



June 2005

## LATE BREAK

### *Don't panic, plan now for an economic response to Nitrogen*

- Plan for nitrogen applications now
- Nitrogen is a viable option for producing extra feed in winter
- May/June nitrogen applications will be more profitable than July applications
- Take advantage of current warm conditions
- Soil temperature still around 12 degrees
- Even small amounts of extra feed grown in winter can be of immense value
- Continue to monitor livestock condition and bodyweight
- Keep feeding after the autumn break, increase ration if required
- Save better pasture areas by feeding on sacrifice areas
- Best responses are achieved in ryegrass dominant pastures with good fertility
- Short term ryegrasses respond better than perennials
- Eliminate Black Headed Cockchafers & Red Legged Earth Mite
- Control capeweed

## WELCOME TO TWO NEW FACES IN THE AGRONOMY STAFF AT VICKERY BROS

### **HARRY ARMSTRONG**

Originally from the Coleraine area, Harry has a farming background. He has six years experience in fertilizer agronomy and sales in the Koroit and Macarthur area, servicing sheep, beef and dairy clients. Prior to that he was employed for six years with the pasture plant breeding group at the Department of Primary Industries Hamilton. This included white clover and tall fescue breeding programs. Harry has a keen interest in pasture establishment and renovation and will continue to provide the high level of customer service and ongoing support that our clients in the Hamilton/Heywood region have come to expect from Vickery Bros.

Contact number for Harry is: Mobile 0417 052095 or 03 55752777



### **JANE WILKINSON**

Jane has returned to the area after recently completing a Bachelor of Applied Science (Agriculture) through Charles Sturt University in Wagga Wagga.



Jane's degree focused mainly on agronomy, soils, pests and diseases and other related subjects where the economies of actions, increased productivity and benchmarking were paramount. Other elected subjects were animal production and animal nutrition, which also covered the importance of pasture health on increasing productivity and animal health. Jane also has experience working in the rural sector, including some months as a jillaroo on a grain and wool producing property north of Conargo, and worked during university holidays on a mixed farm in the western district. She has also participated in research trials with the Department of Primary Industries at Hamilton.

Jane has a keen interest in assisting clients to develop and enhance productive and profitable production systems for cropping and pasture based enterprises in the Cavendish/Edenhope region.

We are confident Jane will be capable of building strong relationships with Vickery Bros clients and aid in their decision making process to increase productivity, profitability and sustainability.

Contact number for Jane is: Mobile 0437 752707 or 03 55752777

## Nitrogen in Autumn.

A recent article written by Richard Eckard and published in the Grassland Society of Southern Australia newsletter, outlined the relationship between summer rainfall and nitrogen utilization, highlighting the scope for profitable nitrogen application this autumn.

Over the late spring and summer period, nitrogen is released into the soil from clover nodules and organic material. If summer rainfall has been good, then the pasture will have extracted all this nitrogen for plant growth. There will therefore be very little free nitrogen left in the soil at the autumn break, thus allowing a good response to applied nitrogen fertilizer.

This year we have had unusually high rainfall in January and February. We would therefore expect good responses from autumn applied nitrogen.

A question often asked by our clients at this time of year is "should I apply nitrogen now or wait for more rain?"

If you can use more pasture growth going into winter, and your pastures have sufficient fertility levels and species present, then the answer is apply it now.

## Nitrogen Loss:

Many producers also worry that nitrogen applied in warmer weather is lost to the atmosphere, or that rain must occur immediately after application for nitrogen fertilizers work.

While losses of nitrogen can occur over the very hot summer period, once the weather has cooled off and autumn rains

have commenced these losses are usually less than 10% of the nitrogen applied and are of little concern. Losses of 14% have been recorded during February, while losses from May to November are substantially less, being between 3 and 6%. The logical conclusion is that, the losses of nitrogen fertilizer over the next couple of months are minimal, so any nitrogen applied will be used for plant growth.

## Nitrogen Response:

A good rule of thumb for timing of nitrogen applications is, if the pasture is growing, then nitrogen can accelerate that growth.

Nitrogen fertilizers can potentially double the growth rate of pastures. For example, a growth rate of 10kg/ha of dry matter can commonly be increased to 18kg/ha of dry matter by applying 50kg of nitrogen per hectare. Results from south west Victoria show that nitrogen applications not only increase growth but also metabolisable energy and crude protein levels significantly. The potential pasture response to nitrogen in May is likely to be between 12 and 15 kg of extra dry matter for every kg of nitrogen applied to a productive, well fertilized pasture system.

Let us assume that we apply 46kg of nitrogen (100kg urea) in late May, and that we achieve a modest increase of 12 kg of extra dry matter per ha for every kg of nitrogen applied.

i.e.  $12 \times 46 = 552$  kg of extra high quality dry matter produced per ha.

Not only do we get in excess of 500kg/ha of extra dry matter, but the extra feed is of higher quality.

## Mapping Service

GPS technology not only provides improved accuracy for our spreader fleet, but when coupled to a modern computer mapping program also gives us the capability to supply clients with a spreading map of each job with their invoice.

As an added service we are able to produce full property maps showing the arable area of each paddock including topographic features such as dams, plantations, laneways and roads.

Because of the time involved to produce these full farm maps we will now be charging a modest fee for this service. The price charged will vary according to the time taken and complexity of each job. Maps can be simple A4 sheets or larger A3 and even laminated versions if required. If you need more information, or to see examples of these maps, speak to Aaron Hill at Vickery Bros or call in at the Coleraine office.

The spreading maps supplied with invoices will continue to be provided at no charge.



## The Impact of Urea Timing

Recent trials by Southern Farming Systems (SFS) have highlighted the importance of timing of application of Urea in a wheat enterprise. A number of significant points were unearthed (pardon the pun), including impact on yield, protein levels and screenings.

### Kellalac

- Application at sowing (GS-00 [growth score]) demonstrated a just under 16% increase in yield, with an increase in protein from 9.81% with no N to 12.6%
- An increase in margin occurred due to increase in protein levels and hence grain value.
- The best response was a split application, with an initial application at sowing (GS-00) and again at elongation (GS-30/31).

### MacKellar

- Also found the optimal response was 75kg in split application with an initial application at sowing (GS-00) and again at elongation (GS-30/31).
- of 150kg, even in split application, didn't increase yield but increased protein level.
- The trial indicated more of a response in higher plant populations.

Timing and application rate.	Yield t/ha	Test weight	Screen %	Protein %
1.Zero N	2.71	77.6	4.9	9.9
2.50%N GS00 & 50% Z30/31 75kg	3.01	76.7	2.8	12.7
3.100%N GS30/31 75kg	2.91	74.5	3.6	12.6
4.50%N GS00 & 50% GS30/31 150kg	2.89	75.1	3.0	15.0
5.100%N GS30/31 150kg	2.93	74.6	3.5	14.5
LSD (5%)	0.17	1.1	1.3	0.5

Table 1. Influence of Nitrogen timing and rate on yield and quality (Average of 2 plant populations) Inverleigh, Vic. (Adapted from Trial Results: SFS Ltd, 2004)

N.B. Most results were not significant.

Treatments 1 and 2 indicate a large response in yield sharing an optimal protein level increase with the earlier N applications. This shows that N uptake efficiency was best early.

At higher (excessive) rates of N, the yield response was marginally better but it was less efficient in contributing to the protein level. As seen in table 1. The optimal application rate was 75kg in split applications with 50% at sowing and 50% at elongation.

Excessive rates of 150kg of N are not economically viable, as the added yield and protein are not compensated with an adequate increase in income.

### In Summary

- 75kg/ha was optimal rate in split application at sowing and elongation.
- No statistical differences occurred between higher and lower plant populations in yield or quality. As expected, the lower plant populations of 108pl/m<sup>2</sup> yielded less with a higher protein.
- Yield response was significant, but did not increase overall gross margin as such. However the increase in protein did increase gross margin due to increase in value of grain.

### Monitoring

- A useful tool in monitoring nitrogen is through a subsoil nitrogen test. It enables your agronomist to calculate the optimum addition of Nitrogen.
- The optimum nitrogen level will maximise yield and optimize protein levels maximising potential returns
- The most advantageous timing for crop tissue tests at 3-4 leaf stage for cereal and 4-5 leaf stage for canola to check for trace element concentration to ensure deficiencies do not occur.
- Wide ranges of N levels have been evident throughout our service area over the last few months of sampling due to a range of factors including crop rotations, yield and protein levels of produce.
- It is not too late: Contact Jane in relation to subsoil N monitoring

**For the best advice on strategic and profitable nitrogen use this winter contact the professional team at Vickery Bros**

**Agronomy Team**

**Geoff Robertson 0408 794552**

**Bill Feely 0409 427963**

**Bruce Lewis 0418 746261**

**Harry Armstrong 0417 052095**

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**Depots**

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**Heywood 03 55271777**

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