SOIL - YOUR GREATEST ASSET [IS IT PRODUCING TO ITS BEST?]

Broad spectrum microbial inoculant that assists

- Nutrient accessibility
- Nutrient Solubilisation
- Nutrient cycling
- Rapid seed germination
- Root development
- Disease and drought resistance
- Residue breakdown

SOIL & SEED

Micro-organisms

Soil & Seed contains a large and diverse population of beneficial micro-organisms, including fungi, bacteria, yeast and protozoa

Broad spectrum food source

Balanced food supply of carbohydrates, amino acids, enzymes, vitamins, essential nutrients and growth promoters, that feed both plants and beneficial micro-organisms

Proven in trials

The BioAg website provides independent and replicated trial results proving Soil & Seed's ability to rectify and condition the soil, improve fertiliser use efficiency, and enhance yield

SOIL & SEED

- Diversity of Micro-Organisms
- Complexed Food Supply

ABOUT SOIL & SEED

Soil & Seed contains and encourages a diverse population of beneficial micro-organisms, including bacteria, fungi, yeast and protozoa.

These organisms perform a wide variety of tasks that are important for both soil health and profitable farming systems.

In the soil environment, the total number of organisms, the activity and the diversity will vary between soil types, crop types and production systems, so it is very important to introduce and invigorate a diverse population of micro-organisms.

Soil & Seed also contains a complexed food source for micro-biology that includes carbohydrates, proteins (amino acids), humic compounds, vitamins, minerals.

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BioAg®

Better soils. Better crops. Better stock.™

BIOAG SOIL & SEED MAKES SOILS DELIVER MORE

Proven to improve soil performance

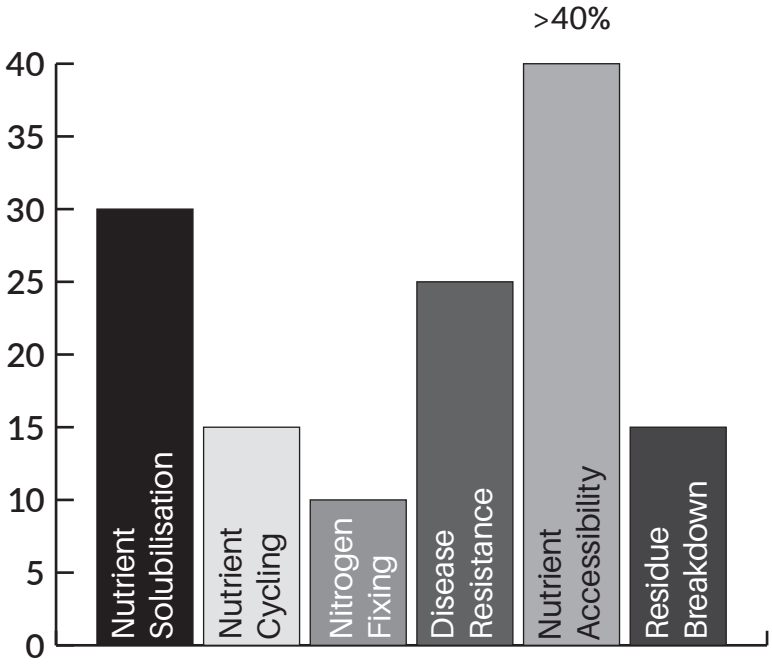
Common farming practices deplete the levels of beneficial organisms in the soil.

Herbicides, fungicides, soluble fertilisers, cultivation, and variations in soil temperature and moisture, are all harmful to beneficial microbes, consequently allowing non-beneficial and pathogenic organisms to increase.

Using Soil & Seed is proven to increase the levels of beneficial micro-organisms around the plants root zone.

These organisms perform one or more of the following critical roles in the soil – **nutrient solubilisation, nutrient cycling, nitrogen fixing, disease resistance, nutrient accessibility and residue break down.**

The graph below shows the improvements made to a range of soils through the application of Soil & Seed compared to standard practice.



Stimulate and feed

Complexed carbohydrates are one of the key ingredients of Soil & Seed. These are a highly effective food source for micro-organisms.

Carbohydrates stimulate micro-organism activity and grow their populations, increasing their positive effects on the soil, plant emergence, plant health, plant growth, and yield potential.

The proteins in Soil & Seed (in the form of amino acids) feed both the plant and the micro-biology.

Amino acids are very important as they act as precursors to many metabolic functions within the plant, including (but not limited to)

L- Glutamic Acid. A fundamental in chloro-phyll production and a natural chelator of nutrients.

L- Tryptophan. A precursor to Auxin production (plant hormone).

L- Histidine. Enhances fruit maturity and fruit quality.

Physical Properties#	
Ash	6.5 %
Fat	0.15 %
Protein	1.6 %
Carbohydrate	18.2 %
Total Solids	33.6 %
Specific Gravity	1.152 kg/l
pH	3.4
Phosphorus	2.09 %
Phosphorus (bio-available)	2.04 %
Orthophosphate (water soluble)	1.7 %

#Typical analysis. National Measurement Institute, Environmental Analytical Laboratories, BioAg Laboratories, and JBS Swift Laboratories.

Microbial Composition#		Biomass (g/l)
Total Microorganisms		38.6
Total Bacteria		26.7
	Pseudomonas -Nutrient Solubilisation -Disease Resistance	4.8
	Actinomycetes -Nutrient Cycling -Disease Resistance -Residue Breakdown	0.7
	Anaerobic spp	0.1
	Gram positive spp -Drought Resistance	3.2
	Gram negative spp -Nutrient Cycling	23.4

#Typical Analysis. Creation Innovation Agriculture and Forestry (CIAAF).

Quality Assurance

Soil & Seed, part of BioAg's fermented liquid cultures range, is produced to stringent formulations, fermentation process and control parameters (such as temperature, fermentation times, quality raw material inputs).

Throughout the process we monitor and test for correct fermentation processes, and to ensure correct microbial activity.

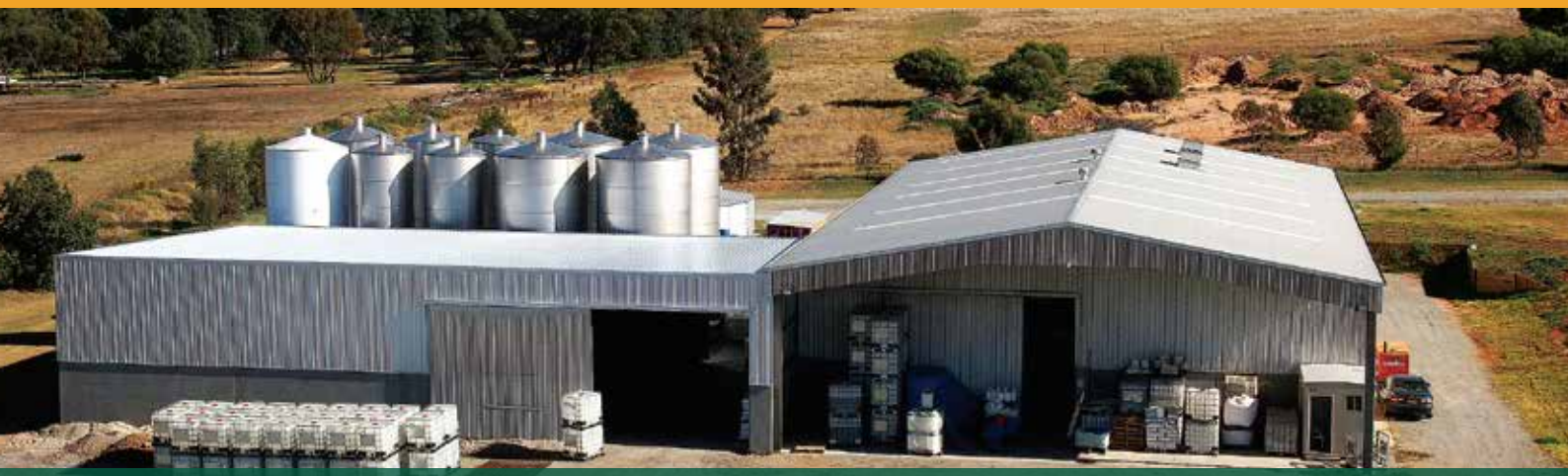
At the end of the process the cultures are made dormant, ready for safe storage and transportation.

At this stage each product has a typical count of dormant organisms.

When applied on farm, the natural processes commence that result in micro organisms waking from dormancy.

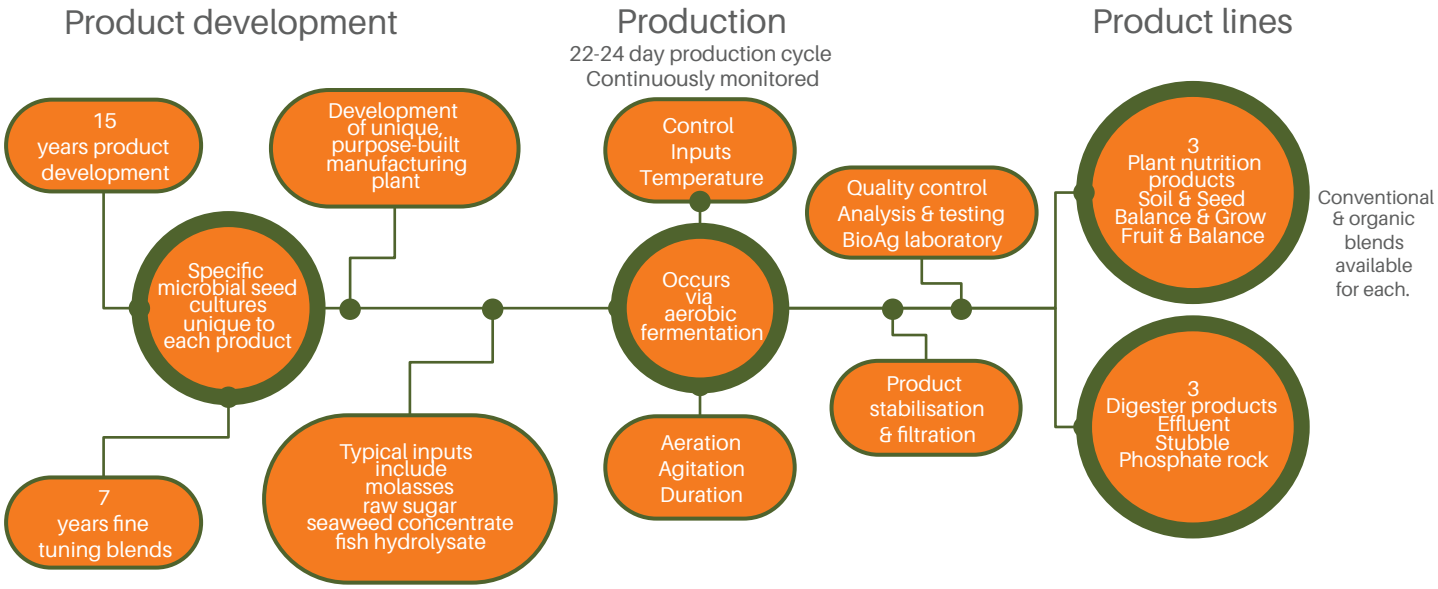
How many and which microorganisms wake/ reactivate is a function of what your soils require, and the habitat.

By having products with a diverse range of microorganisms, enzymes, microbial foods and plant foods, we are more likely to fill any gap in nutrient needs or microbial diversity as well as stimulating those microorganisms already present.



BioAg's state of the art manufacturing facility in the Riverina/MIA has been purpose built for the manufacturing of BioAg's fermented liquid culture products.

Soil & Seed Evolution and Manufacture



Complete Tailored Solutions

BioAg's Fertcare Accredited Area Managers are all formally qualified agronomists, each with many years of experience across areas such as cropping, grazing and horticulture.

A BioAg program for your farm will start with careful analysis of soil test results, paddock history and visual inspection.

BioAg programs are tailored to suit your individual paddock and will incorporate BioAg natural solid fertilisers, fermented liquid cultures, and other typical inputs.

Organic Variants

Each of BioAg's fermented liquid cultures are also available as certified inputs for organic farming systems.

The liquids are complemented by BioAg's organic input certified solid fertiliser range.

Australian Organic Registered Farm Input
ALLOWED INPUT 221AI

Crop	Application Rate (l/ha)	Comments
Broadacre Cereals, pulses, oil seeds	Non-irrigated 2-3 Irrigated 4-5	Apply to moist soil before seeding and incorporate within 72 hrs, by seeding or other cultivation. Where applicable may be applied through irrigation to avoid the need for incorporation.
Summer Crops Cotton, maize, sorghum, lucerne	Planting/ Spring application 6-10 In-crop application 2-3	
Horticulture Potato, vines, citrus, vegetables, nut and fruit trees	Planting/ Spring application 6-10 In-crop application 2-3	Applied as fertigation or boom spray. Can be applied with other soluble nutrients.
Pasture	Autumn application 2-3 Spring application 2-3	Applied to moist soil before seeding or emergence. Applied where irrigation is available or when Spring rains promote late season growth.
Rice	4-5	Dry sown - Boom spray. Drill sown - Furrow inject. Drill sown & delayed water - Boom spray.

Application

Aerial spray
Boom spray
Fertigation
Liquid injection

Storage

1. Store all containers out of sunlight as the product is light and temperature sensitive.
2. The product has a shelf life of 18 months at temperatures below 30°C.

Mixing and Spraying

1. Agitate contents before use.
2. Jar test all added materials for compatibility before tank mixing.
3. Fill tank to a minimum of two thirds with water.
4. Add other nutrients as prescribed under agitation.
5. Add Soil & Seed under agitation, bring volume up to full.
6. Use within 48 hours of dilution.
7. Rinse sprayer after use.

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