



Products & Advice for Soil Regeneration & Animal Nutrition



From the Directors...

Happy New Year!

As we commence another year and reflect on the old one, snippets of Dorothea Mackellar's superb poetry springs to

mind ... *I love a sunburnt country... of droughts and flooding rain ... how true this is.*

Many of us will have experienced the effect of mother nature's influences over the last year. Some of us will have good stories to tell... others unfortunately not so good.

The importance of minerals for humans, animals, plants and soil is well known with tests showing at least 104 elements on earth.

Over 150 years ago it was believed that only NPK was required for plant growth. During more recent years, the importance and interaction of up to 15 elements has been identified. It is now believed that over 80 elements play a role in plant growth.

I believe that Thomas Edison's statement made 19th century remains true today... *"until man can duplicate a blade of grass, nature will laugh at his so called scientific knowledge"*.

Natra Min blends are based on naturally occurring, mined minerals and as such, contain major, trace and ultra trace elements... re-mineralizing your soil... nature's way.

From a scientific point of view, some people have looked at the analysis of our products and compared the analysis with water soluble, chemical fertilizer and could not comprehend how Natra Min could possibly work.

For us, it has always been a common sense approach... it makes sense to us that a balance of broad spectrum minerals is essential for soil, crops and animals.

Whatever climatic conditions you have experienced, the AgSolutions range of products will benefit your soil, crops and animals. Many satisfied customers frequently convey to us that Natra Min and Superior Mineral Supplements are now an integral part of their farm management program.

We look forward to working with you over the coming year to build fertility into your soil... and helping to put profitability back into farming.

Trevor & Wendy Zerner

Successful Pasture Regeneration



Pleased with the results of using Natra Min on his pasture, Peter Cuthbert shows AgSolutions Australia's field advisor, Roger Newman.

Three years ago the Cuthbert family purchased a Coramba property, and shortly after began working closely with AgSolutions to develop a pasture regeneration program to address their run down pastures and poor feed quality.

Peter Cuthbert has successfully turned his property around, improving pastures with Natra Min HI-Phos and gearing up his intensively run vealer operation. The Cuthberts finish over 700 vealers each year, run a small number of breeders, rear Wagyu calves for the Dairy/Beef Alliance group, as well as dairy replacement heifers for local farmers... all on 70 acres.

Since working with AgSolutions' Field Advisors to implement a pasture management program, the pastures have been able to carry a record number of stock and have performed at an unprecedented level.

Animal Nutrition ... A Key Factor

Several new strategies were recommended to ensure maximum results as quickly as possible. In addition to pasture re-mineralization with Natra Min HI-Phos, Peter now ensures that his stock receive year round nutritional balance by using AgSolutions' Superior Mineral Supplement in his grain rations.

Paddocks have had up to three applications of Natra Min over the last two years and Peter has also found that Natra Min is a convenient carrier to spread seed when regenerating pastures.

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Peter Cuthbert increases weight gain in cattle.

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Improved soil condition and double the production.

Trial Results prove benefits of Natra Min (page 4)

Increased nutrient availability in pasture.

Pasture improvement has reduced Fire Weed and Parramatta grass... (cont)



The property previously had run down paddocks and the hills wouldn't grow grass. The use of Natra Min HI-Phos has resulted in improved growth as well as a noticeable difference in the colour of Kikuyu and Rhodes based pastures.

Peter recalls that the real benefit of Natra Min was evident during the drier months, "through winter we were heavily stocked and even

though the pasture didn't grow as fast, we still had plenty of feed. Surrounding areas struggled with little or no growth at all".

The increase in pasture density and growth has also resulted in a reduction of invasive weeds such as Parramatta grass and Fireweed.

Cost Benefits...

"Very little Nitrogen fertilizer has been applied, with Cal-Gran used to provide Nitrogen at planting. Our fertilizer expenses have been a lot less than similar adjoining properties where straight conventional fertilizer programs are used."

Peter has not only addressed the health of his soil, but also the nutritional aspect of his cattle. Peter's calf rearing operation includes Superior Mineral Supplement mixed with his grain ration through his feed supplier.

Improved Weight Gain...

"Since using Superior Mineral Supplement, the improvements start right from the week old calves," says Peter. "Scours seem to have been eliminated and calves soon 'gloss up.' Our records show that the weight gains for the bigger calves have improved by 250 to 300 grams / day."

In the baby calf shed Peter utilizes an automatic computerized milk feeder and even with up to 100 calves in there at a time there is no offensive smell. This reduced smell in the manure has been a common report from many feedlots that use Superior Mineral Supplement in their rations.



Once calves are moved out of the sheds they stay on grain bins, with Superior mixed in the feed, and are rotated around pasture paddocks until they reach 250 kg live weight.

It appears the introduction of Superior Minerals has also addressed an obvious mineral deficiency. Vealers in one paddock were chewing the bark off the trees. A few days after the Superior Minerals were added to the feed mix, all bark chewing stopped.

Reduced Acidosis problems...

"Since introducing the use of Superior, stock have had no acidosis problems or deaths. Our operation is 100% covered with the combination of Superior in the feed, Mega Minerals Lick Blocks in the paddocks and Natra Min on the pasture.

"The results have been obvious. My neighbours ask what I am doing... they say they have never seen the pasture look so well, much less seen so many stock," concludes Peter.

Contact AgSolutions now on 1800 81 57 57 and let us assist you to develop a Soil and Pasture Regeneration program to address the particular needs of your property.

Soil & Crop results with Natra Min



Woongoolba sweet potato growers, Ross & Janette Marks credits Natra Min for delivering "a better product, better prices, and fewer losses."

Ross has to contend with a variety of soil types and conditions, including dark, heavy, and sandy soils. In some areas the soil would work up with clods the size of footballs.

Soft soil is imperative when growing sweet potatoes as it's the first root that forms the tuber. In a bid to improve soil structure, Natra Min and Natra Min HI-Phos have been used primarily as soil conditioners.

Softer soil makes the difference...

According to Ross, "since incorporating Natra Min in our program the ground is softer and the first root gets down without hitting hard ground, resulting in less twisted and split sweet potatoes".

"Other growers have commented on the difference they have seen in my soil.

Irrigation requirements have been reduced from 7 day cycles to 12 days.

The dark soil areas are now crumbly... and crops are very even across the paddock."

Twice the Yield...

"Our yields have certainly improved. In January I'm still digging old season spuds that are straight... and normally these would have finished in November.

Once we would have harvested 500kg of sweet potatoes from a 100 metre row. After using Natra Min initially, the yield improved to 700 kg / row. Now, after using Natra Min for seven years, yields average over 1000 kg / row. Natra Min has made the difference on our property," concludes Ross.



Q. What is Natra Min?

A. Natra Min is a mineral fertilizer and soil conditioner - it supplies the broad spectrum of natural minerals and is formulated to improve all aspects of soil fertility...

Nutritional - supply of essential mineral elements

Biological - stimulation of microbe and worm activity

Structural - improvement of soil aggregation.

Q. Will Natra Min leach from my soil?

A. NO. Natra Min is not water soluble. Unlike most fertilizers, Natra Min will not leach away with heavy rainfall. Microbe and worm activity is essential for the release and conversion of the macro and trace minerals supplied in Natra Min.

Q. What if microbe and worm activity in my soil is low?

A. Natra Min contains a catalyst to stimulate both microbe and worm activity in your soil. This means that in addition to releasing the essential minerals supplied in Natra Min, these soil microbes will help to release locked up nutrients and maximize the effectiveness of applied fertilizer.

Q. What crops benefit from the use of Natra Min?

A. All crops. Natra Min is designed to “feed your soil.”

After decades of farming, humus levels and vital mineral elements have been depleted and leached from soil, resulting in an ever increasing dependence on water soluble fertilizers.

CSIRO research has shown that the use of water soluble fertilizer such as 80kg N per hectare can reduce biological activity by as much as 25%. Many farmers now report that worm activity is non-existent on their property. Soil structure is subsequently affected and is evidenced by poor water infiltration and drainage, with crusting or compacted soil that is difficult and expensive to work.

... the end result ... lower yielding crops that require increasing levels of fertilizer and chemical sprays.

Rather than “feeding your crop” with water soluble fertilizer, Natra Min “feeds your soil” by restoring the mineral elements and stimulating microbe and worm activity. This increases the availability of nutrients for plant uptake and helps to decrease dependency on water soluble fertilizer.

Q. Do I need to use other fertilizer with Natra Min?

A. If planting crops, YES. As Natra Min does not contain Nitrogen, it is important to address this need. If legumes have been in the program previously, Nitrogen requirements can be reduced or, in some instances, eliminated.

A soil test is recommended to evaluate crop needs. We can have a soil test performed for you or alternatively we can evaluate an existing soil test that you may have.

Q. How much can I reduce other fertilizers when I use Natra Min?

A. Often it is possible to reduce the amount of fertilizer by 25 to 50% in the first year of using Natra Min, with further reductions possible in the following years.

By following a program of remineralization with Natra Min, crop rotations that include a legume and returning stubble or a green manure crop to provide organic matter, many farmers have found that over the course of 2 to 3 years, they have been able to markedly reduce or eliminate the use of water soluble fertilizer.

Q. Can Natra Min replace Super Phosphate in my pasture management program?

A. YES. Natra Min has proven to be an effective alternative to Super Phosphate and also eliminates the need to use Lime for pH management. Increased legume content in pasture is another benefit of using Natra Min.

Q. Can Natra Min replace Gypsum in my soil management program?

A. As a soil breaker... Yes. Natra Min HI-Phos and Natra Min Cal-S provide a good supply of Calcium and Sulphur which both help to improve soil structure. In addition, Natra Min stimulates biological activity. Soil microbes produce their own weight in humus every day, directly assisting soil aggregation, aeration, water infiltration and moisture holding capacity. Natra Min is particularly beneficial after laser leveling and for compacted soil.

Q. Can Natra Min help with Salinity problems?

A. Yes. Soil microbes play a vital role in effectively reducing soil salinity problems and we have had many reports of improvements in both soil test results and crop performance where Natra Min has been used in affected areas.

Q. What about pH management?

A. Many farmers have found that Natra Min has given them better results than using Lime for pH management. Because Natra Min provides the broad spectrum of minerals and stimulates microbe activity, reduced amounts of acidifying water soluble fertilizer are required.

This reduced amount of fertilizer, coupled with increased microbial activity in the soil, work together to balance soil pH and render “locked up” nutrients available and ready for plant uptake.

Q. How often do I need to apply Natra Min and when is the best time?

A. It is OK to apply Natra Min at any time of the year. Annual applications are recommended for existing pasture, tree crops and broad acre crops and more often for intensive irrigated pasture or crops. Repeat applications are recommended to build up the minerals levels in your soil and help to restore soil fertility.

Q. Will Natra Min burn seeds if used at plant stage?

A. Natra Min is safe and will not burn seeds. Natra Min can be used as a seed carrier, or alternatively, if Natra Min is applied at soil preparation time 4 to 6 weeks prior to planting, many farmers have reported increased germination.

Q. Which Natra Min blend is best to use and how much?

A. Each blend of Natra Min provides the broad spectrum of minerals with the different blends providing extra Potassium, Calcium, Phosphorus and Sulphur.

Obviously soil and crop requirements will vary. A soil test and previous crop and fertilizer history needs to be considered when making a decision about the rate and blend that is best for your needs. Using this information we can tailor a management program to help restore health and fertility to your soil.

Q. Why should I use Natra Min? What's in it for me?

A. Farming is your livelihood. To remain profitable under current conditions is always a challenge. Profit margins can be boosted by increasing production or reducing costs... or ideally a combination of the two. The restoration of soil fertility through the use of Natra Min can help to make this a reality.

Trial confirms benefits of Natra Min

When Beaudesert dairy farmer, John Wilkie, was first introduced to Natra Min 5 years ago, he opted to conduct his own trials prior to converting to the product. The trial results confirmed that investing in Natra Min would be a wise decision.

As John recalls, "I applied the Natra Min at 250 kg/ha to a trial strip and left it unfenced as part of an existing paddock. I wanted to see what response we'd get before I went any further."

Ongoing Improvement...

"Due to the subsequent dry weather I didn't pay much attention to this area but after a year or so, the Natra Min started to show up. Every year since, both the growth and colour of pasture in this strip has got better and better."

The only other fertilizer applied to this paddock is 1 or 2 applications of Urea per year as well as one application of DAP several years ago.

The photo (top right) shows the results of the trial strip, where Natra Min was applied to a mixed pasture comprising predominantly Callide Rhodes grass.

These results prompted John to contact **AgSolutions** to conduct soil tests. Samples were taken from both the trial strip and the rest of the paddock and analysed through a Bundaberg based company, Crop Tech Laboratories.

Increased Nutrient Availability...

These soil tests show a marked increase in nutrient and trace element availability in the trial area compared to the rest of the paddock.

In addition to increased levels of available Phosphorus, Potassium, Zinc, Copper, Iron, Boron and Nitrogen, there was also a definite decrease in the high Magnesium level.

This decrease in Magnesium is desirable because soil with high Magnesium tends to be like plasticine ... it sticks to and builds up on your shoes when wet... and becomes hard and lumpy when dry. High Magnesium levels can also reduce the availability of Calcium, Potassium, Nitrogen and Zinc, thus inhibiting plant growth.



Natra Min was applied at 250kg / ha to the strip at front of photo. No Natra Min applied area on the top side of the red line.

How Natra Min works...

In addition to broad spectrum minerals, Natra Min is formulated to stimulate the microbe and worm activity in your soil.

Soil microbial interaction is essential for mineralization, helping to increase nutrient availability. Nitrogen levels in the paddock (photo above) showed 4ppm in the untreated area and 19ppm in the treated area. In consideration that Natra Min does not provide any Nitrogen, this increased Nitrogen availability is a testimony to the importance of soil microbes.

For areas with high Magnesium levels, Natra Min HI-Phos (extra Phosphorus, Calcium, and Sulphur) and Natra Min Cal-S (extra Calcium and Sulphur) are recommended. Sulphur reacts with the Magnesium to disperse it through the soil profile, thus reducing Magnesium levels. The combination of reduced Magnesium and the addition of extra Calcium work together to improve the Cal:Mag ratio.

Pasture Management Advice...

Since seeing the difference in pasture growth and soil nutrition, John has worked with **AgSolutions** advisors to include Natra Min blends in his winter Rye program. **AgSolutions** has also offered advice on the use of his conventional fertilizers to better suit John's soil and reduce the amount of Nitrogen required.

Restore Fertility to Your Soil...

As soils become harder, water infiltration decreases with pasture and crop responses and results declining. Many farmers are now recognizing the need to assess and make changes to their current fertilizer program and farming practices.

Repeat applications of Natra Min are vital to restore mineral elements to your soil. **AgSolutions** Australia recommends a program of re-mineralization, mulching, introducing deep rooted plants and crop rotation including a legume. Rotational grazing of pasture or stubble where practical is encouraged as well as soil aeration if necessary.

As soil fertility improves, water soluble fertilizer can be reduced. For more information and soil management advice call **AgSolutions** Australia on 1800 81 57 57.

NATRA MIN *Two products in ONE...*

Microbe Stimulant & Mineral Supply

All Natra Min blends provide broad spectrum minerals and contain a catalyst to stimulate microbe and worm activity in your soil.

Natra Min	broad spectrum minerals
Natra Min HI-Phos	extra Phosphorus, Calcium & Sulphur
Natra Min K-Phos	extra Potassium, Phosphorus, Calcium, & Sulphur
Natra Min K	extra Potassium & Sulphur
Natra Min Cal-S	extra Calcium & Sulphur
Natra Min Cal-K	extra Calcium, Potassium & Sulphur

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CALL NOW for answers to your animal nutrition and soil fertility questions.

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