Comparison of BioAg Bio-Stimulants for Improving Yield in a Conventional Fertilizer Program on a Winter Forage Crop

Introduction

A trial was conducted by Russell Ison, an agronomist at Tamworth Rural, in 2011 to evaluate the effectiveness of BioAg Bio-Stimulants in enhancing and improving a conventional fertiliser program on a winter ryegrass crop. The trial was conducted at Brian Wilson's dairy farm *Gordon*, at Wallamore Road, Tamworth (NSW).

Treatments

The ryegrass pasture was sown on the 16th May 2011. The "control" treatment comprised an application of MAP +1% Zn at sowing, and 100kg/ha Urea after each of two grazings (as shown in the following table) in line with district agronomic practice. In the BioAg plots, the same fertilisers were applied as in the control plots, but the BioAg products were applied in addition at the stages shown in the table.

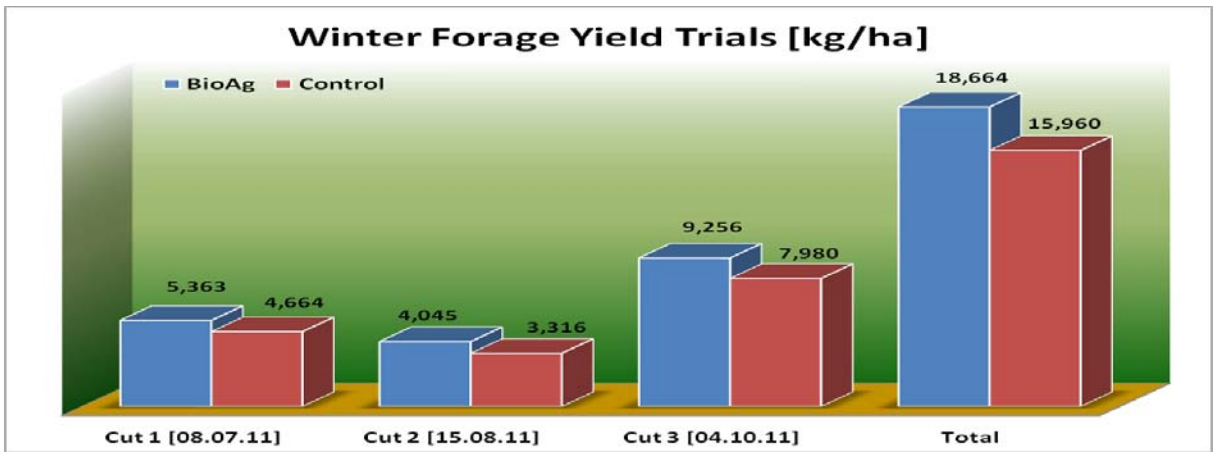
Treatment	Product	Rate	Application Timing and Method
1. BioAg			
At sowing:	MAP + Zn	80kg/ha	Down the tube at sowing
	BioAg Soil & Seed	3L/ha	Pre-sowing ground application
After each grazing:	Urea	100kg/ha	Broadcast
	BioAg Balance & Grow	2.5L/ha	Foliar spray
2. Control			
At sowing:	MAP+Zn	80kg/ha	Down the tube at sowing
After each grazing:	Urea	100kg/ha	Broadcast

A randomized small plot replicated design was used in the trial. Foliar treatments were applied using a quad bike mounted 3metre boom, incorporating eight 110010 AI nozzles. The treatments were applied in a total volume of 80 L/ha. The trial received 2 x 50mm irrigation events during the trial period.

Results

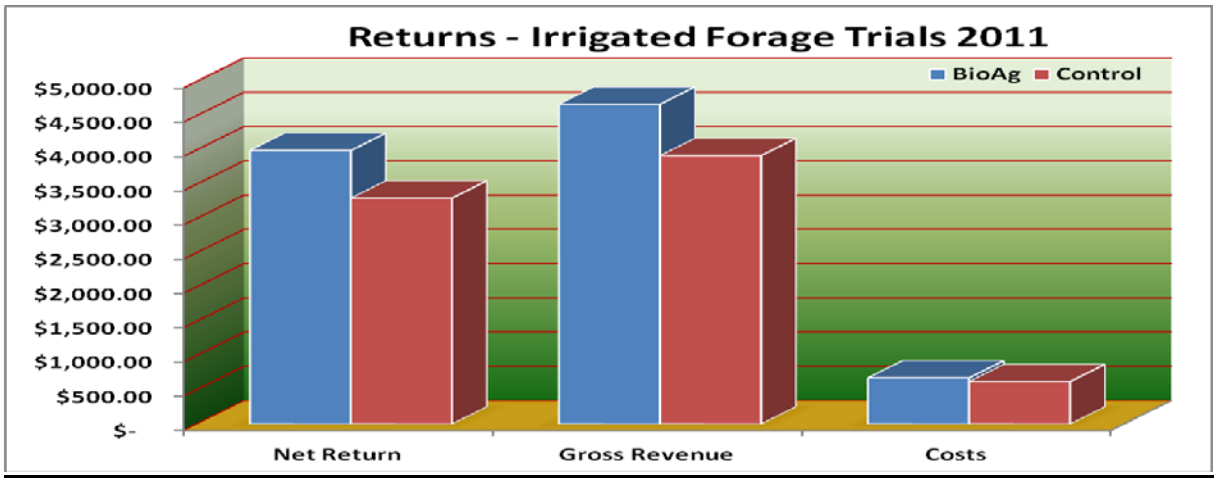
Yield

The yield was measured at three intervals during the trials period. After cuts were made at a standard height, the cattle were let in to graze within 12-24hrs. The BioAg plots produced an extra 2,704 kg/ha of ryegrass in total over the trial period. **This represents a 17% increase in yield over the control.**



Gross Margin

Taking into account the increase in yield, offset by an additional investment in the BioAg treatments of $48/ha [plus GST and application costs], Russell Ison calculated the economic benefit of the BioAg treatments [expressed as additional gross margin] at $696.75/ha, a 21% increase over the control.



Grazing Preference

The following photo shows part of the trial site with the "control" on the left which received urea only and the BioAg plot on the right which received urea and BioAg Balance & Grow. The animals' preference for the BioAg plots indicates that the plants had a high nutritional content. Despite this, the BioAg plots still yielded a higher volume of growth at each cut throughout the trial period.

CONCLUSIONS

The addition of the BioAg bio-stimulants to a conventional fertiliser program in ryegrass has shown a positive result on yield and hence gross margin in this trial. The ryegrass treated with BioAg's products yielded an extra 2,704kg/ha (17%) compared with the "control" and this produced an extra $696.75/ha in gross margin (21%) after taking into account the extra cost of the BioAg treatment. The BioAg bio-stimulants therefore gave an excellent return on investment in this trial.

AGRONOMIST'S COMMENTS

"Establishment and early growth of the BioAg plots was outstanding. There was also obvious grazing preference by the cows, and the residue left by the cows after 48hrs intensive grazing was lowest in the BioAg plots (they ate more). The urine patches that were evident in the control plots throughout the trial did not appear in the BioAg plots. There was no leaf rust in BioAg plots. The BioAg plots stayed green longer into the summer. There was plenty of fine root hair growth as well, indicating healthy roots. The yield was also higher despite the 'harder' grazing".

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Note

See also the following article in BioAg's quarterly newsletter *BioAg Country* - Winter 2012 (p.2.)

"BioAg Pasture Nutrition Beats District Practice in New England

In Tamworth Rural trials, lucerne was planted in May 2011 in an irrigated paddock on Joe Madirazza's property in King George Avenue Tamworth. Each of the topdressing applications were applied to four replications in 18 m2 plots and the weights of four cuts between November and March were measured. Both the BioAg treatments (BioAgPhos S10 and BioAgPhos S10 plus Soil & Seed) performed better than the control (district practice - SSP at 125 kg/ha)."