



## Long term customers see results in beef

**Jamie and Virginia Bond of 'Wyandra' in Tooma NSW first started using BioAg fertilisers and liquids in their farming system over 20 years ago.**

At the beginning their soils were run down and low in nutrients. They viewed the *BioAgPhos* based fertilisers as a sustainable way to improve nutrient levels, and build soil structure and carbon.


The Bonds run 520 Angus cows and calves, and up to 500 weaners, including Wagyu cross, on their 776ha property. To maintain this intensity, they apply a tailored *BioAgPhos*, lime and gypsum blend, to half of their farm each autumn. Additionally, they use *Soil & Seed* in autumn and *Balance & Grow* plus traces in winter on their fodder crops to deliver required micronutrients, improve microbial activity, stimulate plant growth process, and improve nutrient cycling. Over time, this has built soil structure and carbon levels.

This long-term program has not only helped maintain and increase production but has also contributed to improved overall on-farm animal health.

Significantly they found after the fire events in 2009, where they lost most of the farm including 400 cows, and again in 2020 with 400ha burnt out, the recovery of pastures was unsurpassed. This can be attributed to the presence of required soil nutrients and overall soil structure which supported a strong response to rainfall.

This year the Bonds over-sowed some burnt paddocks with annual ryegrass producing over 10t/ha in dry matter, which was cut for hay. There was also 1ft of re-growth, 3-weeks post cutting, providing critical extra feed coming into the summer period. One third of the property is sown down to Phalaris based permanent pasture which, along with the BioAg's nutrition program, helps them to maximise the benefits of soil health and carbon building.

Jamie and Virginia are strong advocates for BioAg's fermented cultures to improve soils, and routinely use *Rumimate* (microbial feed supplement / probiotic) to combat stock health issues, such as bloat, with great success. Jamie and Virginia have placed 4th and 15th in the Eating Quality Awards for the Beef Spectacular for the last 2 years respectively.



Customers interested in securing products early should contact their BioAg representative to discuss pre-payment and early contract offers.

# Post-harvest – an important period for tree and vine crops

The post-harvest period is critical for perennial tree crops and vines to recover from stress. This is an optimal time to replenish nutrient reserves for the next season as vegetation and roots are still active and able to absorb applied nutrients.

Applications replace macro and micronutrients removed during harvest and address deficiencies before the next growing season. The nutrition applied does not increase tree or vine vigour but is taken up into tree and vine reserves and used when breaking dormancy.

Incorporating *Soil & Seed* into a post-harvest application stimulates soil biology and aids soil structure; ensuring nutrients applied are accessed by trees or vines.

Compared to applications made during the cold and wet conditions of early spring, post-harvest applications are more efficient, with reduced risk of losses to runoff or leaching. Ensuring nutrients are stored and available at dormancy break, provides a tree or vine its best opportunity for the next season.

Requirements for macro and micronutrients vary depending on the crop. Your BioAg agronomist can assist with determining your nutrition and soil improvement needs.



## Setting Key Milestones in Planning 2021

Benjamin Franklin wrote, “If you fail to plan, you plan to fail”. Franklin was a meticulous planner, attributing this to much of his success.

Planning the future activities and needs of the farm, and for future crops, is a key part of managing risk and providing the best opportunity for maximised returns. Each year set achievable targets and milestones of your own, such as:

- February:** **Develop winter crop/pasture program**  
Based on desired crops and soil tests develop your requirements and budget for ameliorants, capital phosphorus, pre sow nitrogen, starter fertiliser and planting biostimulants.
- March:** **Soil Amelioration**  
Apply ameliorates, capital phosphorus, pre-sow nitrogen.
- Mar-Apr:** **Planting**  
Plant applying starter fertiliser and *Soil & Seed*.
- Post plant to harvest:** **Review – Treat – Review**  
Observe and test for nutrient deficiencies and disease. Use foliar treatments to manage issues as they arise, make the most of rainfall by applying biostimulants and liquid nutrition to support and drive improved growth and quality.

## Setting up for success in 2021

Last season's harvests were some of the best-experienced across the market.

The downside is that the harvested grains and cereals will have drawn down on your soil nutrients. Having completed soil tests many growers will have observed this in their results and will be considering the next steps.

A key part of preparing for this season is to correct any calcium or sulphur issues, as well as pH, with the addition of gypsum or lime. When applying ameliorants, it is also the ideal opportunity to include *BioAgPhos* to build your soil's capital P reserves.

*BioAgPhos*, as a source of slow-release capital P, continues to deliver for BioAg customers. *BioAgPhos* is well suited to blending on-farm, with other ameliorants, and will not leach or be tied up in soils.

In a year where starter fertiliser prices are expected to increase, the use of *BioAgPhos* will allow a reduction in the use of starter fertiliser, while still ensuring your crop has the phosphorus it needs to deliver optimal yields.

Soil tests will also provide information on soil carbon levels. If straw was baled, then the cycling of carbon back to the soil will be low. If your soil carbon levels are low then the use of *Soil & Seed* at planting will offset the negative effects this has on emergence, nutrient cycling, and the soil's water-holding properties.

Planning now for the inclusion of *Soil & Seed* in your planting program is critical. Sowing can occur based on the weather so securing and having *Soil & Seed* ready for use will avoid any delays in planting.

**Take the first step now and contact your BioAg representative to discuss your soil test results, the inclusion of capital P in your ameliorants, and the use of *Soil & Seed* at planting.**



# Choosing P fertiliser – making an informed decision

This season many growers will invest in fertilisers and for growers who have experienced great crops, fodder or livestock production, there will be a need to replenish soil nutrients.

When it comes to applying phosphorus to soils there are numerous fertilisers available. At BioAg our range of natural phosphate fertilisers are based on our microbially digested reactive phosphate rock – **BioAgPhos**.

## How does **BioAgPhos** compare to other products?

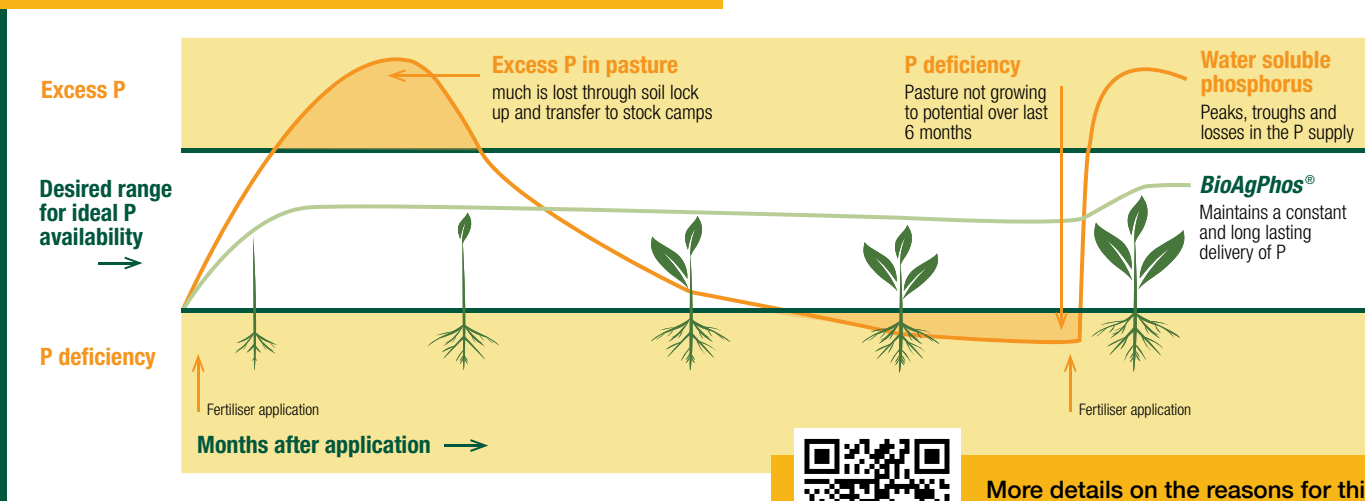
In comparison to other RPR or Soft Rock products in the Australian market, **BioAgPhos** is the most reactive, has one of the higher P levels and is very low in iron and aluminium.

The release of P from **BioAgPhos** occurs as plant acids decompose its mineral structure and the organic (composted) matter within **BioAgPhos**, into plant-available forms. While 100% of the P in **BioAgPhos** is bio-available, around one-third is available in the short term, and the balance is released over time based on soil conditions, length of growing season, and size of the root zone.

Losses and lock-up are a hidden cost of P fertilisers but can be combatted through your choice of fertiliser. Even in the most productive soils, with high organic matter, losses of P are experienced. These losses can be due to run-off from the topsoil, leaching through the root-zone, or lock-up by soil antagonists.

## Phosphorus Availability

### Water soluble phosphates vs. **BioAgPhos**



Water-soluble P fertilisers readily dissolve and are transported in run-off or can percolate through and out of the root zone. Water-soluble P is also immediately available to plants, soil matter and soil antagonists (such as iron, aluminium and calcium in calcareous soils). Plants are relatively slow to take up P while soil antagonists can lock up P quickly such that plants cannot access or can only access this P at very slow rates.

**BioAgPhos** is decomposed within isolated pockets in the rhizosphere. The nature of P release means losses to antagonists are reduced as P is released to plants through the season. In addition, **BioAgPhos** is much less susceptible to run-off and will not percolate through the root zone.

Understanding your soil and crop needs is key to deciding the best form(s) of P to use. Research has shown that in the year of application as little as 30% of P applied is utilised. When making your fertiliser decision consider the true cost; if half of the water-soluble P you apply is locked up or lost then the true cost is twice what you believe it to be.



Details on various RPRs and how to evaluate them can be found at [bioag.com.au/products/bioagphos](http://bioag.com.au/products/bioagphos) (or via the QR code).

## How much Phosphorus do I need to use?

To determine your needs, begin with a soil test. P in soils is available in different forms or 'pools'. This includes water-soluble, in organic matter, as a mineral (such as **BioAgPhos**), and attached to soil antagonists. While Colwell P is commonly used, it is not suited or correlated for measuring all 'pools' of P available to plants, in particular RPR pools of P.

To assess your P needs incorporate a Bray 1, PBI (phosphate buffering index), and if possible, a Bray 2 analysis in your soil test.



More details on the reasons for this can be found at [bioag.com.au/download/white-paper-measuring-soil-p/](http://bioag.com.au/download/white-paper-measuring-soil-p/) (or via the QR code).

## **BioAgPhos**

**BioAgPhos** is a proven source of sustained-release P, ideal in permanent plantings and pastures. In cropping situations **BioAgPhos** should be supplemented with a starter fertiliser, at around one-third of typical rates, to ensure crops have access to P in the early stages of growth.

When transitioning highly productive pasture from water-soluble fertilisers to **BioAgPhos** we may recommend a year or two where both products are applied prior to full conversion to **BioAgPhos**.

Contact your **BioAg** representative to discuss your needs for 2021 and beyond.

**BioAg's** biostimulants are also available in an organic variant.

# 2020 Crop Case Study



**Agostino Galluzzo, owner and manager of Galluzzo Produce in the Riverina, operates a mixed farming enterprise including sheep, beef, pigs and irrigated and dryland cropping. As a former potato and onion grower, Agostino is fully aware of the importance of soils in delivering optimal yields.**

Working with his agronomist and local BioAg representative, and utilising soil test results, programs containing nutrients and biostimulants were developed to suit the planned rotation of wheat, barley, and clover.

Phosphorus, calcium, sulphur and pH were addressed with a pre-plant application and incorporation of a blend of *BioAgPhos* with trace elements, gypsum and Aglime. Higher rates of application were used to correct irrigated fields compared to dryland fields. This not only corrected calcium and pH but also provided capital sustained-release phosphorus, enabling a reduction in rates of starter fertiliser.

BioAg liquid biostimulants were utilised over part of the dryland barley crop. To stimulate emergence and early root development, BioAg *Soil & Seed* was applied by boom-spray post early rains and pre-sowing. Sowing was performed with a low rate, 30kg/ha of starter fertiliser.

Good moisture levels in autumn supported the application of BioAg *Balance & Grow*, with calcium nitrate solution, so as to promote vegetative growth. Treated crops were evaluated to have a 30% greater root mass and more than 30% increase in tiller count. Finally, urea was applied at the 6-leaf stage.

While visual results were evident, most importantly the treated crops delivered higher yields of 3.95 T/ha versus 2.9 T/ha. Agostino was particularly impressed with the grain assessment from the typically problematic lighter soils, with a hectolitre weight greater than his crops off heavy soils.

The measured yield and quality improvements under the BioAg programs were, a 36% increase in barley yield, and a 5% higher grain-weight, with the same protein and similar screenings.

In Agostino's words, "BioAg's *Balance & Grow* and *CalNitSol* turned my barley crop 'on' the week after application. My agronomist said the crop had become luminescent in a week and from there it just powered on!"

## The importance of BioAg, even in a good year

**There's no doubt that 2020 delivered a first-rate season. With abundant rainfall, we saw good crop growth across the board. But for Andy Laidlaw from Mundarra Pastoral at Willaura VIC, his canola crop delivered well beyond expectations.**

When planting his 2020 canola crop, Andy trialed *Soil & Seed* in one test paddock and there was a noticeable difference in root development as the crop emerged. *Balance & Grow* was later applied to the same paddock, and that particular crop continued ahead of other paddocks although there wasn't an immediate transformation after this application.

At about 15% flowers, Andy applied *Fruit & Balance* to the test paddock, and reported that they kept a better, brighter colour while flowering when compared to other areas on the farm.

With such a perfect finish to the season, both paddocks yielded above expectations. However, with the improved root development seen in the test paddock at planting, Andy is now in discussion with his BioAg Area Manager, Allan Reid, about implementing a full BioAg liquid program for 2021.



## Short starter fert?

Don't sow less.  
Talk to your **BioAg** advisor about how to make your starter fert go further.



*Better soils. Better crops. Better stock.*

For more information | **02 6958 9911** | [bioag.com.au](http://bioag.com.au)

©Copyright BioAg Pty Ltd 2020 ©Registered trademarks of BioAg Pty Ltd, ™Trademark of BioAg Pty Ltd, ABN 58 086 880 211

