



**MICROSOIL**  
liquid fertiliser

# GROW WITH LIQUIDS

## Why use liquids?

Microsoil's range of liquid fertilisers offers growers a complete solution to their crops' nutrient requirements. We use liquids as the means by which we add nutrient, apply biology and stimulate root and plant growth in order to maximise a crop's yield potential and to improve and maintain balanced soil health.

Our system has been developed over many years with the input of growers, agronomists and agricultural scientists across a diverse range of geographical zones in both dryland and irrigated farming enterprises. Our system allows growers to mitigate risk, increase accuracy and to efficiently react to a season's changing outlook.



**GROWING WITH LIQUIDS** allows you to inoculate, place nutrient, biology and stimulants in one continuous stream along the seed row all in the same pass. This cannot be achieved with granular fertiliser.

## REDUCING EXPOSURE TO RISK

Farming is a risky business so it is critical that a nutrition program addresses and minimises these risks where possible. Improving farming returns can be done by reducing input costs while maintaining or even increasing yield. The use of Microsoil liquids allows you to get your crop started and to then make foliar applications 'in crop' based on both your crop's needs and the outlook for a strong or weak finish to the season. This sort of accuracy in nutrient delivery can only be achieved with liquids.

The biological, mineral and stimulant components of Microsoil's products allow you to increase productivity without increasing costs. Enhancing your soil's biological processes has many benefits- increased fertility via the mineralisation of otherwise unavailable Phosphorus, the biological fixation of Nitrogen and disease suppression of soil pathogens to name a few.

The goal is to implement a labour efficient, targeted nutrition program that enhances your soil's health, minimises risk exposure and provides the best possibility to achieve yield potential in increasingly unpredictable farming conditions.

**LIQUID FERTILISERS** offer growers significantly improved nutrient control, adaptable to season conditions, lowering risk exposure in ways that cannot be achieved with traditional granular fertilisers.

## EASE OF HANDLING

The ease in which liquids can be handled at planting time offers significant benefits over granules. These benefits are highlighted by:

- Pumping liquids in a paddock requires less labour than granular fertiliser
- Humidity and rainfall does not affect the integrity of liquid fertiliser
- Without granules seeders have a greater capacity for seed allowing greater coverage per fill
- Liquid products are safe and easy to store.

## MICROSOIL'S UNIQUE PRODUCT COMBINATION

Microsoil's liquid fertilisers contain a complex combination of nutrient, biology, plant hormones and essential acids all in the one application. This degree of flexibility and compatibility cannot be achieved via granular fertiliser blends. Microsoil's product range includes traditional macro and secondary nutrients along with a complete range of balanced trace minerals such as Copper, Boron, Molybdenum, Zinc, Manganese etc. Many of these nutrients are only required by the plant in parts per million, however their absence can lead to limitations of other minerals that are required in greater volumes. Such an extensive and balanced blend of components can only be achieved in a liquids program.

## AGRONOMIC BENEFITS

Because of their physical form and the manner in which they are applied, liquids offer many benefits in terms of nutrient availability to plant roots.

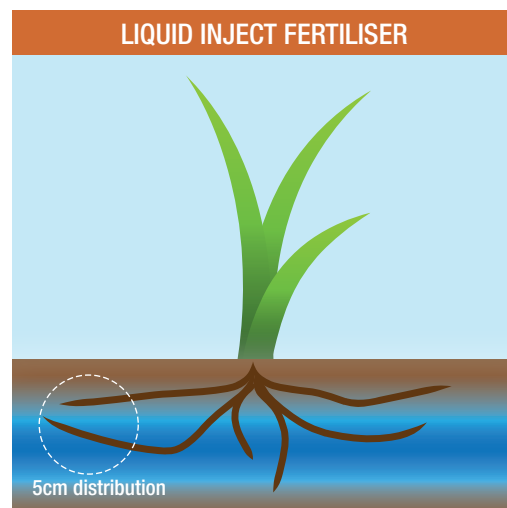
- Liquid products are applied in a consistent stream along the plant line resulting in the soil receiving nutrient across a far greater surface area than can be achieved with granular fertiliser. This allows for more vigorous early season growth
- Better target your input spend as the season evolves rather than spending a majority of it at planting

- Apply a wide range of nutrients in the one pass
- Better target crop and pasture nutritional requirements to achieve a return
- Unlike granular fertilisers, liquid fertilisers do not require soil moisture to dissolve them into a plant available form
- Microsoil's natural plant hormones and acids stimulate root growth and enhanced microbial processes help to build and preserve soil carbon. Both of these factors are critical in creating resilient crops and pastures capable of holding on in dryer conditions
- The tie up or loss of granular fertiliser Phosphorus to insoluble fixation in soils is well documented<sup>1</sup>, and is the cause of low Phosphate recovery by plants. The minerals and biology contained in Microsoil's products aid in alleviating such situations
- Microsoil's biology delivers nutrient in plant available forms improving operational efficiencies. For example Nitrogen is delivered in a protein form (not a nitrate) removing the risk of burn and the need for stock withholding periods.

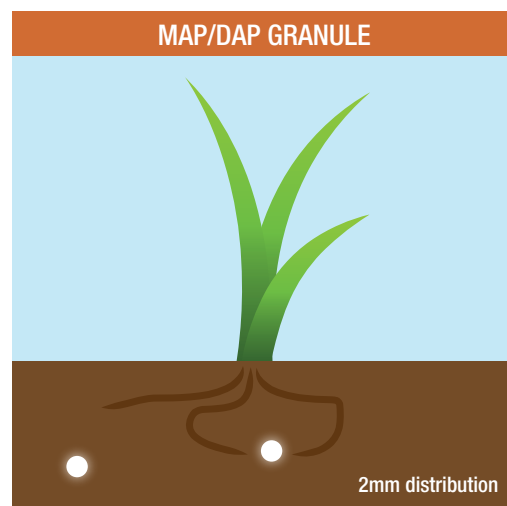
<sup>1</sup> McBeath, McLaughlin, Armstrong, Bell, Bolland, Conyers, Holloway, Mason (2007) - Australian Journal of Soil Research 45, 448-458

## AREA OF IMPACT

Nutrients within liquid fertilisers are able to move further from the band than a granule is restricted to<sup>2</sup>, so there is greater root exposure to nutrients which fosters a more aggressive and productive root system.



**BAND FEEDING** in a continuous liquid inject system provides uniform and maximum exposure of the roots to the nutrient without complete reliance on soil moisture. This enhances root systems and stimulates microbial activity.



**POINT FEEDING** from granular fertiliser in the row reduces the roots' access to nutrient. Moisture is taken from the soil profile to dissolve the granule and there is a small area of distribution of nutrient away from the granule.

<sup>2</sup> First Australian fluid fertiliser workshop proceedings, University of Adelaide, September 2004. Kelly, Wojcik and McLaughlin 11-22

**MICROSOIL'S RANGE** of fertilisers creates enhanced plant response by delivering a wide range of balanced nutrients in an available liquid form. The unique combination of nutrient, trace minerals, stimulants and biology in the one product allow for trouble free, timely applications to your crops and pastures.



## A SEASONAL APPROACH TO CROP NUTRITION

### PRE PLANTING

#### SOIL TEST TO 60cm

Identify nutrients lacking in your soil profile at a depth to where crop roots will soon reach.

#### CONFIRM PLANTING FERTILISER PROGRAM

Apply only what is needed to get your crop established. The right balance of nutrient and stimulants is critical to optimise crop emergence. Further nutrient spend will be done in crop and will reflect seasonal outlook.

#### ARRANGE LIQUID INJECT EQUIPMENT AND RECEIVE STARTER FERTILISER

Order early and have labour ready to liquid inject at time of planting to set your crop up for the best possible start to the season.

### POST EMERGENCE

#### LEAF TEST CROP

This is the most accurate indication of your crop's requirements and can save you significant expenditure. Target nutritional requirements to meet yield potential.

#### FOLIAR APPLICATION

A timely application based on crop needs and how well the season is shaping up. Microsoil allows you to wait until late in the season before deciding to chase extra yield. Foliar applications are applied via boom or fertigation.

### POST HARVEST

#### MANAGING TRASH

A stubble digestion program, using Microsoil's cellulose digesting biology and stimulants, is implemented for the benefit of future crops. This improves humus production, water retention and nutrient cycling.

## MICROSOIL LIQUID FERTILISER PRODUCTS - *a better way to farm*

Microsoil's liquid nutrition range has been developed over many years and is verified to improve your farming returns. A combination of liquid NPK starter nutrients uniquely balanced with trace minerals, biology and plant stimulants that have been independently proven to reduce costs and increase yield.

### LIQUID INJECT (or boom applied)

#### **NPK STARTER PLUS**

A robust combination of the major macro nutrient requirements of your crop uniformly applied along the plant line to maximise nutrient exposure to germinating plants.

#### **CROP STARTER**

Additional macro nutrients along with trace minerals, biology (including VAM), natural plant hormones and humic, fulvic and amino acids. A combination designed to enhance nutrient uptake and early plant vigour. Compatible with UAN Nitrogen.

### FOLIAR SUPPORT

#### **IN CROP**

Contains an increase in Nitrogen in the macro nutrients to enhance plant development along with biology, stimulants and trace minerals. Compatible with UAN Nitrogen.

#### **CALCIUM + ZINC**

Ca and Zn are commonly required pre-flowering to help plants reach their yield potential. The product also contains biology, stimulants and trace minerals.

### ADDITIONAL PRODUCT SUPPORT

#### **NITROGEN**

A slow release liquid Nitrogen in a Protein form that will not burn your crop or pasture and has no stock withholding period. The Nitrogen is efficiently delivered to the plant via the addition of biology and stimulants.

#### **NITROGEN PLUS**

Nitrogen with the addition of Sulphur, ideal for pastures and crops that benefit from S. The inclusion of biology and stimulants enhance plant uptake.

#### **PASTURE**

A balanced combination of macro nutrients, trace minerals, biology and stimulants to maximise pasture production quality. Minimal stock withholding periods as Nitrogen is in Protein form increases productivity.

### COMPATIBILITY

Microsoil products are compatible with each other when diluted with water, tank mixed and applied without delay. Additional liquid nutrient can often be tank mixed however this should be discussed with your Microsoil consultant first and a "jar test" should be performed prior. Size 3 nozzles and 80 mesh filters or larger should be used on spray equipment. Agitation should be done if the products have been left standing for a considerable period.

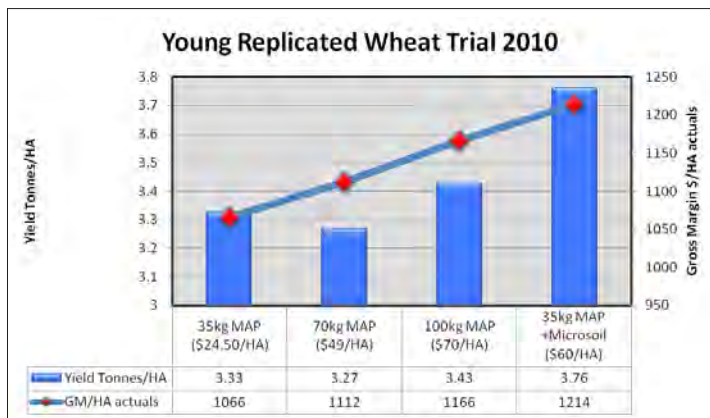


\*A similar program is implemented for a seasonal approach to pasture improvement.

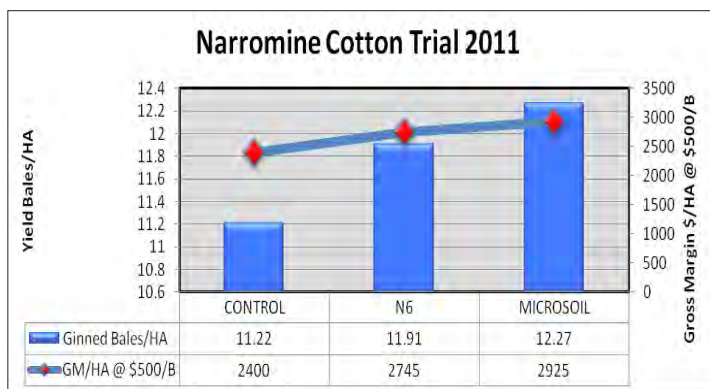


## INDEPENDENT TRIAL DATA

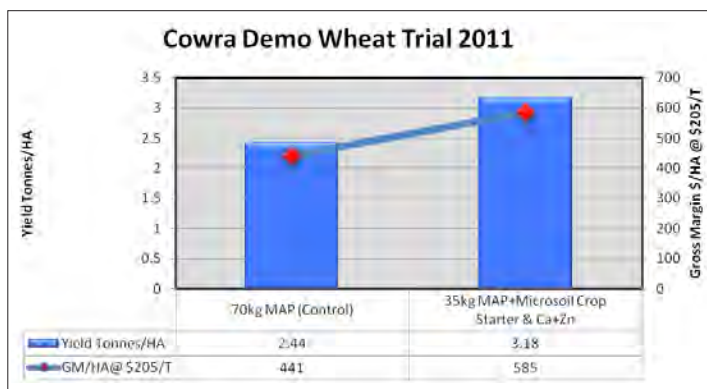
Microsoil is committed to an ongoing program of independent replicated trial data on its range of products. Trial work has been conducted by Landmark, Delta Ag and private agronomy consultants. These results provide farmers with independent proof of the merit of the products while at the same time providing Microsoil's R&D and Agronomy team with vital feedback to enable ongoing product improvements. For full trial details please refer to our website.



*Reduced upfront cost and increased yield and margin*



*1 additional bale of cotton per HA above the control*



*Mid tiller application increases yield and margin 30+%*



## AGRONOMY SERVICE

Microsoil offers farmers a professional Agronomy service to guide you through the process of achieving maximum returns from your farming enterprise. Farming is filled with inherent risk and advice particular to your farm and the season's conditions can mean the difference between a good year and a financial loss.

Our expertise covers the complete range of services - farm planning, crop rotations, pasture improvement, nutrient requirements, soil enhancement, stocking rates and chemical agronomy.

Please contact us if you would like to discuss options for our Agronomy team to work with you this coming season.

Phone: Peter Calkin 0411 156 839  
Allan Tarrant 0428 825 078  
Email: info@microsoil.com.au

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Microsoil Pty Ltd - 242 Summer Hill Road, Temora NSW 2666

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DISCLAIMER: without limitation, all information about products and their use shall be used as a guide only and should not replace professional on farm advice.