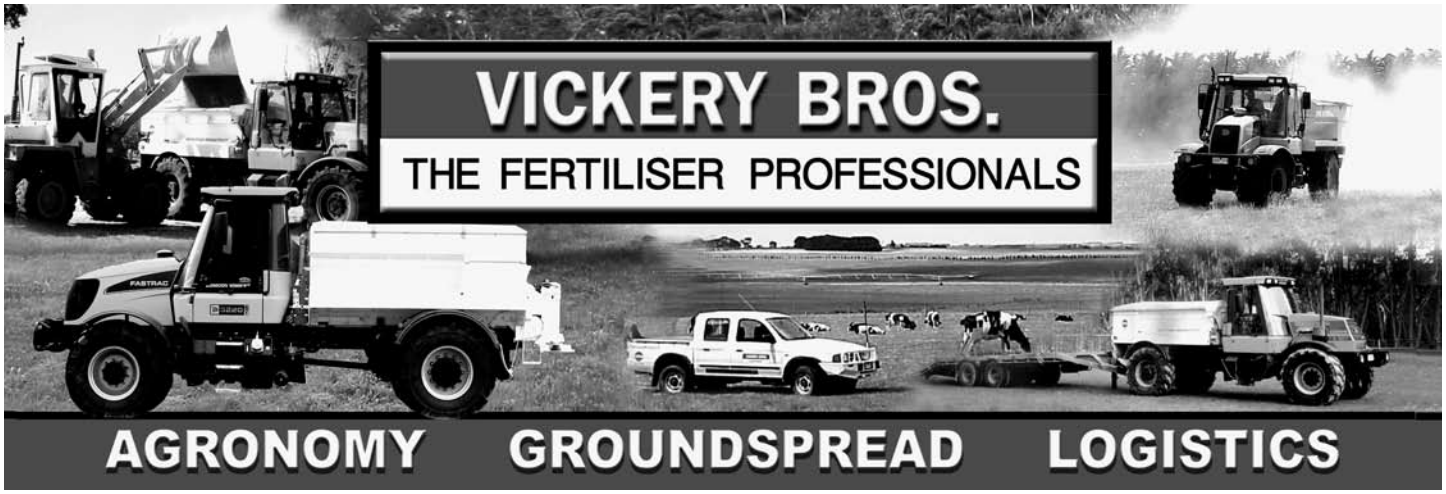


September 2007

SPRING NEWSLETTER

NITROGEN ON SPRING PASTURES.

Every day we are asked to make an assessment on the benefits of the application of nitrogen (N) on spring pastures and invariably every farm is confronted with different challenges. Within our region we have farms that have not yet received any run off to fill dams and paddocks would be considered dry, however within 30km there are farms which have been severely waterlogged for the last month. To make the decision as to the value of applied N several questions must be answered.

Do you need the extra feed?

Ideally pastures should have approximately 3000 kg of dry matter per ha by the end of the growing season to ensure adequate levels of feed over summer and the ability to maintain ground cover to prevent topsoil loss through erosion. Therefore a feed budget should be carried out based on current stocking rates and several scenarios run given adequate spring rains or a tight finish to asses the potential need for extra feed.

Will the paddock be responsive?

To achieve a good response to nitrogen the paddock should have an Olsen P of greater than 10ppm and adequate levels of other nutrients. Paddocks that have not received maintenance levels of Phosphorus this year may also require the addition of Phosphorous. Pastures with low levels of clover and a high proportion of perennial grasses will be more responsive to applied nitrogen. Adequate rainfall for at least six weeks after the application of N is required for optimum plant growth.

Value of extra feed grown vs. bought in feed

The application of N should be costed against the purchase of supplementary feed to judge the response required to nitrogen to provide Energy economically.

Table 1. Comparison of Energy costs in Extra pasture grown with Nitrogen vs. Hay and Barley.

	Cost of Applied N		Early Summer	Extra Energy	Cost per MJ ME
Pasture	$1.40/ kg N	1:10 response	8 MJME/kg DM	80 MJME	1.8 cents
		1:15 response		120 MJME	1.2 cents
		1:20 response		160 MJME	0.9 cents
		88%DM			**Cost per MJ ME**
Hay	$200/t	$227/t DM	9.5 MJME/ kg DM	9500 MJME	2.3 cents
	$250/t	$284/t DM			3.0 cents
		90% DM			**Cost per MJ ME**
Barley	$300/t	$333/t	12 MJME/ kg DM	12000 MJME	2.8 cents
	$350/t	$389			3.2 cents

Note grazing management and feeding technique will vary utilisation of pasture and supplementary feed.

So the final desion as to the benefits of applied N this spring come down to your assessment of the risk associated with the potential for another tight Spring and empty hay sheds on most farms.

Contents:

HAY AND SILAGE PRODUCTION

By Geoff Robertson

The recent drought conditions which impacted on most of Australian agriculture highlighted the value of adequate on farm reserves of quality fodder. As spring approaches farmers should therefore be assessing the quantity and quality of conserved fodder required for the coming year and for a potential drought reserve.

A decision can then be made as to how much needs to be produced on farm and what amount will need to be bought in.

Soil Fertility:

Tough conditions financially over the past two years have meant that some paddocks have been receiving less than sustainable levels of plant nutrient. Therefore paddocks that are being considered for fodder conservation should be soil tested to check that there is adequate soil fertility to ensure that enough good quality pasture is produced for harvest.

Target Soil Nutrient Levels:

Soil Levels	Range
Phosphorus Olsen(P) mg/kg	15 – 20
Available Potassium (K) mg/kg	125 – 250
Available Sulphur KCL(S) mg/kg	10 – 25
pH Water	6
Aluminium	< 5%
Calcium	65 – 85%
Magnesium	6 – 18%
Sodium	< 6%
Potassium	0.4 – 0.5 meq

Nutrient Removal:

Fodder production removes a significant amount of nutrient from soil reserves. This nutrient should be replaced to ensure the continued vigour of pastures.

	N	P	K	S	Ca
Kg of nutrient removed (kg/ton) by Pasture Hay	30	3	15	2	15
Kg of nutrient removed by a 5 ton per ha Pasture Hay crop	150	15	75	10	75

Also pastures that are cut for hay regularly, not only suffer from low potassium levels but the high removal of calcium acidifies the soil, increasing soil aluminium levels requiring the application of lime.

Plant nitrogen requirements can be met through the application of nitrogen as "boostas", it is also important that the legume component of pasture is fixing adequate levels of nitrogen to contribute to total pasture needs. Plant tissue tests can be carried out to ensure adequate trace elements, particularly Molybdenum are available.

Fertiliser Program:

The following table outlines a "typical" fertiliser program that will supply the pasture with the required nutrients to achieve a sustainable fodder conservation program.

		N	P	K	S
Autumn	200 kg/ha Super Potash 1:1		9	50	11
Spring	150 kg/ha Hayboosta	18	7	35	7
Total		18	16	85	18

Please note as conditions will vary on all farms a specific program will take into consideration a range of factors such as.

- Current nutrient status
- Pasture or crop type
- Target yield
- Future use of paddock
- Potential for grass tetany problems

SUMMER CROP SOWING OPTION

By James Stewart

This winter we have seen an increase in deficiency of particular Potassium and Copper in pastures and crops. Partly due to the wetter winter (finally) and also due to the financial constraints of the last two years, which has meant that most farms have received less than maintenance applications of nutrient.

Planning for next years fertiliser program should start now. A good nutrient monitoring program involves both soil and tissue testing. The results of which allow you to make a more informed decision when balancing the soils requirements and the farm budget.

Soil testing provides the levels of nutrient available to the plant as well as an indiction of the potential limiters to plant growth such as high aluminium levels.

Tissue testing gives a reliable guide to the level of trace elements in pastures and crops. The most commonly detected deficiency in pastures in our region are Copper (Cu) and Molybdenum (Mo), responses to applied Mo in these situations can be quite dramatic. Poor clover growth when all other nutrients are in ample supply can be an indicator of low Mo levels. Pastures low in Mo can also be adversely affected by poor clover nodulation. Grazing management and many other factors also affect clover content, so confirm any suspicions you have with a reliable tissue test.

Spring is also the ideal time to assess things such as clover content. An assessment of individual paddock performance and species composition at the time of soil and tissue testing, allows for planning of future pasture improvement. This can range from changes in grazing management, chemical manipulation such as spray topping through to a full blown renovation.

Using tests from accredited and certified testing laboratories gives producers and advisers the confidence to predict responses to applied nutrients. There are soil testing labs around that only have ASPAC (Australian Soil and Plant Analysis Council) accreditation, but not that many that are both ASPAC as well as NATA (National Association of Testing Authorities) accredited. **Always insist your samples are sent to a lab with both ASPAC and NATA accreditation.**

ASSESSING WINTER FEED STRATEGIES

By Harry Armstrong

Maximising winter feed production has to be planned well in advance. The best approach is to defer grazing during autumn by implementing some containment feeding areas. Removing livestock from these areas at this time allows autumn feed to get away sufficiently to create a feed wedge. Nitrogen applied to these saved paddocks during May or June can give us significant extra DM production. Any extra feed we can grow at this time of year is of immense value to most livestock enterprises. For example, the benefits of having 1500kg/ha DM for twin bearing ewes to lamb on in July are well documented in local trial work such as Lifetime Wool Production.

Urea and Gibberellic Acid

A few of our clients used Gibberellic Acid (GA) strategically in winter 2006 and reported good growth responses in a particularly difficult season. Vickery Bros are vitally interested in any product or management tool that can increase growth rates in winter pastures.

With this in mind we set up 9 trial sites across the region.

Trial sites were located at:

- Gorae: Annual Ryegrass/Cocksfoot.
- Mt Richmond: Perennial Ryegrass/White Clover
- Grassdale: Ryegrass pasture.
- Coleraine: 3 trials which included Phalaris/Sub Clover, Fescue/Sub Clover, and Ryegrass/Sub Clover.
- Wando Vale: 2 trials included plantain as well as Ryegrass/Sub clover.
- Macarthur: 1 trail containing Phalaris and Sub Clover.

Five treatments were included on all these trail plots which included:

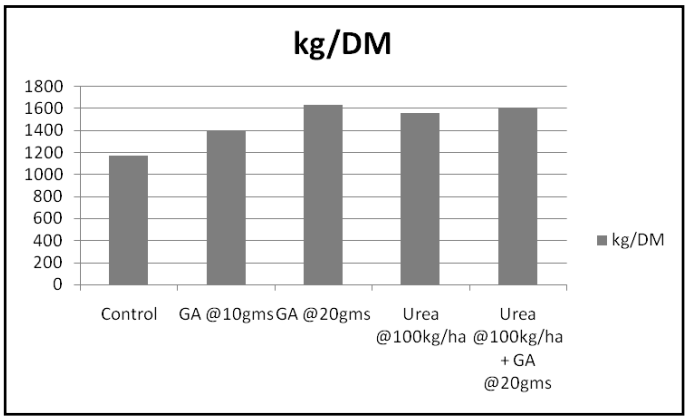
- Control
- Urea @ 100kg/ha
- GA @10g/ha
- GA @ 20g/ha
- Urea @ 100kg/ha combined with 20g/ha of GA.

Each treatment was replicated 3 times. (i.e. 15 treatments per trial)

Summary and observations of trial sites:

GA alters the growth habit of plants, particularly phalaris, cocksfoot and sub clover. It makes these plants much more erect, which creates a striking visual effect. Dry matter cuts were taken from all the plots 3 weeks after application. Our original visual assessment of the trial plots containing phalaris and sub clover was that the GA treated plots contained considerably more dry matter than those that did not. However this was not the case when we compared and analysed the dry matter cuts.

Below is a bar graph showing the combined results of all our trail plots with GA and Urea. Figures shown in the graph are an overall percentage of all pasture species on all plots.



While there were trends evident, and most treatments produced more dry matter than the controls, there was no significant difference between any of the treatments.

This doesn't mean GA doesn't work. What it means is we were unable to measure significant dry matter increases from the trials we did this season.

More trial work needs to be done with GA.

- Does it influence feed quality?
- What effect does it have on spring production?
- Is there any effect on pasture persistence?
- Can it be applied more than once?

Any tool growers can utilize to push more feed out of their pasture systems is worthy of close scrutiny. GA is not being promoted as an alternative to nitrogen, but more of an extra tool to be used in conjunction with well fertilised and managed pastures and crops.

Summary of Strategies for growing winter pasture:

- Ensure optimum soil fertility for rainfall and soil type.
- Make sure there are adequate nitrogen responsive species present in pasture.
- Control weeds and harmful insects.
- Continue supplementary feeding and deferred grazing after the break to achieve at least 1000kg/DM/ha.
- Capitalize on high soil temperature in May with strategic use of nitrogen.
- Opportunity to use Gibberellic Acid in June/July if pasture too short to gain adequate nitrogen response.

BROADCAST SOWING FOR SUMMER CROPS

Vickery Bros. have been successfully mixing Brassica and Turnip seed with fertiliser and sowing fodder crops for clients for some time now. If you bring your seed to our depot we will mix it with the appropriate fertiliser and spread the crop in one pass.

This service clearly reduces cost and is a major time saver for growers.

Best results are still obtained if seed and fertiliser are sown with an accurate drill at the correct depth into an adequately prepared seed bed, but many good crops are successfully established by spreading seed and fertiliser in one pass.

Rolling post sowing to ensure good seed soil contact is essential for both drill sown and broadcast crops.

Contact the professional team at Vickery Bros.
Making it easy to grow more grass.

Agronomy Team

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Jane Wilkinson	0437 752707
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Depots

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Heywood	03 55271777
Edenhope	03 55851975

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