

# September 2010

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# BioAg COUNTRY

## Turn the Rain into Gain with a Foliar Application

Farmers, following the late winter rains, you have moisture to spare. You've controlled your weeds, but perhaps you've underfed your crops given the yield potential provided by the wet year, and crops stressed from overly wet conditions. Now the challenge is to convert this moisture into crop and pasture production during spring.

With the emergence of rust in cereal crops, many of you will be spending around \$25 per ha on aerial fungicide application, and it makes sense to spend a little more - \$10-14 per ha - to get an improvement in yield and quality. The addition of 2 L/ha of **Fruit & Balance P4** (see below) to the tank will top up the plant's phosphorus level and support the all-important reproductive processes. At the same time, if plant nitrogen levels are inadequate, up to 20 L/ha of UAN can be applied. This foliar application can be made from the second node up until flowering.

For those growing pasture for grazing, hay or silage, 2 L/ha of **Balance & Grow Plus** along with 5 kg/ha of calcium nitrate, with UAN added if more nitrogen is required, can be applied from a ground rig to boost the yield and quality of forage and fodder crops.

In last December's newsletter, we reported on the success that BJ Dall of "Woodlands Hill" at Kybunga (SA) had with a foliar application of Fruit & Balance in September to an oat crop for hay under trial conditions. The Fruit & Balance treated hay was upgraded from C2 to B2, worth an extra \$30 per tonne. The yield was 6 t/ha, so \$180/ha of extra value was added for an incremental cost of \$13.50/ha.

Call your BioAg agronomist now for advice on putting together a foliar program, or call the toll free number on page 4.

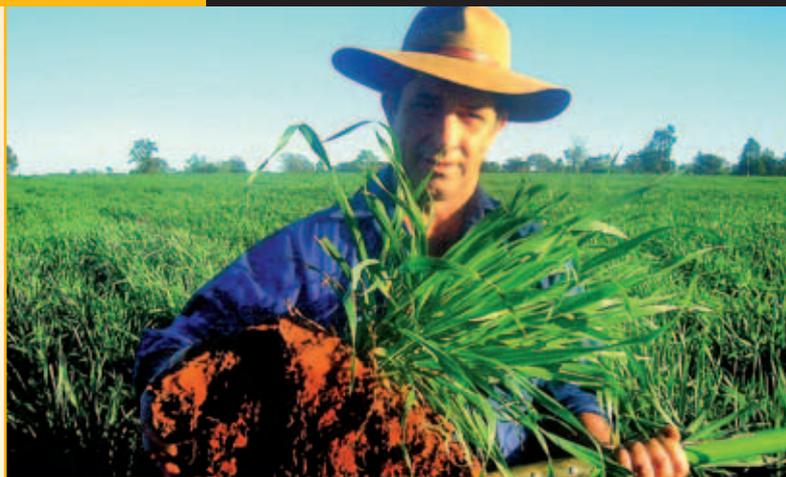
## Boost Phosphate Deficient Crops with **Balance & Grow® P4**

With the run of bad seasons over the past few years, and high fertiliser prices, many crops and pastures are showing the signs of phosphate deficiency, resulting from causes such as underfertilisation and cold, wet conditions at planting time.

Consultants have been recommending little to no phosphorus be applied on the basis that reduced phosphorus applications in drought years have resulted in little to no yield penalty. We now have a situation where moisture is abundant over vast areas where crops and pastures are showing phosphorus deficiency symptoms. During July we saw quite a few cereal crops with purple stems and canola crops with purple leaves - sure signs of phosphorus deficiency. If left untreated this will have had a significant impact on yield potential.

However, all is not lost. The problem of phosphorus deficiency in vegetation can be overcome by the application of BioAg's new **Balance & Grow P4**, a new product made by incorporating phosphorus into our standard Balance & Grow®. Balance & Grow P4 is ideal for Spring pastures and Summer crops requiring supplementary phosphorus and other growth nutrients.

Once crops are up and established, the only real method of supplementing plant phosphorus is by foliar feeding. BioAg Balance & Grow® is designed to feed and balance the nutrition in the plant in its vegetative state when the roots are being established and tillers and stems emerging. Beefing up its phosphorus content to 4% has the effect of making up the shortfall in the phosphorus deficient plant.



**Balance & Grow P4** should be applied at the rate of 2 litres per hectare. It can be tank mixed with UAN should the crop also be requiring nitrogen. With an RRP of \$6 (ex GST) per litre plus delivery in 1,000 litre shuttles, the cost of the treatment is around \$12 per ha or \$5 per acre. If an addition of calcium nitrate or UAN is needed, the entire mix might cost around \$20 per ha. We recommend that this mix of nutrients be applied after post-emergent herbicides rather than with them.

To keep pastures vegetating, apply Balance & Grow P4 after grazing or cutting when there is moisture for growth.

# Build Soil Humus with BioAg Digest-it

Most modern cropping soils have had the humus stripped out of them by excessive applications of water soluble nitrogenous fertilisers and over-cultivation. Digesting stubble aids in repairing the damaging effects of 50 years of conventional agriculture on the fertility of arable soils.

The digestion of stubble reduces carbon in the form of CO<sub>2</sub> being lost to atmosphere by producing humus which converts to soil carbon. Humus is nature's buffer. It modifies soil temperature; it is the home of soil life; it holds nutrients in the soil, reducing leaching, drainage and soil compaction.

Every one percent increase in the level of humus in the soil increases soil moisture holding capacity by 8 mm of rainfall before leaching or waterlogging occurs.

Of course, stubble digestion also reduces physical problems associated with trash in the planting of the new crop.

This season, being wetter than those of the past several years offers the ideal opportunity to try out biological crop residue digestion because of the large volumes of crop residues expected.

BioAg Digest-it® has been formulated to digest and convert stubbles and crop residues rapidly into humus and plant food, as well as increase soil microbial activity. Benefits include reduced need for stubble burning and carry-over of soil-borne pathogens, improved moisture and fertiliser utilization, and improved soil fertility, tilth and workability.

Digest-it is suitable for use on a wide variety of crop stubbles and residues, including cereals, pulses, oilseeds, lucerne, sorghum, cotton, rice, potatoes, peanuts, sugar cane, bananas and horticultural crops. It should be applied to moist soils and the residues brought in contact with the aerobic zone. It may be sprayed on to the soil or applied through irrigation.

Application rates depend on the amount of stubble, climatic conditions, water quality, soil types, application method and management practices.

For application advice, contact your BioAg agronomist, or call 1300 599 911



## New BioAgPhos processing line at Batesford Quarry.

# New BioAgPhos Plant Commissioned at Geelong

To cope with greater seasonal demand for **BioAgPhos** and the introduction of the new bulk fertiliser products **Pasture Primo**, **BioAgPhos S10** and **Superb**, BioAg has commissioned a new solid products production line at its Geelong processing site.

"With another shipment of phosphate rock having just arrived, the old production method where we were reliant on contractors to process and load BioAgPhos, left us vulnerable and not able to deliver the level

of service our customers deserved", says Managing Director, Anton Barton. "The new plant is designed to incorporate the biological digestion agent that is mixed with RPR to make BioAgPhos quickly, evenly and effectively, ensuring we will have first class product readily available this season when our customers need it. Part of the process is passing the material through a screen that removes everything larger than 10mm. The uptake of BioAgPhos S10 in the pasture country in Northern NSW has also meant

that we have needed the capacity to produce and hold more stocks of this product as well, with the 10% elemental sulphur evenly blended through the product.

The bulk carrier MV Kuniang discharged another 20,000 tonne of Egyptian reactive phosphate rock (RPR) at Geelong Port for BioAg at the end of August.

Given the proximity to the port of Geelong and the improved access to the quarry that the new ring road around Geelong facilitates, we see the Batesford Quarry as a sensible long term base from which to manufacture and dispatch BioAgPhos and the other products which contain it. Consequently, we intend to continue to invest in infrastructure to support this growing business unit. We recently employed John Birkett to manage our Batesford Quarry operation, and we can all look forward to some exciting developments in terms of product offerings and blending capability.

John Birkett can be contacted at the quarry on 0459 592 339.

# Digest-it® - An Effective Approach to Effluent Control in Piggeries



Effluent management has become a major concern on Australian farms where animals are confined for any purpose. Recognising this, BioAg began to work on ameliorating the problem two years ago, first in the dairy sector where farmers have a legal obligation to contain, manage and dispose of livestock effluent within property boundaries in a manner which prevents the pollution of surface and groundwater.



In mid-2009 BioAg joined forces with Pacific AgVet's pig industry specialist Kylie Roberts to develop applications of *Digest-it* for use in conventional and shelter systems. Pacific AgVet's business lies in marketing of niche animal health products.

"Our objectives are to improve the breakdown of the slurry going to paddock, and the composting of solid matter (including straw), to facilitate the wash-down of the slurry under slat floors, to improve amenity through odour reduction, and to improve animal wellbeing through the reduction of scalding from wet straw bedding. We've now been running *Digest-it* on five commercial piggery sites for the past five months and the results are beginning to show", explains Kylie.

"It is not unusual to be asked why we want to get rid of the crust on an effluent pond. The answer is that while the crust may seem to stop the odour, it can negatively affect the ability of the pond to function."

John Bourke, pig producer and President of the Victorian Farmers Federation Pig Group, was one of the first to try the technology at his property at Stanhope (Vic.). John says "I was skeptical at first, as it seemed too simple. We started pouring *Digest-it* into the pits, and this has cleaned them and the pipes as well. They now flow better and don't build up with solids.

"Later, we sprayed the pond and saw the crust break up in front of our eyes! We have used *Digest-it* at higher rates than initially recommended because we quickly wanted to see if it was going to work, and it's worked better than expected.

"Before application, we had a dam full of solids; we couldn't get any liquid out. Now we've drained liquid and the amount we were able to get out was significant," he commented. What liquid has been drained off is continuing to bubble, so the biological digestion process triggered by *Digest-it* is occurring in the next holding pond."

The piggery staff have commented there is not the ammonia smell in the sheds, or when pulling the plugs to release the effluent, and there is minimal odour coming from the ponds themselves. With the humid

and hot weather experienced in Victoria last Autumn, John said they also noticed that the ponds did not have the usual "pong" in that sort of weather.

Another farm using *Digest-it* in pull plug pits has noticed a change in the effluent held in the pits and, most noticeably, a reduction in the flying insects in the drains. Without the crust on the surface, the available environment for insects to breed is reduced.

Each batch of *Digest-it* is quality control tested to ensure that it contains no entero-pathogenic bacteria (e.g. *E. Coli* or *salmonella*). Indeed, preliminary laboratory trials indicate that it may actually suppress such bacteria.

A great boon to piggery staff is that *Digest-it* is "operator safe". Operators suffer no ill effects if they happen to splash it on themselves or dispense with protective clothing. This is of particular benefit where contract or seasonal labour is used, and operator experience levels may be low.

*Digest-it* is also safe for pigs. Pigs can safely play in or eat bedding sprayed with *Digest-it*. Using *Digest-it* in the shelters will enhance the composting process of the soiled bedding. Kylie is presently trialing *Digest-it* in straw based sheds with the aims of reducing odour and ammonia which can scald pigs.



**Piggery Effluent Pond after 15 weeks of *Digest-it* Treatment**

"Straw based sheds can have issues with odour. With *Digest-it*'s action, the odour should be negligible. We are also looking at the amount of waste material (straw & manure) building up in the dunging area. If the pigs are in the shelter for a long period of time, the enhanced composting with *Digest-it* will potentially help lower this."

Using a *Digest-it* program in a shelter is straight forward and adaptable to the duration of the pigs' stay. By using *Digest-it* in a shelter and continuing after clean out with a good composting program, producers are able to create a valuable fertiliser in a relatively short time.

BioAg and Pacific AgVet have been conducting field days in Northern Victoria over the past few months to introduce piggery operators to the *Digest-it* system for effluent management, with the next one scheduled for South Australia, and more planned for other states later in the year.

For further information, contact Kylie Roberts on 0429 381 534.

*Published in the Pork Journal, May/June 2010*

# Jenkins Fertilisers and Limes Joins BioAg Distributors

Yackandanda based Jenkins Fertilisers and Limes was started by the Jenkins family many decades ago. Paul Anthony, the present owner of the business, was born on King Island and moved to the mainland after finishing a mining apprenticeship. He had family around Yackandanda and moved to the area believing that if there was no work, he could always go back to the mining sector. Paul was 21 at the time and he has never looked back.

When Paul took over the business there were only a couple of fertiliser spreaders in the north east of Victoria. Now there are a dozen or more. As times have been tough, in common with many businesses today, Paul has been looking at ways to differentiate his business from his competitors.

After a considerable amount of research, and having seen product being used throughout north eastern Victoria and southern NSW with good results, Paul visited our plant and met the team at Narrandera. Believing that BioAg's different approach to soil and plant nutrition could help the farmers in his area, Paul has come on board as a BioAg distributor.

Back in the early days, when he started working for the Jenkins family, little did Paul know that he would eventually buy out the owners, run his business successfully through one of the harshest agricultural periods we have seen in decades, and come out the other end smiling. OK, times have been tough and the business has had to manage scarce resources, but who hasn't? Necessity being the mother of all invention though, Paul has looked into alternatives to his existing products - not replacements, but products that can work alongside existing programs to enhance and improve his farmers' bottom line (he observes that the bottom line is why we're all in business). Now, with the BioAg range, Paul has a suite of products that suit all farming operations and philosophies.

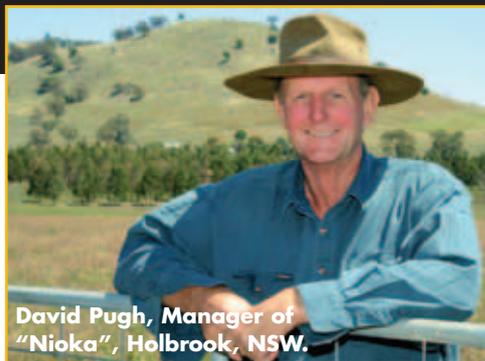
Like BioAg, Jenkins Fertilisers and Limes is a Fertcare accredited organization. Fertcare is a training, quality assurance, certification and accreditation program which includes environment, food safety and occupational health and safety issues associated with fertiliser and soil ameliorant products throughout the



**Jenkins Fertilisers and Limes owner, Paul Anthony, with BioAg MD, Anton Barton.**

supply chain. The program focuses on providing high quality advice to users of fertilisers to allow them to maximise productivity and minimize environment and food safety risk.

For further information, contact Paul Anthony on Mobile 0408 638 771 or Email [paul@jenkinsfertilisers.com.au](mailto:paul@jenkinsfertilisers.com.au)



**David Pugh, Manager of "Nioka", Holbrook, NSW.**

Southern Slopes beef producer, David Pugh has revitalised his pastures and boosted cattle growth rates through the adoption of a biological farming program.

Mr Pugh manages "Nioka", near Holbrook, where he runs a breeding and growing operation turning off 400 kilogram Angus steers for feedlots.

The 1050 hectare property is owned by Tim and Ariel Arnott, who bought it in 1993 as a higher-rainfall addition to their Jerilderie-based Coolbaroo Pastoral Company.

Its 650 to 700 mm annual rainfall and rolling to steep native and improved pastures allow it to carry 400 cows and replacements, though numbers have dropped below 300 during the drought.

For more than a decade Mr Pugh fertilised half the property each year with 120 kg/ha of single super but he and Mr Arnott wanted to run the farm in a more environmentally friendly way.

"There were no really obvious problems with the super but neither of us really like artificial chemicals and we're always trying to find alternatives," Mr Pugh said.

## Better Pastures and Healthier Soils

"Biological farming improves the health of the soil so the pasture can compete better with the weeds and you can do less spraying."

After soil tests in 2006 revealed calcium and phosphorus deficiencies and mild soil acidity, it was decided to treat half the property each year with 500 kg/ha of lime and 200 kg/ha of biologically active phosphate fertiliser BioAgPhos.

BioAgPhos not only adds phosphorus, but the improved soil microbial activity also helps to unlock phosphorus, calcium and sulphur already in the soil, leading to long-term benefits in soil structure and fertility.

As a first step, a belt spreader was used to treat 116 ha in 2006 and 151 ha in 2007 – and the results have been dramatic. "We saw some real improvements," Mr Pugh said.

"The treated pastures are a deeper green, subclover is reappearing and everything has thickened up. There is more dry matter feed per hectare and less Paterson's Curse.

"Every time we received a bit of rain we noticed a much better response in the BioAg paddocks than in the others. Because of the dry years you'd think there'd still be some super in those other paddocks but obviously it wasn't being released.

"The cattle seem to 'do' a lot quicker on the BioAg country than on other paddocks. The calves are putting on weight quicker so they must be getting better nutrition out of the pasture."

Given time, Mr Pugh expects the biological farming program to improve soil health and enable him to run more cattle and turn off more kilograms of beef per hectare.

"We should be able to get the cows and heifers back up to joining weight more quickly after calving and maintain body weights through the winter months without having to feed silage or hay," he said.

"We have been running the place at 75 percent of its carrying capacity through the drought so we won't have to spend thousands of dollars re-establishing pastures after the rain."



Better soils. Better crops. Better stock.™

**For more information,  
phone 1300 599 911 or visit [www.bioag.com.au](http://www.bioag.com.au)**

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