



Products & Advice for Soil Regeneration & Animal Nutrition



From the Directors...

With the cold weather fast approaching and fodder drying off, the provision of broad spectrum minerals becomes essential to ensure your livestock continue to

continue to perform during the Winter months.

Because soil is mineral deficient in many areas, so too are the pastures that grow there. As pasture dries off during Winter, minerals are further depleted from your fodder.

Minerals and trace elements directly affect the growth and fertility of your livestock and lack of essential minerals and trace elements can result in clinical or sub-clinical mineral deficiencies that can restrict the performance of your stock.

Almost every day, we receive reports from customers who have seen the advantage of using broad spectrum minerals for their stock. We appreciate the support from farmers who have shared their experiences in this newsletter.

Many customers have reported that in addition to the benefits of having their stock looking and doing well, Superior Minerals and Mega Minerals lick blocks often work out to be the **most economical to use** because of the low intake required.

Many supplement provide an expensive way of feeding salt, molasses and urea ... and lack the additional benefits of broad spectrum minerals.

Similar to soil science, the uptake and utilization of minerals and trace elements in the rumen or gut of an animal is influenced by biological interaction. Too much or too little of specific elements can impact on the animals ability to absorb other nutrients.

We welcome the services of Animal Nutritionist Vincent Posada. In this newsletter, Vincent has outlined the essential role of Minerals ... highlighting the importance of making sure that your stock have year round access to the broad spectrum of mineral elements.

Soil testing can assist you with your cropping and pasture requirements, as well as providing you with useful insight into mineral and trace element requirements for your stock.

With the addition of a new team member, Jamie Dennison, we have now expanded our Field Advisory services to the New England / Armidale areas.

Whatever area you are in, why not give us a call and make an appointment for one of our Field Advisors to assist you with nutritional advice for your soil, crops and stock.

Warm Regards, Trevor & Wendy Zerner

Michael Moore, Mingoola



MINERALS: essential to help cattle withstand Winter Conditions...

Last year Michael and Beth Moore of 'Abafeldy', Mingoola on the Northern New England Tablelands, experienced one of the worst seasons on record, yet their stock managed to stay in considerably good condition.

The Moores had made the move to using Ag Solutions' Mega Minerals blocks and Superior Minerals dry lick to replace 30% Urea blocks previously used.

"We've been impressed with how our cattle look and how the supplements have performed. We prefer the Superior Minerals dry lick with 10% Copra meal and we add extra copra meal through the worst part of winter. The results are noticeable and because we are on the highway we often get asked what we're feeding our cattle... so we have recommended the Superior and Mega Minerals to others in the area."

Like many farming families, the Moores have reduced their sheep numbers and expanded their cattle operation to run 1500 breeders. With a diversity of country, Michael and Beth still run approximately 3500 sheep, over 1000 goats and 40 horses. The versatility of Superior Minerals caters for all livestock, and allows for the addition of extra protein sources or molasses to provide for seasonal requirements and to regulate intake.

Mineral requirements higher in unfertilized country...

According to the Moores, intake of the minerals tends to fluctuate, with stock definitely chasing more minerals in unfertilized country. At times extra Copra meal is fed to maintain an adequate intake, but stock tend to self regulate when conditions improve.

continued...

In this Edition...



Glencoe Stock Horses: Improved fertility... (page 2)
Superior Minerals provides economical equine nutrition.

Annual Fertilizer Spend decreased by 65%... (page 3)
Pasture and legumes have improved out of sight.

Feed Trials: Superior Mineral Supplement... (page 3)
2.275kg extra weight gain per week.

MINERALS:

SUPERIOR
MINERAL SUPPLEMENT

MEGA MINERALS
LICK BLOCKS

essential to help cattle withstand Winter Conditions

continued ...



"Because of the dry season last year and the large mobs, we favoured using Superior Mineral dry lick because the stock don't hang around and dominate the supplement so much. It allows all cows access, with poorer cows and shy feeders able to get a quick intake and move off."

Conversely, we've had Mega Mineral blocks out in the paddocks for over 12 months... now things have dried off and with a few frosts around, the cattle are back into the blocks and Superior Minerals."



Trace elements are important to us...

"Through testing we've identified Cobalt and Selenium deficiencies and we are aware of how deficiencies can reduce stock performance. All of our stock chase the minerals and the cattle will lick holes in the dirt where Mega Minerals blocks have previously been."

Our stock also seem to utilize any unpalatable grasses, similar to when we were feeding out Urea based blocks."

Cattle and sheep prefer re-mineralized areas...

In 2005 over 200 tonne of Natra Min HI-Phos was aerial spread across the Moores' pastures that had a history of being fertilized with Super.

"Our pastures have responded well where Natra Min was applied and cattle and sheep prefer to graze in these paddocks."

Love grass is less of a problem...

What has impressed me most about the results of using Natra Min is how the other grasses have become stronger, filling in the gaps, and leaving less bare ground. Love grass is definitely less of a problem in these areas now.

Because the soil was getting hard and crusting, Natra Min Cal-S has recently been applied to our cultivation areas."

In this game it's all about Kg's. Our cattle are doing well and selling well. We can't keep taking and put nothing back into the soil and the way the stock chase the minerals tells me what they need."

For further information on how to help your livestock handle the Winter conditions better... and for all of your supplement needs this year, talk to AgSolutions today on 1800 81 57 57.

Max Glasser of Glencoe Stock Horses has found that MINERALS are essential for the well-being and fertility of his stock horses...

MAX GLASSER, with 'Glencoe Abstract'



Max Glasser, of 'Glencoe Stockhorses', who is well known throughout Qld and NSW has been breeding and competing his bloodlines for over 40 years. Max is conscious of how critical minerals are to the well-being and fertility of his horses, and provides his stock year-round access to minerals. Max's knowledge and attention to detail have been rewarded, having topped stock horse sales at Toowoomba and Albury on a number of occasions.

The Glassers are well aware of the wide range of horse supplements available on the market, having previously owned and managed "Charlton Produce" near Toowoomba for many years. It was while at the helm of his rural store that Max first learned of the AgSolutions' range of products... Mega Minerals Lick Blocks, Superior Mineral Supplement and Natra Min Mineral Fertilizers and Soil Conditioners.

"I've seen good results on client properties where Natra Min had been used for both cropping and pasture. Fifteen years ago, I saw the benefits that Natra Min provided to both the soil and pastures on a Beaudesert horse stud, and in particular how well the horses responded to pasture that had been 're-mineralised'."

We've used Superior Mineral lick for our horses for many years now and it has consistently produced better coats on our horses and the buffering ability of the minerals provides better feed conversion."

Everywhere we go people ask us what we feed our horses. The mineral supplements from AgSolutions are safe and the horses can't get too much. Best of all, they're affordable!"

Exceptional fertility results...

The Glasser's use the services of Max Wilson of Equivet Australia to attend to their mares, and from a veterinary perspective Max has been suitably impressed with the results achieved.

Max Wilson, Equivet Australia reports... *"Although I have no scientific proof as to what the Superior Minerals are doing, the fertility results of Glencoe Stockhorses are exceptional"*.

As Max Glasser continues... *"fertility is exceptional with 18 mares and 100% foals. Of these eighteen mares, seventeen went back in foal on their foal heat, which highlights the health of our mares. Our foals are big and healthy and the mares clean-up in an hour and most importantly, go back in foal."*

According to Max his horses self-regulate their intake of the Superior Minerals, walking away from the mineral lick when good conditions prevail and there is plenty of green pasture on offer. Traditionally their intake increases in April and continues throughout the Winter months.

For further information on Glencoe Stockhorses or minerals for your equine requirements, please call AgSolutions on 1800815757.

BROAD SPECTRUM MINERALS... Essential for Soil and Animal Health

NATRA MIN

Natra Min... the only fertilizer used on pasture for 6 years
★ increased legume growth ★ reduced costs



Michael Murphy is impressed with the results of using Natra Min... "a healthy budget isn't the only positive outcome... our pasture and legumes have improved out of sight and our cattle do exceptionally well".

Natra Min increases Legume growth...

Since using Natra Min for the past 6 years, dairy farmers Michael and Dianne Murphy have managed to substantially reduce their annual fertilizer bill.

This saving has been despite over 300 tonne of Natra Min and Natra Min HI-Phos being applied at 100kg/acre every spring, with most of their pastures having had 5 applications in the past 6 years.

According to Michael Murphy, a healthy budget isn't the only positive outcome, "our cattle do exceptionally well and our legumes have improved out of sight!"

Negative impact of Nitrogen fertilizer...

As a former spreading contractor, Michael saw the negative effects of the overuse of Nitrogen fertilizer...with hardening of the soil and the resulting impact on production.

"I've never been a fan of Nitrogen fertilizer and will never use it on my pastures. Since using Natra Min, we've achieved superior results, without the need for chemical fertilizers."

Natra Min replaces Super Phosphate...

For over 26 years the Murphys have farmed their properties in the South-East Queensland region of Pomona, where Super Phosphate had been applied annually up until 1998.

According to Michael, the Setaria and tropical legume based pasture had begun to decline despite regular applications of Super.

Dairy farming in hilly country has at times hindered the application of fertilizers to tropical pastures. Between 1998 and 2002 applying fertilizer became difficult due to a lack of aerial spreaders operating in the area.

Natra Min used annually since 2003...

In 2003 Michael and Dianne began using Natra Min as an annual program across their pastures.

"The first year we applied the straight Natra Min and saw a tremendous response on the hills. Natra Min appeared to do something, whether it released phosphorus or something else but the pastures greened up and legumes in particular took off."

Improved tolerance to dry weather...

"Now our legumes have leaves that are 2 inches across and our pastures ride out the dry weather a lot better."

Aerial Spreader could see the difference...

"When South Burnett Air Services began operating in the area in 2006, they asked me for a map of our property prior to spreading the Natra Min.

I told them that they could easily go up there without a map... that they would be able to see the boundary of my property because of the difference in colour between my pasture and the neighbours."

NATRA MIN

The Natra Min range has now been expanded to include blends with extra Phosphorus, Calcium, Potassium and Sulphur.

All Natra Min blends provide a broad spectrum of minerals and through the action of a catalyst, Natra Min is formulated to stimulate the microbe and worm activity in your soil... helping to release locked up nutrients for your crop.

GRAIN FEED TRIAL: Superior Mineral Supplement

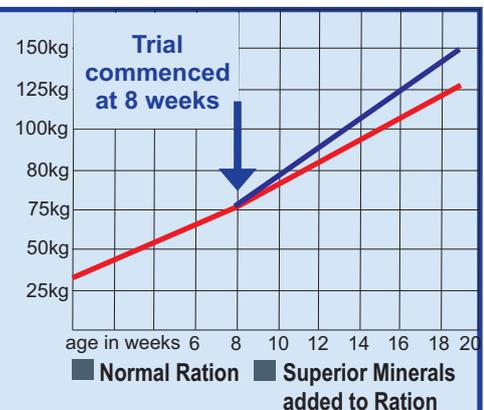


Superior Minerals were added to the grain ration at eight weeks of age. Compared to a group of 40 calves that were on the normal ration, the 40 calves on Superior showed outstanding results...

- Consumed 0.7kg less grain / week
- 2.275kg extra weight gain / week
- \$25 / head increased profit

The benefits of Superior Minerals as a mineral and trace element component as well as a proven 'acidosis buffer' for grain feeding, has lead to the inclusion of Superior Minerals in feed mixes for calf rearing, feedlots, sheep feedlots, dairies and stud cattle operations.

Peter Cuthbert is one commercial grower who has embraced the use of Superior Minerals in his grain ration and has reaped the benefits with the improved performance of his calves.



Rearing over 2400 calves a year, Peter has seen reduced mortality rates, better growth and performance of his calves with improved feed efficiencies as well as a reduction of odour in the manure of grain fed calves.

These trials have confirmed the buffering ability and importance of minerals for improved rumen health.

Feed Your Soil... and Your Soil will Feed Your Crop

Livestock Supplementation During Winter & Dry Conditions

KEY BENEFITS OF MINERALS: *By Vincent Posada, Animal Nutritionist*

There are a number of mineral elements needed by cattle to support life, maintain health and ensure fertility. These minerals are called '**essential**' because when not provided in the diet, over time the animal will eventually die.

Major minerals refer to those minerals needed by the animal in larger amounts and include calcium, phosphorus, potassium, magnesium, sulphur, sodium and chlorine.

Trace minerals are those minerals needed in smaller amounts and include zinc, copper, iron, manganese, cobalt, iodine and selenium.

When the diet on offer in **winter or during dry periods** i.e. dry mature forage, stubble, winter crops, etc. does not supply enough of the major and trace minerals, supplementation of these minerals is required. This is particularly important in winter months or during extended dry periods where forages tend to become deficient in some essential minerals.

Mineral deficiencies can result in **severe physical problems** for the animals including poor reproductive performance in cows and poor growth and immune status in calves. Calves that are deficient in minerals will have impaired immune function, increasing morbidity and mortality rates.

Hence, providing adequate supplementary amounts of minerals can increase average daily gain, body condition scores, and feed efficiency in cattle fed during winter or dry periods on native and tropical pastures.

Breeding cows need adequate amounts of minerals during the last 90 days prior to calving and throughout lactation and rebreeding. If breeding cows are deprived of adequate mineral at this time, energy utilization can be inhibited and uterine involution may be delayed. Also oestrus can be suppressed and the cow will not be able to rebreed.

Calcium is required in large amounts in the diet of cows because of the important role it plays in bone and teeth formation. Deficiencies of calcium in cattle can lead to osteoporosis, a condition where bones become weakened due to prolonged withdrawal of calcium deposits from the bone.

Phosphorus is also important for bone development in the beef cow and is the major mineral in the molecule that provides energy to the cells. It is particularly critical in return to oestrus and rebreeding. Where soils are low in phosphorus, forages will also be low in phosphorus. This situation is prevalent in many areas of Australia, especially in coastal regions.

Magnesium can be deficient in winter crops such as oats or in pastures after rain when lush growth is available to cattle. Providing additional magnesium helps prevent a condition known as grass tetany.

Cobalt is needed by ruminal microbes to synthesize vitamin B12. This vitamin is used by the ruminant to convert propionate to energy. Signs of deficiencies include loss of appetite leading to weight loss, anemia and diarrhoea.

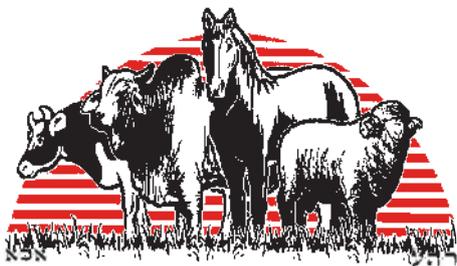
Copper is an important part of some 30 enzyme systems. Deficiencies of copper can lead to poor performance, rough and discolored hair coats in cattle and lower resistance to disease.

Sulphur and Copper can form insoluble compounds known as thiomolybdates, which prevent the copper from being absorbed and utilized by the animal. In soils high in molybdenum, copper supplementation is critical.

Manganese is involved in bone development and optimisation of reproductive efficiency.

Zinc activates many enzyme systems and is involved in the immune functions and is also important for hoof health.

Selenium is an important element in reproduction and immune functions. Selenium works in conjunction with vitamin E in reducing damage to cells caused by substances called free radicals. Diets deficient in Selenium have been linked to low reproductive performance due to retained placentas. Cattle that lack selenium can also develop white muscle disease and have poor immunity due to damage to cell membranes in the muscle and cells involved in the immune system.



SUPERiOR
MINERAL SUPPLEMENT

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Broad Spectrum Minerals
and Trace Elements for Your Stock



SUPERiOR
MINERAL SUPPLEMENT

Extra Phosphorus
or

10% COPRA MEAL for extra Protein

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AUSTRALIA

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For answers to your animal nutrition and soil fertility questions, talk to one of our trained Field Advisors

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