



BioAg

Biostimulants

A range of liquid soil inoculums and foliar products that stimulate microbial activity



Why a healthy soil microbiome is important



Soil is a complex and, particularly under cultivation, rapidly changing environment responding to physical, environmental and chemical changes.

Soil is more than a substrate for growing plants, it is a source of plant nutrients and a habitat for symbiotic soil microbiology. Microflora and microfauna serve as a 'digestive system' for plants and are vital for improving soil properties that benefit crops.



The benefits provided by a healthy soil microbiome include:

- Improved soil structural stability, water infiltration and aeration
- Increased nutrient availability and reduced loss pathways
- Break down of organic matter to humates, increasing nutrient cycling, and exchange capacity
- Improved root growth and increased plant access to nutrients
- Improved plant immunity response and pathogen suppression
- Increased resilience to abiotic stresses such as heatwaves, droughts and flooding
- Breakdown of pollutants
- Increased soil carbon and water holding capacity
- Improved habitat for arthropods and earthworms.

BioAg has developed a range of biostimulants targeted at improving plant performance and soil health.

BioAg biostimulants stimulate plant growth and resilience to abiotic factors, improve plant physiological processes, enhance soil biology and the balance of beneficial microorganisms, and feed soil biology, improving interactions with crops.

The BioAg range of Biostimulants

Improving soil properties, plant vigour, yields and quality

Soil & Seed*

Balance & Grow*

Fruit & Balance*

Digest-It*

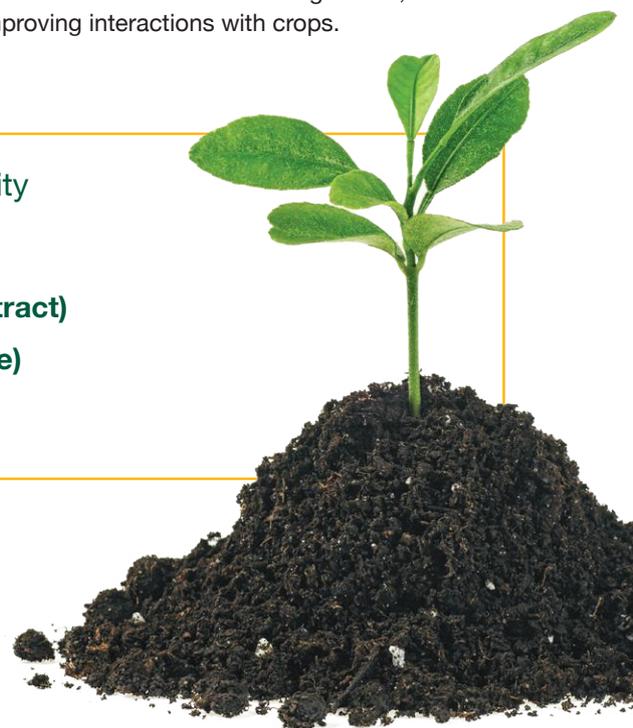
HydraHume# (humic acid)

HydraSea 50# (seaweed extract)

HydraFish# (fish hydrolysate)

Whether it is to complement a traditional fertiliser program, or a certified organic producer, BioAg's biostimulants range is designed to increase yield, quality, production efficiency, and sustainability, as well as introduce long-term sustainability. Products and programs are available to suit a wide range of soils and crops, including pastures.

* Organic variants available # Certified for use in organic systems



Key attributes

	Soil & Seed®	Balance & Grow®	Fruit & Balance®	Digest-it®
Plant growth promoters	Source of exogenous phytohormones naturally available for plants.			Not applicable
L-isomer Amino Acids	His, Ser, Arg, Gly, Asp, Glu, Thr, Ala, Pro, Lys, Tyr, Met, Val, Iso, Leu, Phe, Try The concentration of available amino acids varies by product.			
Other nutrients	Macro - microminerals	Trace elements	Trace elements	Macro - microminerals
Compatibility	Common tank mixes; e.g. with calcium nitrate, UAN, dissolved urea, micro-nutrients and other foliar applied products.			Not applicable
Application method	Fertigation, soil applied, seed-applied, boom spray.	Foliar	Foliar	Boom spray-on stubble. Dosing of effluent systems.

BioAg's range of proprietary fermented liquid cultures or biostimulants improve fertiliser usage at each critical stage of crop or pasture development: pre-emergence, vegetative growth, and flowering or fruit-set.

Each product is a source of metabolites and enzymes important to the stage of production, as well as food resources for the crop and beneficial biology.

BioAg's biostimulant range are natural bio-chelators. The microbial populations that the products support perform numerous functions that improve the condition of the soil and crop production. These include microbes that are nitrogen fixers and agents in remediating contaminated soil and that promote plant growth, while other species suppress root pathogens.

Together, *Soil & Seed*, *Balance & Grow* and *Fruit & Balance* provide plants with bioactive components and key nutrients.

BioAg *Digest-it* for Stubble or Effluent is formulated to feed and stimulate microbes that digest and convert stubbles, crop residues, and livestock wastes (ideal as a compost starter) into humus and plant food, reducing losses of beneficial nutrients reducing odours and improving sequestration of carbon.

Proven consistently in independent replicated field trials, see bioag.com.au/resources/trials-demonstrations/

BioAg *Soil & Seed*

Suitable for all crops and pastures. Improves soil structure, thereby increasing nutrient and moisture retention in the soil and greatly reducing the amount of nutrient lost through leaching. It encourages rapid germination and early root development and helps buffer the crop against stresses such as pests, heat, drought, and disease.

BioAg *Balance & Grow*

Formulated to increase vegetative growth, root development, and soil microbial activity. *Balance & Grow* provides plants and soils with the appropriate nutrients to stimulate and support plant growth, particularly calcium and phosphate. Early vegetative growth is important to optimise for future yield.

BioAg *Fruit & Balance*

Formulated to increase flowering, fruit set, and soil microbial activity. Delivers a source of plant-available phosphate when the plant is under peak load, stimulating strong fruiting and enhancing yield potential. *Fruit & Balance* also enhances the nutritional value and quality of fruit by increasing sugar levels in the plant.

Visit our website or contact your local Area Manager for more information.



Key attributes

	<i>HydraHume</i> [®]	<i>HydraFish</i> [™]	<i>HydraSea 50</i> [™]
Source	Produced from high-grade leonardite.	100% liquid fish meal	Seaweed extract (ascophyllum nodosum) 100%
Nutrient composition	Potassium humate in solution 13% w/v	Organic N, P, K, oil acids	Phytohormones (cytokinins), amino acids, polysaccharides, minerals and organic acids.
Compatibility	Before tank mixing, jar test all added products for compatibility of use. Not recommended to mix with calcium products, strong acidic, or strong oxidising products.		
Application method	Soil	Soil and foliar	Foliar

HydraHume

HydraHume provides a single, simple and organic solution for building soil humus and increasing soil fertility. By directly contributing to humus development, it increases the soil's water and nutrient holding capacity. It is an efficient promoter of plant growth and increased root mass, while also improving the effects of fertilisers. It rapidly accelerates the microbial activity in soils, developing soil carbon and reducing nutrient lock-up.

HydraFish

HydraFish is an excellent and natural source of vital nutrients including nitrogen, phosphorus, potassium, calcium, and trace elements. It can replace products like UAN as a source of nitrogen suitable for use in organic farming systems. It feeds soil-borne microorganisms, promoting plant growth. Formulation is a fine liquid, blockages in spray equipment are limited.

HydraFish is manufactured at a low temperature using a natural enzyme process to ensure nutrients and trace elements are retained.

HydraSea 50

HydraSea 50 is a 100% water-soluble organic seaweed extract that is highly concentrated, delivering nearly 3 times the organic bioactives and minerals as the main competitive products in the market. A higher concentration of minerals and bioactives means lower application rates can be used.

Made from *ascophyllum nodosum*, one of the most widely researched seaweeds available, it delivers a wide range of beneficial substances to crops and pastures.

About BioAg



Increasing the soil's fertility is one of the key principles of BioAg programs and products. Each BioAg program is focused on enhancing soils and promoting healthier, better yielding plants.

BioAg is an Australian owned and operated manufacturer of liquid biostimulants and natural phosphate fertilisers, since 1999.

Our Area Managers and agronomists work with farmers to provide tailored fertility programs that consider the individual block, including its history and soil type, along with soil test results and the farmer's yield and quality goals and budget.

In other words, we develop a fertility program for your farm that suits you, and helps your farm meet its full productive capacity. We can tailor programs that are suitable for conventional or organic farming systems.

Your local BioAg Area Managers are always available to discuss how BioAg's products and programs can improve your farming system or put you in contact with our distributor network.



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