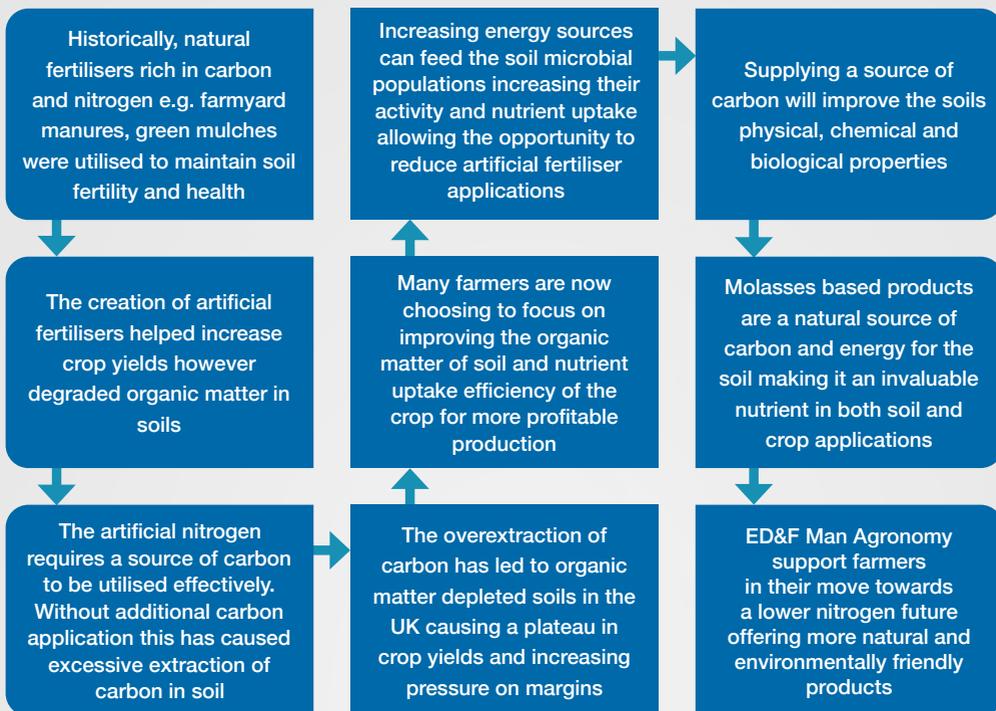


**ED&F Man
Agronomy**

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Concept



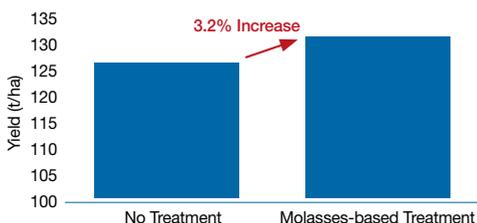
Proven Products

Proven in trials

In an independent trial investigating the effect of molasses treatment on carrot quality, the Black Label at an application rate of 6.6L/ha in 300L/ha water every 14 days over a total of 6 applications resulted in a 3.2% yield increase.



Yield Response in Trial



Proven on farm

Improvements in soil health demonstrated in just one season of application in this minimum tillage winter wheat system. Gold Label was applied three times at 10kg/ha aiding both hyphae and bacterial populations.

Points of impact



Vegetation/Crop

What is it? The living canopy, a healthier and more robust crop is desirable to enhance yields and farm profitability.

How can our products help? Increasing foliar uptake and absorption of nutrients will increase growth through targeted use of inputs.



Organic Layer

What is it? The visible top layer of earth acting as a junction between crop and soil. The higher the microbial population and activity here the greater the integration of stubbles and crop debris.

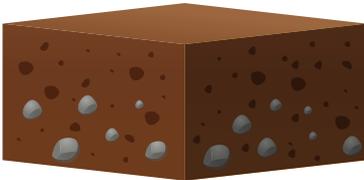
How can our products help? Supply of carbohydrates in the form of sugar feeds microbial populations.



Top Soil

What is it? The main growth medium for plants where most root establishment occurs.

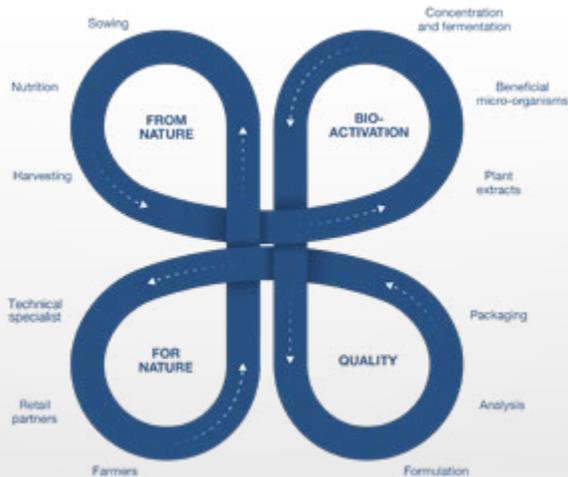
How can our products help? Improved microbial activity allowing greater uptake of nutrients with high availability to roots creating an optimum environment for crop establishment. Stabilising soil nutrients through organic acid inclusion forming complex compounds to support crop growth.



Sub Soil

What is it? A layer with lower levels of microbial activity, oxygen and nutrient availability often made up of degraded bedrock. Higher risk area for compaction and drainage issues.

How can our products help? Addition of carbohydrates can help improve the microbial environment by providing substrate for aerobic microbial populations. Enhancing nutrient offering to increase the volume of living soil biome.





Black Label - Technical Data Sheet

Target Application

Foliar, Soil & Drilling



Black Label is a crop nutrition spray manufactured using co-products from the sugar industry. It is blended and filtered for use through sprayer or liquid fertiliser application systems with particular attention paid to processing for filter, pump and spray nozzle safety.

Black Label has high carbon and free sugar content which makes it particularly effective for pairing with foliar nitrogen applications. This helps to mitigate against both sun and frost scorch and improve the metabolism of nitrates, which increases the efficiency of fertiliser absorption.

Application Rates

Crop	Total Rate (kg/ha)	Soil (kg/ha)	Foliar (kg/ha)
Cereals	50	10	40kg in minimum 3 applications
Grass	50	10	40kg in minimum 3 applications
Maize	50	20	10-20kg in tank mix
Potatoes	100	10	10-20kg in tank mix
Salad Veg	100	20	10-20kg in tank mix

Typical Specification

Solids (%)	60	Total P (%)	0.003
Total Organic Carbon (%)	23	Total K (%)	3.8
Sugar (%)	67	Total S (mg/kg)	500
Organic Acids	✓	SG (kg/L)	1.35
Amino Acids	✓	pH	5.5
Total N (%)	0.64		

Availability:

Black Label is available nationwide in IBC's from 1.3mt and bulk delivery from 10 to 29mt. Use product within growth season.



Black Label

Black Label has some of the highest organic carbon and free sugar content of any spray accompaniment available with excellent solubility and product pairing abilities.

Black Label contains a 7% solution of organic acids, including a broad inclusion of essential amino acids.

100% plant-based and filtered to 200 microns for ease of use and application.



The concentrated carbohydrate and sugar content within Black Label means that this has a big impact with very modest inclusion and application rates.

Excellent mixing capacity makes Black Label an ideal inclusion for adding to fungicide and herbicide for assurance of efficacy.

The anti-scorch property of Black Label is proven in field trials, and the chelating activity means users have been able to reduce inorganic nitrogen use by a minimum of 10% over the crop growth season.

The key benefits and features of Black Label include:

- Highly concentrated sugar content
- Great tank mix capabilities
- Proven anti-scorch properties
- Boosts effectiveness of inorganic nitrogen applications



Gold Label - Technical Data Sheet

Target Application

Foliar, Soil & Drilling



Foliar



Soil



Drilling

Gold Label is a blend of cane molasses and fermented co-products from the sugar industry. This gives the blend naturally high levels of carbon and amino acids, beneficial to soil health and aiding germination and early establishment. The plant-based micronutrients supplied in this biological complex help facilitate the restructuring of inorganic nitrogens into amino acid building blocks for protein synthesis.

Application Rates

Crop	Total Rate (kg/ha)	Soil (kg/ha)	Foliar (kg/ha)
Cereals	50	10	10kg in tank mix
Grass	50	10	10kg with nitrogen
Maize	50	15	10-20kg in tank mix
Potatoes	100	10	10-20kg in tank mix
Salad Veg	100	15	10-20kg in tank mix

Typical Specification

Solids (%)	60	Total P (%)	0.034
Total Organic Carbon (%)	20	Total K (%)	6.3
Sugar (%)	37	Total S (mg/kg)	1600
Organic Acids	✓	SG (kg/L)	1.33
Amino Acids	✓	pH	5.6
Total N (%)	3.3		

Availability:

Gold Label is available nationwide in IBC's from 1.3mt and bulk delivery from 10 to 29mt. Use product within growth season.



Gold Label

Gold Label is a highly soluble liquid application containing an all-round nutrient content, including soluble N, P, K and S. Elevated organic and amino acids content ensure availability of required nutrients at crucial stages of plant development during both drilling and growth periods.

Great product stability and compatibility with other amendments make Gold Label a popular addition to spray regimes.



The chelating capacity of Gold Label means that nutrients are both better absorbed into the growing crop and available in the soil complex for longer.

The carbohydrate and sugar content of Gold Label ensure optimum availability to growing crops, and act as a nutrient source within the ecosystem.

The micronutrient profile within Gold Label enhances the pathways by which the plant converts nitrogen to proteins, so driving nutrient use efficiency.

The key features and benefits of Gold Label include:

- Carbon, amino and organic acids in one product
- Improved availability and utilisation of nutrients
- More efficient conversion of nitrogen to proteins



Blue Label - Technical Data Sheet

Target Application

Foliar & Drilling



Blue Label is a blend of cane molasses, sugar co-products, and a concentrated *Ascophyllum nodosum* seaweed extract. The addition of seaweed provides a large boost of nutrients to the blend as it is particularly high in amino acids, enzymes, polysaccharides, fatty acids, organic glutamine, and bioactive peptides. Blue Label helps enhance the plants own biochemistry boosting efficiency and growth mechanisms in the developing crop. The sugars from the cane molasses promotes a more vigorous carbohydrate development in the plant aiding in a healthier, stronger cell structure which is less prone to biological and chemical stresses and disease.

Application Rates

Crop	Total Rate (kg/ha)	Foliar (kg/ha)
Cereals	50	10kg in tank mix
Grass	50	10kg with nitrogen
Maize	50	10-20kg in tank mix
Potatoes	100	10-20kg in tank mix
Salad Veg	100	10-20kg in tank mix

Typical Specification

Solids (%)	60	Total N (%)	2.7
Total Organic Carbon (%)	20	Total P (%)	0.3
Sugar (%)	32	Total K (%)	5.2
Organic Acids	✓	Total S (mg/kg)	1323
Amino Acids	✓	SG (kg/L)	1.28
Seaweed	✓	pH	6

Availability:

Blue Label is available nationwide in IBC's from 1.3mt and bulk delivery from 10 to 29mt. Use product within growth season.



Blue Label

Blue Label is a 100% natural, plant-based nutrient package from both the sugar industry and *Ascophyllum nodosum* seaweed inclusion.

Nutrient rich with a high inclusion of non-nitrogenous organic matter delivering a broad spectrum of over 60 different minerals, vitamins, trace elements and plant hormones.



Alginate and polysaccharides in Blue Label reduces surface tension of solutions, acting as a natural wetting and chelating agent which increases both contact area, time and nutrient use efficiency.

As a natural biological agent adding organic matter to soils, soil microbial activity is enhanced, instigating a virtuous cycle of the soil food web improving volume and availability of nutrients through microbial binding.

Biological and chemical stress can be better managed, while also improving plant defences by the regulation of molecular, physiological, and biochemical processes.

The key features and benefits of Blue Label include:

- A natural wetting and chelating agent, improving contact area, time, and nutrient use efficiency
- Adding to soil microbial activity, organic matter, and nutrient levels
- Improved retention of soil nutrients through microbial uptake
- Better resilience to common stress factors, physical, chemical, and temperate



Red Label - Technical Data Sheet

Target Application

Foliar, Soil & Drilling



Red Label is blend of cane molasses, fermented sugar co-products and a humic and fulvic acid solution. Combined with high free sugar and organic carbon levels, Red Label acts as an ideal accompaniment to liquid fertiliser and crop protection spray applications. Red Label has an enhanced cationic exchange capacity giving it an ability to effectively form chemical bonds which support nutrient uptake and elemental trans-location into plant cells, and aids chemical pathways in soil and root systems.

Application Rates

Crop	Total Rate (kg/ha)	Soil (kg/ha)	Foliar (kg/ha)
Cereals	15	5	10kg in 3 applications
Grass	15	5	10kg in 3 applications
Maize	30	10	20kg in 3 applications
Potatoes	40	10	5kg per tank mix
Salad Veg	40	10	5kg per tank mix

Typical Specification

Solids (%)	58	Fulvic Acid (%)	14
Total Organic Carbon (%)	25	Total N (%)	3.2
Sugar (%)	23	Total P (%)	2
Organic Acids	✓	Total K (%)	3.4
Amino Acids	✓	Total S (mg/kg)	1600
Total Humic Extract (%)	15	SG (kg/L)	1.29
		pH	5

Availability:

Red Label is available nationwide in IBC's from 1.3mt and bulk delivery from 10 to 29mt. Use product within growth season.



Red Label

A combination of organic plant sourced dry matter and fulvic acid solution, Red Label is an ideal soil profile addition. Outstanding carbon, sugar and fulvic acid content and soluble N, P and K over 2%.

Humic and fulvic acid have a profound impact on soil profile and nutrient-root interactions enhancing nutrient solubility, improving soil organic matter, aeration, rooting and improving water retention and efficiency.

The chelation process enhanced by the addition of fulvic acid and sugars aid nutrient use efficiency and essential element retention.



The inclusion of Red Label in sprayer protocols promotes improvements in soil amendments and nutrient use efficiency bringing:

- Improved yields
- Better drainage
- Drought tolerance through enhanced transpiration efficiency
- Support of soil carbon and soil borne microbes

Typical analysis (dry matter basis)

	Black Label	Gold Label	Blue Label	Red Label
Solids (%)	60	60	60	58
Total Organic Carbon (%)	23	20	20	25
Sugar (%)	67	37	32	23
Organic Acids	✓	✓	✓	✓
Amino Acids	✓	✓	✓	✓
Seaweed	✗	✗	✓	✗
Total Humic Extract (%)	✗	✗	✗	15
Fulvic Acid (%)	✗	✗	✗	14
Total N (%)	0.64	3.3	2.7	3.2
Total P (%)	0.003	0.034	0.3	2
Total K (%)	3.8	6.3	5.2	3.4
Total S (mg/kg)	500	1600	1323	1600
SG (kg/L)	1.35	1.33	1.28	1.29
pH	5.5	5.6	6	5

Total Application Rate recommended over a minimum of 3 applications.

	Cereals 	Grass 	Maize 	Potatoes 	Salad Veg 	Sugar Beet 
Black Label (kg/ha)	50	50	50	100	100	100
Gold Label (kg/ha)	50	50	50	100	100	100
Blue Label (kg/ha)	50	50	50	100	100	100
Red Label (kg/ha)	15	15	30	40	40	40

Which Product?

	Improves Nutrient Pathways	Enhances Soil Structure	Reinforces Disease Resistance	Increases Bacterial Population	Enhances Nutrient Stability & Retention
Drilling	Red Label	Gold Label	Blue Label	Gold Label	Gold Label
Foliar	Black Label	Gold Label	Blue Label	Gold Label	Gold Label
Soil Spray	Red Label	Black Label	Black Label	Black Label	Red Label



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