

March 2012

In this edition

- Soil & Seed Passes the Test
- Independent wheat trials
- Platinum Operations Group (SA)
- Fruit & Balance Aids Flowering and Pod Formation in Clare (SA) Canola Trial
- Soil & Seed Lifts Yield and Quality on Oaten Hay at Balaklava
- Soil & Seed Expands its Foothold in the UK

BioAg COUNTRY

Soil & Seed **PASSES THE TEST**

Early last year we announced that we were stepping up our independent trial program and our farm trials, both in Australia and offshore, to provide interested farmers and agronomic advisers with "hard data" on the efficacy of our products. With summer harvests over, those data are starting to come in, not only from cropping, but from grazing trials as well.

In this edition of *BioAg Country*, we describe the results of Agrisearch Services' trials showing increased grain yields on the application of Soil & Seed and Balance & Grow to wheat in South Australia.

Also, at Balaklava in South Australia, we report on a highly successful farmer trial with Soil & Seed on oaten hay production, where the hay quality and the yield improvements were outstanding.

We collaborated with Tamworth Rural in a series of independent winter fodder trials conducted at Tamworth. On average, despite the extremely dry conditions during the trials, Soil & Seed and Balance & Grow produced a 1.5% increase in yield.

Things are starting to happen in the UK, with a farmer trial there leading to the introduction of Soil & Seed into the standard nutritional practice for strawberries and apples at a substantial farming group, as described in an article inside.

Soil & Seed and its companion products have come of age. Farmers have been using these products for many years with excellent results, but now we have the quantitative data to support their experience and to provide proof of efficacy to those considering their use.



Soil & Seed and Balance & Grow perform well in independent wheat trials

As part of its continuing research and development program, BioAg commissioned Agrisearch Services Pty Ltd to conduct an independent evaluation of BioAg products for improving crop growth and yield in wheat" near Balaklava (SA) in 2011.

In its summary, the report notes that "All treatments ... significantly increased yield. The mid-tillering application of BioAg Balance & Grow applied as a foliar application provided the greatest improvement in crop yield. BioAg Fruit & Balance did not significantly increase the yield above the increase observed after the mid tillering application of BioAg Balance & Grow."

Whilst both tillering and crop yield were measured in the trial, the most important benefits were demonstrated in the crop yields. The key findings from the trial were:

- The application of 3 L/ha of Soil & Seed at pre-sowing produced a significant increase in crop yield (18%).

- The application of 3 L/ha of Soil & Seed at pre-sowing plus that of 2 L/ha Balance & Grow as a foliar treatment at mid-tillering produced the greatest improvement in crop yield (39%).

The observation that "BioAg Fruit & Balance did not significantly increase the yield above the increase observed after the mid tillering application of BioAg Balance & Grow" must be taken in the climatic context at the time.

Whilst the start of the season was favorable in terms of soil moisture, air temperature and rainfall, the later part of August and most of September was quite dry which had a significant impact on plant stress and evapotranspiration rates. Whilst the application of Balance & Grow at the

mid tillering stage assisted the crop in dealing with the environmental stresses, by the time the Fruit & Balance application occurred in late September the plants were under significant stress and could not absorb or translocate nutrients effectively. Had this not been a trial with the program pre-set in Autumn, the correct agronomic decision at the 2nd inter-node elongation stage would have been not to apply Fruit & Balance in this situation, as there would be little or no expectation of economic gain from the application.

The full report of this trial may be viewed on our website.

Distributor Profile - Platinum Operations Group (SA)

Platinum Operations Pty Ltd was formed in late 2009 as a joint venture between locals Peter Cook and Rob Calaby, and Ruralco Holdings Limited, a diverse enterprise engaged in most aspects of rural business. Peter and Rob have a combined total of over 40 years in the industry, and have been involved in all levels ranging from in-store sales to management within corporate organizations. Peter has been in the Clare area for most of his life whilst Rob has spent the past 20 years in the mid north and the past 10 years at Clare.

Platinum Operations itself has a pretty broad base also, as a full rural service business with a diverse customer group that incorporates rural merchandise, viticulture, horticulture, cattle, dairy and broadacre interests. "The bulk of our business lies in broadacre cropping and viticulture, supplying fertilisers and crop protection products", says Director Rob Calaby. "We also have a steady business as livestock agents and in real estate."

The Platinum Operations group covers a huge area of South Australia - from Streaky Bay on the west of the Eyre Peninsula to Renmark in the eastern Riverland, and down to the Coorong area at the Murray River mouth. To provide this cover, the business operates seven stores at Clare, Balaklava and Crystal Brook (all trading as Mid North Ag Services), Renmark (Riverland Horticultural Supplies), Loxton (Riverland Ag Services), Kimba (Kimba Rural), and Meningie (Coorong Ag Services) employing 34 people. Ten of the staff are agronomists, supporting their farming communities with soil testing, crop inspections, product recommendations, variety trials and research and development activities.



Rob became interested in BioAg's nutrients in 2010 when he saw a BioAg Soil & Seed strip trial at Kybunga, near Clare, which produced a rather dramatic yield response. As a result of this, he believed that BioAg products could form a useful addition to the fertilisers carried by Platinum, and contacted us about distributing our products in his region. Fertilisers make up a large portion of the Platinum business across all stores, ranging from granular and bulk liquids to a full range of trace elements to help growers to maximise their production. Platinum see the inclusion of the BioAg range of products as the next step in improving the utilisation of nutrient inputs across a variety of crops.

To prove the efficacy of the BioAg system, we have commissioned a number of independent replicated trials in the region, evaluating the application of Soil & Seed at planting, as well as the foliar applications during the growing season. As mentioned elsewhere in *BioAg Country*, wheat trials conducted at Balaklava in 2011 showed that the application of Soil & Seed at pre-sowing produced a

significant increase in crop yield, and that the application of Soil & Seed at pre-sowing plus that of Balance & Grow as a foliar treatment at mid-tillering produced the greatest improvement in crop yield.

Whilst the focus has primarily been on the mid north area of SA, because of the 2011 results, this year we will be moving into the other locations in which Platinum Operations conducts its business. "With stores operating across large areas of South Australian dealing with growers that grow a diverse range of crops, our partnership with BioAg will help us to maintain our relationships with our key growers by maximising their returns" says Rob.

Fruit & Balance Aids Flowering and Pod Formation in Clare (SA) Canola Trial



BioAg agronomist, Daniel Hill (left) and Grant Jaeschke examine the crop during the flowering phase.

The Jaeschke family, who operate "Hill River Hay", a large grain and hay producing enterprise near Clare (SA) decided to try BioAg's Fruit & Balance on a canola crop this season, after talking with their agronomist Rob Calaby from Mid North Ag Services. They sowed 200 ha of Clearfield canola variety 46Y83 in May, at 2.5 kg/ha on sandy clay loam which had been previously planted to wheat. Part of this field was used as a "control" area, and the remainder received a Fruit & Balance treatment later in the season.

Soil & Seed Lifts Yield and Quality on Oaten Hay at Balaklava

Readers of *BioAg Country*, will have noticed that one of our long-time customers, BJ Dall of "Woodlands Hill" at Kybunga, north of Balaklava (SA), generally runs a comparative trial of one of our products against a control each year to assess the agronomic and economic benefits of using the BioAg system. Last year it was Soil & Seed and Fruit & Balance on malting barley, and the year before that Soil & Seed and Fruit & Balance on export oaten hay.

This season, he sowed 360 ha of Mulgara oats on a property near Balaklava he has leased for the past two years. The soil in the paddock, previously sown to barley, was sandy clay loam over large amounts of limestone. Part of the paddock was treated as a "control" and the remainder received a BioAg Soil & Seed treatment. The treatments, applied at sowing, were as follows:

Control	BioAg Soil & Seed Treatment
70 kg/ha mono ammonium phosphate (MAP)	70 kg/ha mono ammonium phosphate (MAP)
100 kg/ha sulphate of ammonia	100 kg/ha sulphate of ammonia
	3.0L/ha Soil & Seed [®]
	2.0 kg/ha zinc sulphate
	1.0 kg/ha copper sulphate

Given the dry finish to the crop, the outcomes were extremely rewarding in terms of hay quality, yield and economic return, as shown in the following table:

	Control	BioAg Soil & Seed Treatment	Increase	
Hay Quality (Balco Grade)	G5	G2		
Price (\$/tonne)	\$90	\$135	\$45	50%
Yield (tonne/ha)	3.1	4.2	1.1	35%
Economic Return (\$/ha)	\$279	\$567	\$288	103%



The economic return per hectare is represented by the return over the cost of inputs, taking into account the improvement in crop quality (and consequent uplift in price), the increase in yield and the increase in the cost of inputs. In this case, the additional return per hectare was \$288 for an additional input cost of \$24, a factor of 12 times!

Concerning the 2011 season, Mr Dall observed that "It was a particularly dry winter/spring, with only 127mm of growing season rainfall." He noted that "the Soil & Seed treated area always looked fresher and seemed to handle the environmental stresses better."

BioAg Fruit & Balance Trial on Canola



"Control" area



Area treated with BioAg Fruit & Balance

The Treatment

The entire 200 ha received 50kg/ha of 23:16:0 down the tube, and two applications of urea at 80kg/ha - one in the vegetative stage and the second at the green bud stage. The treatment area received an additional treatment of 2.5 L/ha of Fruit & Balance just before the yellow bud stage.

The Results

Both the treated and control area returned an oil content of 43.2%. The "control" area yielded 2.5 tonne/ha compared with 2.85 tonne/ha for the Fruit & Balance treated area - an increase of 350 kg/ha (14%).

The Economics

On the basis of a canola price of \$500 per tonne, the additional yield was worth \$142.5 per ha for an additional \$27 per ha in costs (\$15 material plus \$12 approx. application cost). On this basis, the economic benefit of applying the Fruit & Balance was \$115.5 per ha, a six fold increase!

Grant Jaeschke who managed the trial was delighted. "It was remarkable to see the treated area continue to flower and form pods for an additional two to three weeks. It was this extended flowering and pod forming period that produced the increase in yield", he said.

Soil & Seed Expands its Foothold in the UK



Another shipment awaiting transport to the Port of Melbourne for export to the UK

Our business in the UK, which started four years ago with Digest-it for Dairies, continues to grow as we make another bulk shipment of our liquid nutritional products to our distributor, Thomson & Joseph in Norwich.

One of their customers, tree crop and berry producer Boxford Fruit Farm, has reported some positive experiences with Soil & Seed on strawberries and apples in the season just ended, and the company is considering

using Soil & Seed as part of the standard nutritional program on all of its soft and top fruit next year. This represents a springboard into the marketing group Berry World of which Boxford is a member.

Another longtime customer of Thomson & Joseph is H L Hutchinson Limited who are crop production specialists. Hutchinsons employs over 250 staff, of which more than half are directly involved with customer service and agronomic relationships. Hutchinsons are the UK's largest horticultural agri-supplier and No. 3 in the UK for broadacre crops. They turned over £170M last year and have over 100 agronomists in the field. Their research indicates that there is nothing in the UK market like Soil & Seed, and they are keen to test its efficacy under UK conditions. A plan for a series of replicated trials and farm evaluations has been established for the 2012 growing season.



New Territory Manager for Central West NSW

We are pleased to announce the appointment of Phil Kelly as Area Manager for Central West NSW. Phil holds a Bachelor of Applied Science in Agriculture from the University of Western Sydney and is presently studying for a Master of Social Ecology degree at the same university.

He has had a long career in agricultural marketing and agronomic services with companies such as Wesfarmers Landmark, Rhone Poulenc Rural and Cotton Growers Services, in both agriculture and horticulture. His territory is bounded by Nowra, Canberra and Griffith in the south and Gosford, Gilgandra, Coonamble and Nyngan in the north.

BioAg Strengthens its Agronomic Presence in Eastern South Australia

BioAg provides strong agronomic support for its products and nutritional programs in eastern South Australia.



Richard Chibnall (0438 234 996) takes care of the south-eastern area of the state from Mt Gambier to

Bordertown and Keith. He works with our distributor Vickery Bros (03 5575 2777) which covers an area which includes Mt Gambier, Millicent, Penola, Naracoorte and north to Frances. In the north of this area, our distributor is D&M Rural (08 8752 0099) at Bordertown which operates in an area of about 50 km radius from Bordertown.



Daniel Hill's (0448 453 412) responsibilities extend north from Murray Bridge, through Langhorne

Creek, Strathalbyn and the Adelaide Hills to Peterborough. He is ably assisted by our distributor Platinum Operations with locations at Clare, Balaklava and Crystal Brook (all trading as Mid North Ag Services), Renmark (Riverland Horticultural Supplies), Loxton (Riverland Ag Services), Kimba (Kimba Rural), and Meningie (Coorong Ag Services) (see page 2. for the Mid North Ag Services profile), and by Pinnaroo Fertiliser Depot (08 8577 8101).

If you'd like to learn how BioAg nutritional programs can improve your quality and economic returns this year, give Richard or Daniel a call, or contact one of the distributors mentioned above.



Better soils. Better crops. Better stock.™

For more information, phone 02 6958 9911 or visit www.bioag.com.au