

January 2007

SUMMER NEWSLETTER



By Geoff Robertson

The tough conditions are certainly being felt by all rural businesses and we at Vickery Bros are no different. Failed crops have meant no grain cartage for our fleet of trucks and trailers and reduced spreading work in late spring.

However there has still been some opportunities for other work. Water restrictions in Melbourne have meant a dramatic increase in demand for garden mulch and we have been able to secure some freight taking compost and mulch to Melbourne. The boom in mining also sees one of our trucks currently employed in Whyalla operating 24hrs a day carting iron ore. These small opportunities will enable us to keep our drivers employed, ensuring we have reliable and trained staff available when the summer spreading program starts.

Reduced stock numbers on most farms and the high price of replacement stock after the break; means looking at various ways to make up the shortfall. Running lower stocking rates may seem easier but understocking will mean a reduction in potential profit.

Other options maybe:

- Maximise lamb numbers
- Ensure ewes are at least fatscore 3 by joining
- Use of fertility products such as "Ovastim" to increase the incidence of twins
- Crop well drained paddocks (we may just have a wet winter).
- Cut early silage. (Hay and grain will remain in short supply through winter).
- Improve the quality of pasture species by planning paddocks for winter cleaning.

As everyone's financial resources are extremely stretched any changes in farm business strategy should not be undertaken until fully researched and the risks understood. Our agronomy team have a wealth of practical information and are ready to not only assist you in making the right fertiliser decision but are also able to provide input into broader enterprise strategies.

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The future profitability of your farming business is driven by the management decisions that are being made today. The failed spring and shortage of stock water means most properties will have sold surplus stock and be well into a supplementary feeding program. Management must now focus on the opportunities for your business during and after the break. This newsletter reinforces the pasture and stock management required to have your key resources in the condition required to be productive after the break.

Take delivery of your fertiliser in *January to:*

- *Save on low analysis and high analysis fertiliser and fertiliser blends*
- *Have the option of deferring payment till the end of April*
- *Know that your soils are ready to grow grass after the break*

PLANNING AND OPPORTUNITIES



*By Bruce Lewis
Agronomist*

The aim of a drought management strategy is to maintain livestock in reasonable order to maintain production while ensuring the soil and pastures are protected to enable rapid recovery after the break. Reasonable order for optimum production for breeding ewes will mean a condition score of 3. A condition score of 2 would be adequate for dry sheep. There are three major strategic options to consider during a feed shortage; to sell, to agist or to feed. Wethers, culls, and then old breeders should be the order of selling. Agistment is often the cheapest option if it can be found. The practical option for most farmers will be in paddock feeding and possibly followed by confinement feeding to protect soil and pastures from overgrazing.

To Feed or Sell?

Often the first decision is what stock to feed and what to sell. This decision can be both economic and what is personally achievable for work and stress limits. An analysis of feeding breeding ewes to maintain production levels shows that it is worthwhile. Analysis of keeping dry sheep is much more marginal.

The aim of supplementary feeding is to feed as little as possible to achieve the required production from the livestock. To achieve this livestock need to utilise as much paddock dry feed as possible without causing degradation to the soil or pasture. The type and level of feeding will influence the utilisation of paddock feed. Once paddocks bare out stock will need to be contained and fed in containment areas to prevent soil and pasture damage.



Confinement Feeding

- A site should be selected that is convenient to yards, silos and a water source.
- Hard clay or loamy soils will be more stable plus a site with slope and drainage that is protected from prevailing winds.
- Minimum space for adult sheep is 2 – 5 sq.m per head.
- A maximum mob size of 500 is preferable.
- Feed troughing is necessary to prevent wastage and animal health problems. Troughing can be made from second hand roofing iron, folding galvanized iron, belt matting, shade cloth etc.
- A guaranteed supply of good quality water is essential in a confinement feeding system. Dams should be fenced out of the containment area and stock watered in troughs.

- Some sheep become poor doers in confinement feeding systems because they cannot compete well for feed. It is better to feed large amounts less often (twice weekly) than small amounts regularly to minimise dominant sheep consuming more than their share.
- Feeding hay the day before grain will help prevent acidosis.
- Introducing grain slowly in the paddock prior to confinement will help prevent acidosis. This is particularly important with high starch grains like wheat.

Feed Sources

Energy is the dominant need for maintaining livestock; hence feed should be compared on an energy basis to determine the least cost source. Energy in feed is measured as megajoules of metabolisable energy per kg of drymatter. Grains are the most readily available, and usually the best value feed in this district. Protein is usually adequate for mature sheep in cereal grains. Growing young stock may need additional protein added to the diet. Some fibre (hay or barley straw) should be fed to maintain rumen function. Salt and stock lime should be fed to sheep on grain rations for extended periods.

Total drought rations for sheep

Stock Class	Energy requirement MJ/week	Minimum crude protein	Feed	Ration kg/head/week
Adult Sheep 40kg	42	6	Wheat or	3.5
			Oats or	4
			good Hay	5
Adult Sheep 60kg	57	6	Wheat or	4.8
			Oats or	5.7
			good Hay	7
Lambs	35	12	Wheat or	2
			Oats plus	2.3
			good Hay	3

Reference: Drought Feeding and management of sheep – DPI Victoria

When will it rain again?

The Bureau of Meteorology predict a 50:50 chance of above average rainfall for November 06 to January 07. Analysis of past El Nino events by the Bureau indicate a higher than 50:50 chance of higher than average rainfall for the March to May period following an El Nino event. Hopefully this will mean a good autumn break in 2007.

After the Break?

- Most stock losses occur after the break.
- Maintain feeding for 2 to 3 weeks after the break until pastures achieve sufficient leaf area to optimise pasture growth.
- Conditions in the containment area will most likely become to wet and boggy after the break so sheep will need to be released to a small paddock while maintaining feeding until soils dry out to reduce bogging.
- If stocking rates are reduced due to destocking and a favourable break is received cropping or stock purchases may be required to optimise production.

References

Drought Feeding and Management of Sheep – DPI Victoria
Feeding and Managing Sheep in Dry Times – Dept. Agriculture W.A.

IS IT WORTH KEEPING SHEEP?

Type of Sheep	Adult merino ewes early pregnancy XB Ram				
Situation	Fully hand fed a minimum ration				
Feed Costs					
Per week	2.5kg barley	x	\$0.31	=	\$0.78
	1kg hay	x	\$0.23	=	\$0.23
	1.50% stock lime	x	\$0.48	=	\$0.03
	0.50% salt	x	\$0.33	=	\$0.006
	TOTAL				\$1.04
Feeding 1st Dec to 1st May					
	5 weeks	x 1/3 ration	\$0.34	=	\$1.72
	17 weeks	x full ration	\$1.04	=	\$17.61
Total Feed Costs					\$19.34
Variable Costs					\$14.00
Income					
Wool	5 kg	x	\$5.00	=	\$25.00
Lambs	85%	x	\$68.00	=	\$57.80
Total Income					\$82.80
Return on Labour and Risk					
Income					\$82.80
Feed costs					\$19.34
Variable costs					\$14.00
RETURN					\$49.46

Assumptions

Feed, labour and water are available

Rams are available

Adequate paddock feed is available by 1st May

Sheep are strong and healthy at the start (culls have been removed)

Ewes enter late pregnancy after 1st May

Reference:

Adapted from Drought presentation 2006 by Brian Ashton PIRSA SA.

FEED GRAIN, FODDER ALTERNATIVES AND PROTEIN SUPPLEMENTS

Low grain yields and damaging frosts this season mean a much tighter grain supply, we do however have access to some wheat and barley stored from last year and are able to deliver stock pellets from Heywood stock feeds.

For those mixing rations or wishing to supplement low protein roughage we can supply Soy Bean Meal with a typical analysis of Protein 48% and 14.9 MJ/M.E /kg of DM. By mid January as hay supplies dwindle we will have available Palm Kernel Meal, typical analysis is Protein 16% and 10.5 MJ /M.E/kg of DM, this product has been used successfully in New Zealand to form part or all of a maintenance ration for dairy cattle it should therefore suit beef cattle and could provide an alternative feed source for mature ewes and wethers.

Products will be available in bulk loads direct to farm or as smaller lots Ex. Coleraine Depot.

For further information on products and pricing on freight contact Jake at the Coleraine office on 03 55752777.

Water Carting

Vickery Bros. now have a 30,000 litre tri-axle water tanker, suitable for carting stock water.

Reduce evaporation by consolidating stock water in to key dams now.

Contact the Coleraine Office on
03 5575 2777

LEAVING PHOSPHORUS OFF PASTURES



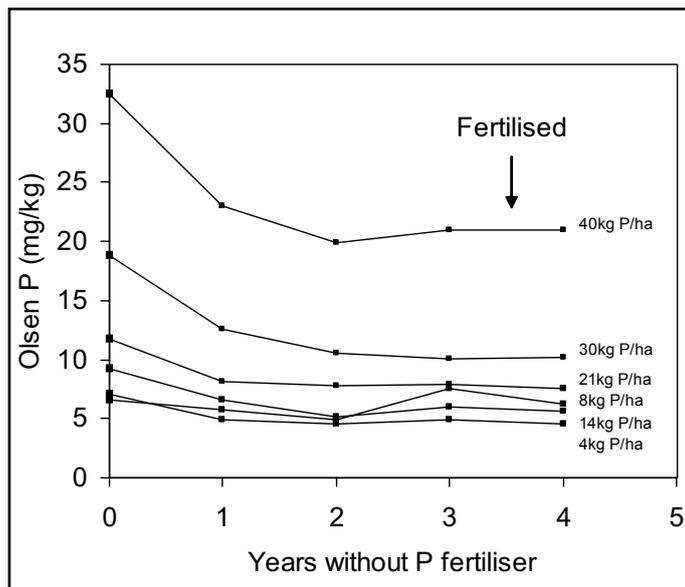
By *Harry Armstrong*
Sales Agronomist

Perennial based beef and sheep pastures in this region require a phosphorus level (Olsen P) in the soil of at least 12-15mg/kg to achieve profitable stocking rates. If the Olsen P is less than 10mg/kg stocking rates will need to be reduced and perennial pastures tend to be much less productive with desirable species failing to persist.

So what happens when we leave phosphorus fertiliser off pastures?

On the Long Term Phosphate Experiment (LTPE) at DPI Hamilton, plots received fertiliser in 1979, 1980, 1981, 1982 and 1984 then no fertiliser in 1985, 1986 and 1987. Plots were again fertilised in 1988.

The graph below plots what happened to Olsen P levels when fertiliser was left off this trial for 3 years. Most losses occurred in year 1 with further losses in year 2 then stabilising in year 3. As you can see from the graph the only plot that remained at a level well above the optimum Olsen P of 15mg/kg was the one that had been receiving 40kg P/ha each year. Even in the plots receiving 30kg P/ha each year the Olsen P fell to around 11mg/kg after 2 years of having no phosphorus applied. The least affected plots were those where low levels of phosphorus had been applied and had correspondingly low Olsen P levels. Surprisingly when phosphorus was again applied to all plots in 1988 (year 4), Olsen P did not increase significantly. It wasn't until 1990 that nutrient levels returned to pre 1985 levels.



Reference: Malcolm McCaskill. Long Term Phosphate Experiment. DPI Hamilton

In tough seasons such as this one, with most grazing enterprises having to spend large amounts on bought in feed, producers are understandably looking for any opportunity to reduce costs. Livestock owners could quite easily get trapped into a vicious cycle of not applying fertiliser, growing less feed when it does rain and then becoming more reliant on grain feeding.



The impact of reducing fertiliser inputs should be carefully scrutinized. What may seem a feasible solution to a short term cash flow crisis may have long term ramifications when it comes to the ongoing productivity of pastures.

If we are forced to reduce expenditure on nutrients then it is vital that we make the cuts where it will have the least impact on our ability to quickly bounce back when the drought inevitably ends.

Evidence from the LTPE (see graph) at DPI indicates clearly that leaving fertiliser off lower fertility areas had much less impact on Olsen P than when phosphorus was left off areas which had higher fertility and better fertiliser history.

Leaving fertiliser off areas that are known to have low fertility and poor fertiliser history and giving preference to pastures with desirable species and better fertility will maximize growth and profitability post drought.

Soil testing now can easily identify these high and low fertility areas on your farm.

Stock are best kept off our better pastures during drought times and fed in sacrifice paddocks or containment areas until well after the autumn break comes. (See separate article on containment areas).

Deferred Payment for Early Delivery of Lime

To help us get a start to the spreading season we will again defer the cost of lime that is supplied, carted and spread in January till the end of April 2007 at no cost.

This ensures the lime will be on the paddock in time for the break and beats the price rise.

For further information on lime applications ring any of the agronomy team or:

Coleraine Office on
03 5575 2777

Heywood Office on
03 5527 1777

GRAZING SUMMER PASTURES



*By Bill Feely
Sales Agronomist*

The drought and dry period that has evolved over the last 3-4 years has certainly placed immense pressure on pastures and pasture management. Therefore it is vital that a procedure is in place to help get our pastures back on track or positioned ready to go immediately after the break.

Prioritise your paddocks from best to worst.

Follow basic criteria regarding pasture management to ensure that the better pastures are properly catered for and the poorer ones are either set up for resowing or chemical renovation.

Better pastures:

Those with a high proportion of perennial pasture species, have been recently resown, renovated or topped up should be rotationally grazed over summer with a grazing interval of 40 to 50 days. It is important to leave at least 70 % ground cover and 100% on steep country so as to maintain and increase litter levels to prevent soil erosion. To threaten these pastures through over grazing would be folly as these are the ones that will respond quickest after the break. As they have the highest potential for growth in the coming season adequate nutrient must be applied to ensure soil fertility levels are maintained.

In particular paddocks cut for silage, and if fortunate enough, hay and having southern aspects may have some reasonable regrowth, so be mindful not to graze these too hard as it will undoubtedly affect persistence. Again nutrient and particularly potassium must be replaced to ensure these paddocks perform at their peak after the break particularly if hay or silage has been sold off farm.

Poorer pastures

As the summer progresses and paddocks become bare, stock can be moved into sacrifice paddocks or more intensively stocked, stock containment areas (SCA's).

Paddocks with poorer pastures and low fertility can be used as sacrifice paddocks, the high concentration of nutrient particularly potash from imported fodder in these areas mean they will be ideal to be cropped or sown down to an annual that will provide quick winter feed, taken off for silage and summer cropped next spring. The high levels of imported potash could however increase the potential for animal health issues, such as grass tetany and milk fever.

With regards to specific perennial grass species the following guidelines should be adhered to as closely as possible to ensure profitable pastures after the break.

Perennial Ryegrass

Due to its shallow root system ryegrass is most affected by moisture stress and pastures must be grazed lightly. Perennial ryegrass

survives dry summers via dormant tillers. Hard grazing of these tillers is extremely detrimental to new tillers and can kill them and the plant. By not grazing these daughter tillers they have the opportunity to build up plant sugar reserves. False seasonal breaks such as thunderstorms cause these buds to break their dormancy. So it is imperative that they are not subject to over grazing where they are likely to use up or deplete these plant sugar levels.

Ryegrass, like all perennial grasses rely primarily on survival of existing plants for their persistence as re-establishment from seed is difficult and slow. Severe drought conditions can induce complete plant dormancy.

Ideally maintain ryegrass pastures at above 800-1000 kg/DM/ha (2-3cm) and reduce the stocking rates before paddocks turn to bare ground. Try leaving some residual plant material as groundcover so as to prevent these plant buds/tillers from drying out.

Cocksfoot

Similar grazing regime as perennial ryegrass in that don't go below 800-1000 kg/DM/ha (2-3cm).

Cocksfoot is a very hardy plant provided it is managed correctly. Over the years it has received some bad press due to its poor palatability and nutritive value however with these continuing dry seasons its became a viable alternative in permanent pasture mixes in lighter type soils and lower rainfall areas where it has proven to be more persistent than perennial ryegrass.

Phalaris

As mentioned before with respect to the other perennial grasses the minimum level of residual pasture is 1000 kg DM/ha (3cm) this will prevent plant crowns from being exposed and will assist in plant survival over the dry period. Hard and continual grazing of phalaris will destroy the dormancy buds so it is important to leave litter there to protect them.



Tall Fescue

Along with perennial ryegrass tall fescue needs to be treated with kid gloves. The desired level of residual pasture for tall fescue is once again around 1000 kg DM/ha (3 cm). Winter active fescues remain very dormant over summer and do not respond to summer rainfall like summer active types do, therefore they are not subjected to the grazing pressures that can deplete their drought reserves. Care still needs to be taken with these winter active varieties especially with recently sown paddocks. There undoubtedly will be some pastures that contain the continental or summer active varieties and these pastures are a chance to be utilised. Once again don't graze too hard.

Post Drought Pasture Renovation

Once the break has occurred there will be great demand to get feed happening. The sacrifice paddocks will be the priority. The most efficient and effective scenario would be the sowing down of Italian or annual ryegrass in these sacrifice paddocks. These annual grass areas will provide quick winter feed with the opportunity to cut silage and or hay next spring and could then be put into summer crop.

Alternatively if you wanted to sow some of the sacrifice paddocks to a short term pasture i.e. 2-4 years production a mixture of hybrid and annual grasses is feasible. In a short term mixture of this nature the hybrid would make up 75% and the annual would be 25%. Hybrids used could be Crusader, Feast, Maverick plus an annual such as Tetila, Hulk or Sonik just to name a few. The biggest issue here will be the actual seed cost, so make sure you do your sums. Tetila in relation to other annuals should be reasonably priced so that may be the cornerstone of the sowing program for the upcoming season. The actual cost of sowing all perennials may well be prohibitive so sowing short term varieties may be the better option. The option of tetraploids and other short term type grasses is further validated in that their response to nitrogen, when compared to perennials, is dramatic.

The sowing of perennials could be an option by mainly focusing on areas where the soil moisture profile is adequate. Otherwise plants are unlikely to persist through the first summer. However as soil moisture profiles improve across the farm after the drought you can plant other areas to perennials. The amount of nutrient distributed in the sacrifice paddocks legacy of the stock and the supplements fed out should fulfil initial sowing requirements.

Another option could be to sow a winter fodder crop such as Winfred with a Tetila type annual grass that will provide good winter production especially with the addition of nitrogen.

The use of cereals could be considered, however this will be subject to the cost of seed. Poor yields in the cropping areas means seed cost could be high. However if a sacrifice paddock has a history of Onion Grass then a cereal could be used enabling the paddock to be cleaned up with Glean and then cut for hay or grazed. Then next season the paddock is set up for sowing a permanent pasture.

Weeds

The introduction of hay from off farm to supplement livestock will no doubt bring with it the opportunity for weeds to emerge, so this will have to be acted upon. Ideally the hay would be spread on SCA or sacrifice paddocks where any weed issues can be monitored and contained.

With the possibility of overgrazing and bare ground occurring in some paddocks the emergence of annual grasses such as Silver Grass and Barley Grass will be inevitable. These annual grass weed can best be controlled by winter cleaning with Simazine and Sprayseed or alternatively spraytopping and hard grazing in spring.

Broadleaf weeds such as Capeweed and Chickweed could also invade bare areas so spraying these weeds in autumn will be required.

Summary

The effects of a drought on pastures are many, but by adhering to a few management principles the consequences may not be so severe. Deferring grazing on our better carrying pastures is crucial to have them in place and growing after the break. These are the pastures that are going to make you money, so manage and feed them accordingly. With regards to the sacrifice paddocks work out how many you can afford to sow down and categorize them into annual, short term or cereals. The determinant as to which way you swing will be the cost of seed, so whatever produces the most cost effective feed will be the preferred option.

The monitoring of weeds will be important so that they don't get a foothold that will in the long term be a costly problem to eradicate. Overall the situation is a tough one but by sticking to a few basic principles there is light at the end of the tunnel.

TIME FOR LIME!

By Harry Armstrong

Insufficient water for livestock and a failed spring have reduced stock numbers in many areas. Opportunity cropping can be a worthwhile alternative for many farmers faced with lower than normal livestock numbers and the need to replenish cash reserves as quickly as possible.

Cropping in our high rainfall zone can be very profitable, but as with any enterprise it requires confidence and careful planning to be successful.

Lime applied at the beginning of a cropping program can provide significant yield increases but also delivers long term benefits for pastures sown at the end of the cropping phase.

Yield improvements of 20% have been recorded in canola crops that have been limed.

While a crop rotation can be used to finance lime application and pasture establishment, lime can also improve the nutrient uptake and competitive ability of the crop and pasture. The effectiveness of crop rotations for reducing the weed seed bank depends on maintaining good weed control during each phase of the crop rotation.

A long term pasture improvement program requires lime and fertiliser to improve soil fertility. It requires ongoing management to maintain high productivity and persistence of the sown perennial pasture, which also includes; grazing management, weed control and ongoing fertiliser application.

See separate article on discounts and deferred payment options for lime spread in January 2007.

NITROGEN FOR SUMMER CROPS

By Harry Armstrong

We may well be in a dry spell but rain can fall at any time. Summer crop yields have suffered with the dry spring and insect attack. Rainfall over summer is not uncommon and those with summer crops should seriously consider applying nitrogen if significant rain does fall or if irrigation is available. If plant numbers are reasonable and soil moisture is adequate, growth responses of up to 20kg/dm for every kg/ha of applied nitrogen can be expected. Urea at 100 kg/ha (i.e. 46kg/ha of N) is the normal treatment.

Brassica crops can accumulate nitrates so plan to have some hay or a suitable run off area for stock grazing these crops. It should be noted that nitrate poisoning can also occur in crops that have not been topped up with nitrogen. Fodder crops are often sown on tired old pastures with little clover content and commonly suffer from lack of nitrogen. This point should not be overlooked when new pastures are sown on summer crop paddocks. We are noticing some new pastures sown after summer crops are suffering from nitrogen deficiency.

CROPPING NITROGEN



By Jane Wilkinson
Sales Agronomist

- Deep N testing is essential before sowing to determine the amount of N to be applied at sowing
- Top up N just prior to or at elongation
- Crop rotation and weed control are very important in efficient N use.

Nitrogen nutrition is the key driver of profitable grain cropping. The impact of nitrogen nutrition is important in terms of yield and protein.

There may be some temptation this cropping season to reduce nitrogen inputs in the belief that some of last years nitrogen is still in place and available for this years crop.

For those who grazed crops... most of the N consumed is returned to the soil as dung and urine, although at this time of year between 20 to 80% of N returned in urine is likely to be lost as ammonia gas.

For those that cut crops for hay... They will have removed about the same amount of nitrogen as the typical grain harvest. The table below give us a guide to nutrient removed by crops harvested for grain as against those cut for hay. Notice the difference in removal of K (potassium) between hay and grain off the same paddock. This will be of concern with the following crop or pasture.

Nutrient removed per of tonne dry matter

Wheat	N	P	K	S
Hay	20	3	15	2
Grain	21	3	5	1.5

How do we calculate soil N

Whether you prefer to estimate removal to replace product removed, or just apply the amount of nitrogen needed for the following crop, the most scientific and best estimate of soil requirement to support the projected tonnages and protein for the 2007 crop, is by performing a deep nitrogen test.

Deep nitrogen testing is an excellent measurement tool for growers to use to ensure nitrogen over use does not occur. In a year where feed costs will be high and purse (wallet) strings tight, a deep nitrogen test before sowing can indicate if it is necessary to pre drill

starter nitrogen to ensure sufficient tillering occurs in cereals.

Soil nitrogen reserves can be very crudely estimated by reviewing crop rotation, nitrogen inputs and time since an effective nitrogen fixing legume has been grown.

By quantifying the residual nitrogen from previous years, we will be able to advise you on the optimum application upfront and in-crop, therefore helping you spread risk and improve profitability.

Nitrogen Timing

Canola...

Studies indicate no difference in yield, protein and oil when comparing split to all up-front applications, though maybe wise to split application to manage risk. That is to apply a 'hit' at sowing then in crop as close to or at elongation. You may feel more comfortable with it all up front, but too much nitrogen up front can leave you with reduced oil content if the season turns out to be poor. If soil nitrogen is low, it is best not to wait until elongation to apply all nitrogen as yield penalty may have already occurred.

Cereals...

Regardless of year, split applications are usually the best bet. Generally, farmers know the best time to apply in-crop nitrogen is between Growth Stage (GS) 30-39, when the plant is in its rapid expansion phase and nitrogen demand is at its greatest. Splitting applications of nitrogen to manipulate canopy may help manage rust, reduce lodging, decrease water use, decrease screenings, increase quality and protein of the grain. GRDC researcher Graeme Jennings, reports crop stubble break down is more rapid in crops that have had adequate nitrogen as the carbon to nitrogen ratio is lower.

Other factors

To ensure an increase in gross margin, weed control is also of upmost importance. Clean paddocks ensure crops gain maximum benefit from applied nitrogen.

By effectively rotating crops, the disease burden is likely to be less, therefore ensuring optimum nutrient responses. Disease tolerant crop varieties and fungicides are another step in ensuring optimum nutrient uptake and utilisation.

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

Agronomy Team

Geoff Robertson 0408 794552
Bill Feely 0409 427963
Bruce Lewis 0418 746261
Harry Armstrong 0417 052095
Jane Wilkinson 0437 752707

Depots

Coleraine 03 55752777
Heywood 03 55271777
Edenhope 03 55851975

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