

# Benefits of balanced soils

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Now that we have achieved a balance in our soil, we are able to obtain the full benefit from the complete fertiliser program we are using. In fact we have been able to reduce the need to apply some of the main elements because they are not being locked up in the soil."

John Miguel made this observation during the 2001 cotton harvest on his property 'Nunkeri' at Pilliga. He has been growing cotton for 24 years and initially had the problem of hard crusty soils, which are typical of those with an imbalance of magnesium and calcium.

Dr Eric Kawabe first came to the property in 1982 and his soil tests showed that there were high magnesium and low calcium levels in a soil of pH 8.2. To restore the soil balance, he recommended two tonnes of Aglime per hectare initially and after that the Aglime should be applied according to soil tests.

"I couldn't afford to do this, so I applied 500 kg per hectare in the first year," says John. "Then I continued to apply a further 500 kg per hectare as often as possible, with the aim of changing the calcium/magnesium balance.

"After five years, soil tests showed that there had been a complete reversal. Instead of the ratio being 35 per cent calcium to 48 per cent magnesium — it was the reverse — and the pH had dropped from 8.2 to 7.8.

"I could see the change in the soil which was now less crusty and more friable, while the water penetration and retention had improved," John said.

In the mid 90s John stopped applying Aglime for three to four years after which he noticed that the soil was slowly reverting back to its original



DML Lime's Barry Skinner and John Migue.

condition. He immediately went back to applying Aglime annually.

Since he has started again applying Aglime, his cotton yields have steadily improved, even though he was growing back to back cotton crops.

“Now that we have achieved a balance of elements in our soils, we are obtaining the full benefit of all the fertilisers we are using. In fact we have been able to reduce the application of some of the main elements because they are no longer being locked up in the soil.