

# Winter 2014

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# BioAg COUNTRY

## How to Improve your **Number 1** Asset

**While the average fert program is aimed at feeding the plant, the soil is often ignored. A BioAg program improves this key asset, and maximises yield potential.**

Farmers are primary producers, and developers of long term productive capacity.

Their objectives include maximising the yield and quality of the commodity produced, and enhancing the fertility and productivity of the land they farm.

BioAg has been working with farmers to achieve these goals since 1999, and in our fifteenth year of business, we took a look at the changes to soil fertility over this time for a number of our longer term customers.

What we found is consistent themes of *improvement and quality*.

Where BioAgPhos has been used as a substantial or complete replacement for water soluble phosphate fertilisers (often in conjunction

with Soil & Seed) we have clear evidence of significantly increasing soil P fertility levels over time.

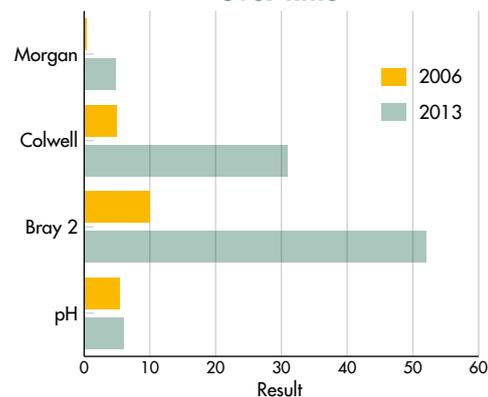
The following table compares test results that have been recorded since 2006 showing test results before commencing BioAg programs, and results showing where they are at today.

Those who don't understand the lasting value achieved with BioAgPhos tell us that we are too expensive, especially when water-soluble fertilisers are at such low prices.

Comparing how much more P/kg BioAgPhos offers over cheap SSP is one way to highlight the difference.

*Continued page 2*

### Fertility improvements over time



**Table 1. An analysis of various test results taken for BioAg customers since 2006.**



## the thinking farmer

### 30th May 2014

It's been a busy 3-months on the farm (when isn't it) with lime, gypsum and BioAgPhos spread over summer, and planting of our cereals and oilseeds through the autumn.

The planting conditions couldn't have been better with good rainfall before and during the planting window. This has helped with seedling emergence.

I've completed some recent counts with my agronomist and have an average plant density of 190 plants per square meter in the wheat and 40 plants per square meter in the canola.

While the coming spring's rainfall can still have an influence the result, at the moment with the soil moisture profile we have, coupled with our fertility program and the plant density, the yield potential is above average.

To maintain the current momentum I need to maximise tillers per plant and vegetative growth which will be the engine room for the plant,

providing all of the energy needed to fill the grain and maximise protein accumulation.

I could simply broadcast urea which is a pretty common practice, but that only supplies one nutrient, and I know the plant needs more than that.

Or I could incorporate a complete plant food source like *Balance & Grow* or *Fruit & Balance*, which contain vitamins, minerals, amino acids and plant hormones.

I guess the smart option would be to combine both so that I'm supplying the additional nitrogen required to support the vegetative growth, but I'm also supplying the metabolites that the plant absolutely needs to convert this nitrogen into structured growth, grains per head and grain protein.

This sounds like a solid plan. I wouldn't mind talking to my BioAg area manager to double check.

You never know, I may need to tailor strategies for the different areas and crop types.

# Improving Quality with Balance & Grow



## While a hot dry spring produced a suite of disappointing results at South Australia's premier field cropping trial site, BioAg's Balance & Grow was able to produce a significant impact on protein.

In 2013, an N and P supplement and replacement trial was conducted at the Hart Field-Site in South Australia.

The site, consisting of 40 hectares of sandy clay loam soils and an average rainfall of 400mm is the home of the annual Hard Field Day, first held in 1982.

Given the hot dry spring experienced, yields from the trial were generally below expectations and none of the 16 different treatments produced any significant increase in yield.

The only treatment that had any significant impact on protein (which averaged between 10.0% and 10.5%) was BioAg's *Balance & Grow*, which applied at 2l/ha produced protein of 12.8%.

This represents a quality increase from ASW to Prime Hard, or in dollar terms an increase of at least \$40/tonne based on GrainCorp contracted prices for Southern NSW at the end of May.

*Balance & Grow* also came in with the lowest percentage of screenings.

| Selling price /ha | Less cost of B&G application/ha | Profit/ha | ROI   |
|-------------------|---------------------------------|-----------|-------|
| \$166             | \$12                            | \$154     | 13.8% |

### What does this mean for croppers and graziers this year?

Clearly the nutrient balance in the plant arising from the *Balance & Grow* treatment enabled it to produce the protein that wheat should produce when nutrition is balanced.

So, better nutritional balance in the plant leads to many benefits to farmers. These include:

- Better pest and disease resistance,
- Higher quality forage and fodder,
- Reduced frost susceptibility as plant sugar levels rise, and
- Greater potential for grain and dry matter yield and quality.

If you're pinched for winter feed, an early winter application of *Balance & Grow* teamed up with some calcium nitrate and/or UAN will kick things along.

Your BioAg agronomist will help you optimize a vegetative foliar program.

For croppers, *Balance & Grow*, again combined with calcium nitrate and/or UAN will help to maximize tiller set, root system development, and stem strength.

In short, this sets up the plant to produce and carry maximum seeds/grains.

For graziers, improving the nutritional balance of the pastures results in less pasture consumption per animal, and much better conversion of pasture to milk, meat or wool.

We have a large field agronomy team in place to assist our existing and prospective customers to make short term production and economic gains along with longer-term lasting productivity and sustainability improvement.

Make sure you're doing the best job you can when it comes to soil and plant nutrition. Contact your local BioAg representative for more information.

### Hart Trial Results 2013

|     | Treatment                 | Yield (t/ha) | Screenings (%) | Protein (%) | Test wt (kg/hL) |
|-----|---------------------------|--------------|----------------|-------------|-----------------|
| 1   | <b>Balance &amp; Grow</b> | <b>4.15</b>  | <b>7.1</b>     | <b>12.8</b> | <b>82.3</b>     |
| 2   | Beaulieu R.U.M            | 4.14         | 7.1            | 11.4        | 82.3            |
| 3   | Gypsum low                | 4.24         | 7.1            | 11.2        | 82.6            |
| 4   | eNtrench time 1           | 4.17         | 7.6            | 11.2        | 82.3            |
| 5   | Entec urea                | 4.53         | 8.2            | 10.8        | 82.5            |
| 6   | Biochar complete          | 3.87         | 7.8            | 10.7        | 82.7            |
| 7   | eNtrench time 2           | 4.11         | 7.5            | 10.7        | 82.5            |
| 8   | Urea                      | 3.88         | 8.6            | 10.5        | 82.6            |
| 9   | Urea + DAP                | 4.26         | 8.1            | 10.5        | 82.7            |
| 10  | Jumpstart                 | 4.27         | 7.6            | 10.5        | 82.7            |
| 11  | Gypsum high               | 4.01         | 8.6            | 10.4        | 82.8            |
| 12  | SOA medium                | 4.41         | 7.7            | 10.3        | 83.1            |
| 13  | SuperStrike               | 4.29         | 8.1            | 10.3        | 83.0            |
| 14  | Bounce Back               | 3.90         | 7.8            | 10.0        | 82.8            |
| 15  | Biochar                   | 3.80         | 8.1            | 9.8         | 82.8            |
| 16  | SOA low                   | 3.99         | 7.6            | 9.8         | 83.3            |
| LSD | (P<=0.05)                 | ns           | ns             | ns          | ns              |

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As BioAgPhos only needs to be applied every 2-3 year's, a simple two-year comparison of BAP versus SSP will show how much more value we add to your fertiliser program.

As we have seen through our long-term study of our customers increasing soil fertility, comparing the cost of a BioAgPhos program over a longer term not only delivers cost savings over SSP, it also increases our customers ROI and therefore their profits.

Farmers need to consider these longer term fertility enhancements that BioAgPhos delivers when considering the value proposition it presents when compared to the water soluble alternative.

In the early days we relied on our performance in the paddock and the trust of our customers to sustain our business.

In response to a marketplace that largely relied upon water soluble fertilisers for plant nutrition, we undertook a raft of independent and replicated trial work to "prove" the efficacy of our products and programs.

The most recent suite of trials involves the production of maize, cotton and soybeans in collaboration with the research company, AgriCenter International at Memphis, Tennessee in the USA. That trial data and peer review is published on our website.

These trials will re-occur this coming season, giving us two-years of data from that facility, and will result in acceptance by the international scientific community of BioAg's contribution to improving fertiliser effectiveness and improving return on investment in production systems.

Other organisations such as the CSIRO and GrainCorp have reached their own conclusions that mirror our own, that is the conventional fertiliser programs feed crops but not the soil, and that fertiliser programs that improve soil health deliver a range of additional benefits.

Replicated cropping trials are good for looking at a one-year production response to different inputs and we have certainly achieved great results, but they do not reflect the changes in soil fertility that take place over with longer term use.

Likewise, at today's prices buying SSP instead of BioAgPhos may save you money today but will cost you more tomorrow, and the day after.

Contact your local BioAg Area Manager, agent or distributor for more information.

# BioAg BETTERING SOILS at Nundle

By Amelia Williams (Published in *The Land*, Thursday May 1, 2014)



Putting extra effort into balancing the nutrients in his soils has been worthwhile for Jarred Doyle.

Mr Doyle lives at "Coventry", via Nundle, with his wife Susan and his parents Peter and Sally.

The 1620- Hectare property is a beef enterprise with Angus/Charolais cattle and some crossbred lambs.

The property also grows oats and barley for grazing purposes and incorporates biological farming practices for the pasture management.

Mr Doyle's father, Peter, has been aware of the importance of balancing nutrients in the soil for forty years and during the past four years the Doyle's have been using biological products on their property.

Mr Doyle's biological practices are based on the BioAg program, using the soil inoculant product called Soil and Seed and a solid product called BioAgPhos, which increases the phosphorus in soils, a substance Mr Doyle's soils were low in.

Mr Doyle applies BioAg Phos to his soil with a belt spreader and said spraying the product didn't make significant amounts of extra work and could act as a substitute for other commercial products.

"You can use it as your primary phosphorus source" he said.

"It's a slight change in practices but it's no more difficult than other conventional programs."

The Soil and Seed is applied with the boom

sprayer to Mr Doyle's soils before sowing and can be mixed with other products such as Roundup.

Mr Doyle said the prices of phosphorus products were reasonable and comparable to the price of other conventional phosphorus sources, and he believed the phosphorus stayed in the soil longer.

"The phosphorus in their (BioAg) product comes in a different form which means it doesn't leech out of the soil and doesn't wash away" he said.

"Our observation is we've had longer phosphorus viability whilst using the product, which has been a real plus for us."

Implementing biological practices into his pasture fits in with Mr Doyle's usual spraying routine and acts as a substitute for other products such as single super.

Mr Doyle said since implementing biological practices on his farm, his crops and pastures had performed better compared to other years when we hadn't used the program.

"The soil inoculant is an extra cost but we have found it has paid off," he said.

Mr Doyles said he was also pleased with how his cattle had responded to the program.

"Our observation is the weight gains have been slightly better".

"They graze for shorter times, meaning they're reaching their feed requirement in a shorter period of time," he said.

Mr Doyle doesn't consider himself a biological farmer as he still uses conventional products on his property, which is why he found a reliable program within BioAg.

"That's what I really like about BioAg's approach, it's a mixture of using a biological

approach but also incorporating some conventional products when they're required," he said.

By combining conventional and biological products, Mr Doyle hoped to achieve a complete balance of nutrients to maximise plant growth.

Mr Doyle found the BioAg program best suited his enterprise as it had a proper balance from a soil health perspective and the plant performance perspective.

"It's an approach that fits in with my father's long standing practices."



## LOOKING TO INCREASE your crops fertility?

An analysis of customer soil-test data obtained over a number of years provides confirmation of marked increases in P fertility levels.

It is common for our customers to tell us that their P fertility levels rise year-on-year.

These customers have used BioAgPhos as a replacement for water soluble phosphates in pasture production, or as an additional source of phosphorous in cropping systems.

In response to this feedback we analysed long term customer soil test data sets where paddocks have been re-tested over the years, and we found confirmation that their phosphorous levels have risen markedly.

Our cover article *How to Improve your Number 1 Asset* provides a snapshot of these results that help to explain the improved productivity that our customers are observing, however your BioAg Area Manager will be able to provide a more complete picture.

### What's happening?

Well firstly, BioAgPhos is citric and formic acid soluble but not water soluble.

This means that during events like high rainfall or even when watering, the P does not have the

same reaction as water-soluble fertilisers that leads to them leaching away.

Secondly, having been predigested with the appropriate culture, the phosphorous in BioAgPhos is in a form that the plant can access. It exists largely in a microbial state, which the soil phosphorous antagonists such as iron and aluminum can't react with.

This means that BioAgPhos does not lock-up.

These two very important benefits of BioAgPhos are why we can prescribe it at a two-year rate and still see pastures grow just as well the second year, with no additional fertilisation.

Where necessary BioAgPhos can also be mixed and spread with lime and/or gypsum.

So for phosphate fertiliser that doesn't leach, doesn't lock-up, and works on application and keeps working there is no better source than BioAgPhos.

We manufacture blends that cover most situations at our processing facility at Batesford Quarry in Geelong.

BioAgPhos S10 is popular in high-rainfall pasture environments where sulphur in the sulphate form is subject to leaching.

For potassium deficient soils and autumn application we have PotPhos.

For magnesium deficient soils, MagPhos.

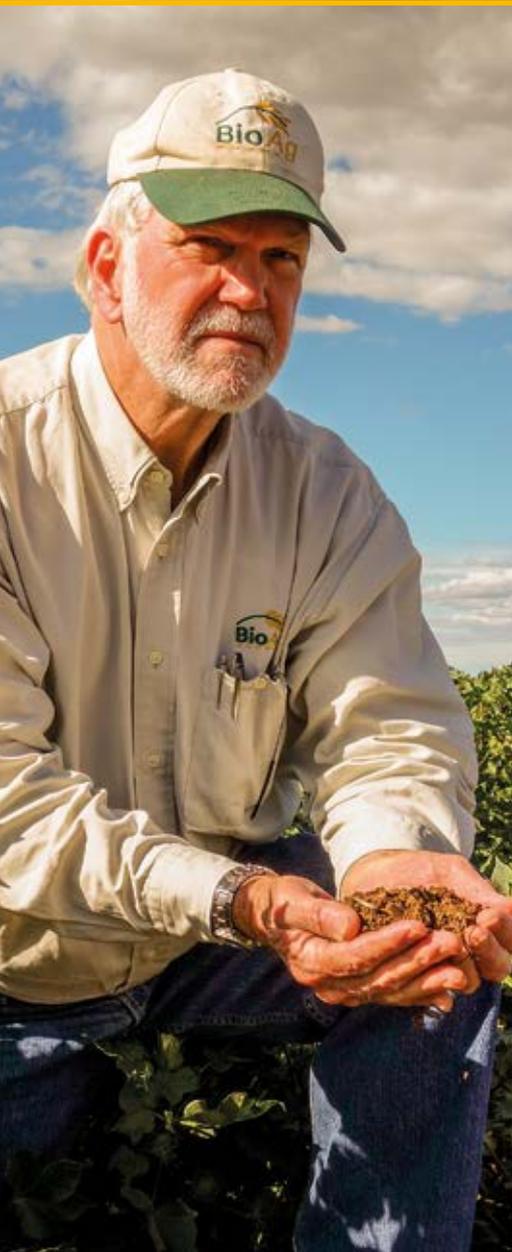
Whilst as farmers you're growing this years crop or pasture to meet this year's budget, at the same time you are managing your enterprise for long term productivity, sustainability and value.

At BioAg, we pride ourselves in having the expertise to facilitate those short and long term goals.

If you haven't tried us before, then you should. For more than fifteen-years, BioAg has been delivering what we've learned to Australian farmers and that translates into the products and services we offer.

Contact your local BioAg Area Manager to find out more about improving your soil health, and sustainability.

# Welcomes - Farewells



## FAREWELL JEP

*There aren't many Australians who can say they have worked alongside a real country gentleman from the south (U.S.A), so we at BioAg count ourselves lucky in that regard.*

*It's time however to farewell Jephtha Gates, one of the founders of BioAg, as he returns to the US to settle into a semi-retirement.*

*After 20-years as an agronomist in conventional farming situations, Jep then specialised in organic production systems. This led to the creation of BioAg which he co-founded in 1999 with Anton Barton.*

*At BioAg, Jep was the Technical Director in charge of research and development and over 15-years was key in producing BioAg's unique and superior suite of products, and forging strong bonds within the agricultural and wider communities.*

*In July, Jep, wife Zada, and dog Peanut leave Narrandera and return to Tennessee where he can (deservedly) fill his time with more leisurely pursuits and will also provide BioAg with consultative services.*

*They will all be missed and we wish them the very best.*

## ROLE CHANGE FOR HILLY

At BioAg we've been preparing for Jep's move for quite a time and to fill the gap Jep leaves we will be utilising the skills and expertise of John Hill, our current Area Manager to the Riverina and MIA.

John's role will now encompass managing the technical aspects of BioAg operations and will be supported by both Jep on a consultative basis and our existing lab technician Peter Stoneman.

While there's some big southern gentleman shoes to fill, John has handled the transition with his typical relaxed aplomb.

For those needing technical assistance, your first stop is your local BioAg Area Manager, agent or distributor, and John will be available for further consultation as needed.



## ...AND WELCOME PAUL



To fill the gap left by Arron we were lucky enough to have a great range of suitable candidates and are excited to welcome Paul Medlock as our new Area Manager for Northern NSW.

Paul has completed a Bachelor of Management in Farm Business Management, from the University of Sydney and is currently working through his Masters when time permits.

Paul's experience includes roles within animal health, farm management for the CSIRO, and Territory Management for Bayer, PPI/Neta, and Coopers.

After being away for 22-years, Paul, his wife Lesa, and two boys Jackson and William moved back to Tamworth in 2011 which is where he will be based to service Northern NSW.

Over the coming weeks Paul is endeavouring to contact all his customers in the area however if you need to contact him you can do so by emailing him at [paul@bioag.com.au](mailto:paul@bioag.com.au) or via mobile on 0429 820 360.

## FAREWELL ARRON...

*While we are on farewells we also say goodbye to Arron O'Connell who joined BioAg in 2007 after working amongst other roles as a project biologist. Arron, who was our Area Manager for Northern NSW has been developing his own egg production facility and B&B, and decided that now was the time to take the leap and concentrate full-time on those endeavours.*

*We wish him and his family all the best and look forward to fresh eggs.*

## Do you like the printed newsletters?

It seems there's plenty of companies moving to electronic newsletters (eNewsletters) these days so here at BioAg we were wondering what the primary producers prefer.

Do you prefer our traditional printed newsletter, or would you be just as happy with an electronic one, or would you rather not get one at all? Maybe you have other ways to get information that you would prefer?

We'd like to hear from you on this.

Printed?                      Electronic?  
None?                         Something else?

Drop us an email, give us a call, or look up BioAg Australia on Facebook and let us know. We'd be really interested to hear from you.



Better soils. Better crops. Better stock.™

**For more information,  
phone 02 6958 9911 or visit [www.bioag.com.au](http://www.bioag.com.au)**