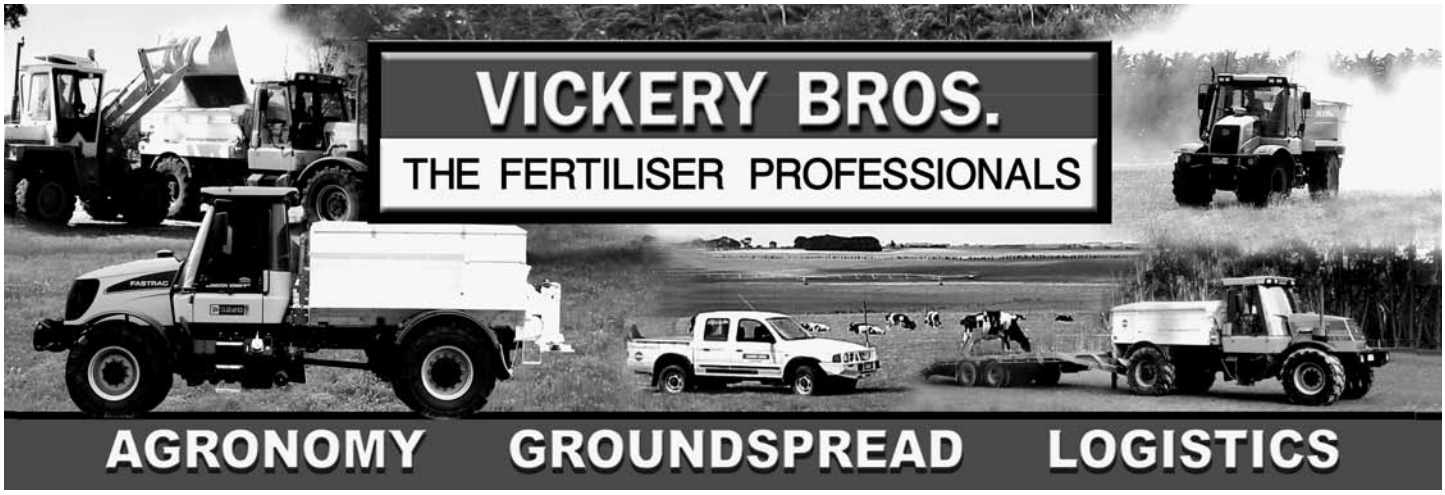


June 2008

WINTER NEWSLETTER

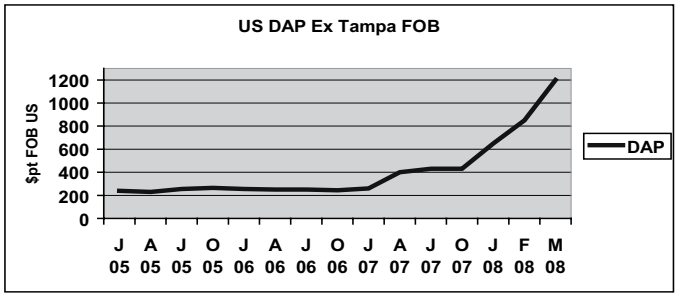
FERTILISER PRICING

By Geoff Robertson

Globally fertiliser prices have continued to climb over the last five months, to levels higher than we had anticipated. As discussed in December's newsletter the increased demand for global grains and milk protein have resulted in greater demand for nutrients to increase the productivity of agricultural production systems. The strong Australian dollar has reduced the full impact of the price rises but also makes our exports more expensive.

DAP

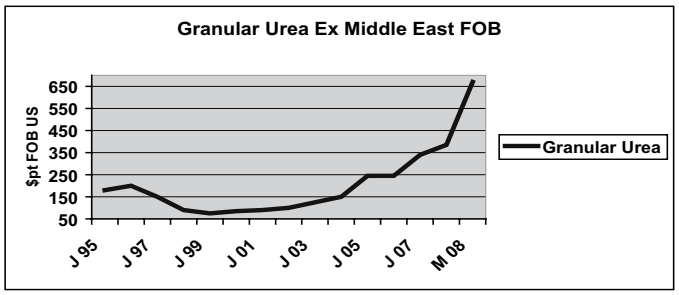
DAP has reached a high of US$1250/tonne Ex Tampa in the last month which would equate to a retail price of approximately AUS$1650/tonne. For the first time in several months the rapid increase in DAP prices globally has slowed and traded to a lower US$1150/tonne Ex Tampa on subdued demand, this may be an indication of some resistance to the high prices.



Urea

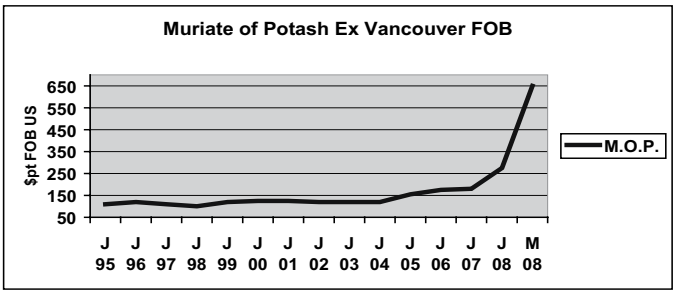
Recently the imposition of a 135% export tax on fertiliser in China, to ensure higher levels of fertiliser remained in China to ensure food production, has reduced the supply of Urea onto the global market causing a spike in nitrogen prices.

Prior to the introduction of the Chinese export tax, the market expectation was that Urea prices were softening due to a potential increase in supply from new production facilities resulting in a reduction in price in the New Year. The current Granular Urea price out of the Middle East at US$650/tonne price equates to a retail price of AUS$850 to AUS$900/tonne.



MOP

Muriate of Potash at US$650/tonne FOB equates to a retail price of AUS$900/tonne.



Pre Payment Options

Forward purchase options are available from Vickery Bros. for fertiliser prepayments made by the 27th of June 2008. Contact the Coleraine office for details.

Contents:

Productivity

Higher fertiliser and other farm input prices will continue while forward prices for grains and dairy products encourage expansion of these enterprises. It is unfortunate that sheep and cattle producers are caught in this price squeeze however, the shift of resources to the production of grain and milk may see a shortage of lamb and beef.

Reducing inputs can mean savings but can also lead to reduced production per ha, which may actually increase the price needed for produce to remain profitable. The challenge is for all producers to remain profitable in these situations by making informed decisions.

Strategies

The end of the financial year provides the opportunity for a full review of your business profitability. An assessment of the future returns for each enterprise may result in a change of enterprise mix and reallocation of land and capital.

It is important that all resources are used efficiently. Adequate soil fertility is important to achieve production goals, and the correct plant species needs to be grown to provide fodder when required. Good grazing management is needed to efficiently harvest fodder, wasted feed is expensive, and this may mean refencing areas to soil types. Using stock with good feed conversion efficiencies is important. Improved profitability is not going to come in the form of a silver bullet, but by doing things better.

PHOSPHORUS THE ESSENTIAL INGREDIENT

By James Stewart

Phosphorus (P) is one of the primary nutrients in plant production. Along with nitrogen (N) and potassium (K), it is required in large quantities by plants.

Most plants take up the bulk of their phosphorus requirement early in life, in the seedling stage of annuals and early regrowth of perennials. While phosphorus is not mobile in soils, it is one of the more mobile nutrients in plants. It is readily moved within the plant from old to young tissue. Phosphorus is required for cell division at growing points and is particularly important in stimulating root development.

P is present in every living cell, both plant and animal. Light energy which is captured by plants from photosynthesis would not support any of the necessary plant functions if compounds which contain P were not present. So it plays a vital role in plant reproduction, of which grain production is an important result. Adequate phosphorus results in higher grain production, improved crop quality, greater stalk strength and earlier crop maturity.

P is not lost into the atmosphere and rarely does it leach beyond the reach of the plants root zone. Phosphorus applied as fertiliser rarely moves any great distance in the soil without some form of physical mixing, eg. cultivation. The distance that the phosphorus front moves in the soil from fertiliser granules is rarely much more than 4 – 5cm.

Phosphorus is most available for uptake by plants in the pH range of 6.5 – 7.5. At pH levels below 5.5, slowly soluble oxides of iron, aluminium and manganese form, reducing P availability. While at pH above 7.5, slowly soluble calcium phosphate is formed.

Plants take up P from soil solution or soil water. Soil solution is the key for plant nutrition because all phosphorus that is taken up by plants, comes from P dissolved in the soil solution (soil water). Because the amount of soluble P in the soil solution is very low it must be continually replenished by soil particles. Nearly all soils have naturally available P levels that are to low to support the needs of modern, high yielding crops without fertilization. Soil particles contain some minerals comprised of phosphorus in combination with other elements. When these minerals dissolve, P is released into soil solution much like sodium (Na) is released when salt is added to water. However P minerals are less soluble and dissolve very slowly.

Soil organic matter is another source of P for plants, but this P is not available until soil microbes break the organic matter down into simple nutrients that roots can take up. The speed of this breakdown is affected by soil temperature, moisture, soil pH and the supply of oxygen.

The only significant input of phosphorus for crop production is commercial fertiliser. P fertiliser is manufactured from naturally occurring mineral deposits of rock phosphate. These minerals have very low water soluble P content and are poor sources of P for plants until they are further processed into P fertilisers. Fertiliser P is used to increase the amount of P in the soil to the point where P demands by crop plants can be met. P removed in grain, forages, meat, milk and wool must be replaced or soil fertility and productivity will decline. The consequence of not balancing the nutrient budget is a certain decline in productivity. This decline may not be noticed for several years in a fertile soil because soil particles act as a P reservoir. However, the eventual result is poorer plant growth and declining production.

Due to the many vital plant functions influenced by P, crop yield losses can occur even though no distinctive deficiency symptoms are present, a condition referred to as “hidden hunger”. Crops suffering from hidden hunger will use available water less efficiently and be more susceptible to yield and quality depressing diseases.

They also tend to take longer to mature, are more susceptible to cold temperatures, and have lower nutritional value. Visual deficiency symptoms include slow emergence and growth of annual crops. Plants look stunted and spindly, cereals tiller poorly. Plants can look an off-green colour (often dark, not light green or yellowish). Leaves can display purplish veins and purplish petioles.

Another factor to consider is the positive effect phosphorus has on root growth. Any factor that affects root growth will affect the ability of plants to explore more soil and access any other available nutrients. Soil compaction, herbicide root injury, and

insects feeding on roots can all dramatically reduce the ability of the plant to get adequate phosphorus. Young seedlings can suffer from phosphorus deficiency even in soils with high available P levels because they have limited root systems that are growing very slowly in cold, wet, early season soil conditions. This is why crops respond well to phosphorus applied at planting.

In summarising phosphorus is a vital component in the process of converting the sun's energy into usable forms for the production of food and fibre. Fertiliser P is an essential ingredient in agriculture if the productive capacity of the system is to be sustained or improved. Crops supplied with adequate P are more efficient and more profitable. Vigorous, healthy growth allows for quicker closing of the crop canopy, which serves as an umbrella to protect soil moisture and reduce erosion. This increases the efficiency of fertiliser N utilization which will support profitable yields.

EVERGRAZE — MORE LIVESTOCK FROM PERENNIALS

By Jane Tosetti (formerly Wilkinson)
Sales Agronomist

If you haven't heard of EverGraze… then it about time you did. It is a Future Farm Industries, MLA and AWI research and delivery partnership which aims to develop new farming systems in different environments across the high rainfall zone of Southern Australia. The target is to increase profits of sheep and cattle enterprises by up to by 50% by using summer active perennial species and management systems, hence reducing the need for supplements. The DPI Hamilton has one of the six proof sites dotted around Australia.

Supporting sites aim to allow producers to get involved by trialing the research on a commercial scale hoping for an increased rate of adoption and awareness within the group. Vickery Bros is working in collaboration with the Cavendish Fertiliser Group on a supporting site a few km east of Cavendish, where we aim to increase profitability by up to 50% on a lucerne paddock when compared to a poorer pasture on the property. We will be holding field days late this year or early next year… Stay tuned.

The recent 'Lucerne and Chicory Field Day'

From Personal Experience

On the 28th of March the DPI held a field day at Don Price's property 'Linden' just north of Cavendish. The aim of the day was to demonstrate to farmers how successful lucerne and or chicory can be in the district.

Don rationalized his choice of sowing lucerne by the quantity and quality of the green feed he gained from this species over the year. He was able to make one to two silage or hay cuts a year on top of grazing. Don explained the chicory seemed to balance the diet of the lambs he was using to graze the stands. Where he has pure stands of lucerne he drills in annual ryegrasses to thicken up the lucerne to increase the dry matter production for silage.

Don sows a cereal in the year prior to sowing lucerne. This enables him to clean up weeds that may be a problem. The stubble hasn't seemed to be a problem in lucerne seedling emergence.

An Advisor's View

Dion Borg quickly gave the group a run down on what to do to ensure good emergence, establishment and persistence.

Local farmers attending Evergraze trial site at Cavendish

The key is to soil test to really know what you are working with. Soil tests may indicate a need for lime as the pH needs to be above 4.7 CaCl and the aluminum needs to be below 15mg/kg. It is very important to buy rhizobium inoculated seed and ensure molybdenum levels are adequate to help the rhizobium fix nitrogen. (See separate article on molybdenum)

Dion then moved to chicory which among other useful pieces of information suggesting it is able to handle a pH of as low as 4.4 CaCl. A word of warning. If you typically use a copper bolus to ensure adequate amounts for good weight gain, don't use them in the animals you intended to graze on chicory. Chicory is extremely efficient at extracting copper from the soil and may cause toxicity, and in the worse case death.

Questions from the group

A question was asked on the day if it was possible to 'thicken up' a stand of lucerne if plants per metre squared were low. It seems an allelopathic reaction occurs 18 months after seeding. If it is desirable to 'thicken up' or re-sow, it must be done before that 12-18 months of age mark, or wait until 1 year after the lucerne has been removed if trying to over sow with lucerne. Allelopathy doesn't seem to have any effect on other species such as chicory, ryegrass crops etc. It was also asked why Don didn't graze the lucerne 'right down'. Michael Grant from Stephens Pasture Seeds suggested it is better not to graze lower than 5cm of height or you will compromise the life of the plant.

New Research

David Watson from Agvise presented the findings of research he and his team have been working on with pure lucerne stands. He was finding weight gain of lambs was much less, than the computer model 'Graze feed' was expecting. So in collaboration with Latrobe University they developed a feed pellet to trial against straw and another commercial feed pellet to feed ad lib on a pure lucerne stand. Preliminary results look great, but they are still waiting for carcass results before they can get really excited and look to produce the pellet on a commercial scale.

EverGraze More livestock from perennials | Department of Primary Industries

The NEXT Proof Site field day is at the DPI Research Farm Hamilton and **is on May the 16th – 10am to 3:30pm.** This would be a great opportunity to get down there and check out what the buzz it all about!!!

WEED CONTROL OPTIONS AFTER THE BREAK.

By Bill Feely

I cannot help but be impressed with the terrific sub clover strike in pastures since the opening rains. Due to this excellent start and we can only hope that it continues, the main aim for producers will be to ensure that they do everything possible to keep it. Many farmers will be keen to sow down as much new pasture as possible, given that the last few seasons have taken their toll on many paddocks. The way the sub-clover has struck it is well on its way to the 3 true leaf stage and smothering weed competition. The temptation to rip in sow and spray as much land as possible is great given the start we have had, however maybe a basic audit of paddocks to sow down and spray should done. The common denominator in regards to what and how much land should be sown down is stocking rate and feed on offer. If your stocking rate is high, will there be enough feed in the paddock plus supplementary feed over the year to warrant sowing down a percentage of the farm? In other words, can you do without the feed that would be produced from the paddock you are proposing to renovate? If not then a paddock audit would be advisable.

This audit basically prioritises which paddocks need improvement and whether it be totally renovated, selectively sprayed for broadleaf or grass weeds or left alone and strategically grazed to help eradicate weeds. Some pastures have been grubbed out to the extent that the perennial grasses are gone and sub-clover is now dominant. Pastures in this category could be direct drilled and topped up with the appropriate perennial grass species without any chemical application. There will be the situations where there is good clover but annual grass seedlings present, that would compete with the perennial grasses to be sown. In this case wait until the sub clover has reached the true 3 leaf stage and apply Sprayseed at no more than 350 mls/ha to take out the annual grass seedlings and seeing the way clover is growing at present it wont be long. Alternatively if a pasture has a good perennial grass base, full of broadleaf weed seedlings and no clover then a hit of Tigrex 300 mls/ha or Amicide 625 Low at 300 mls/ha will set the paddock up to be drilled with clovers. There will also be situations where a total knockdown will be required and should be treated accordingly. The cost of renovating pasture has probably doubled over the past year given the cost of chemical , seed and fertiliser, therefore anyway in which costs can be eased is a bonus.

The other factor to bear in mind when looking to renovate pasture is to address the weed process beforehand. This isn't done over a short

period of time, given that the weed seed banks in most pastures would be in the hundreds of kg/ha category. It is an integrated process that takes time and planning not just chemical but also strategic grazing. Producers have a mind set that once weeds are sprayed then they should be gone. This isn't the case. A portion will be taken out but due to the seed bank that has accumulated over time not all will be eradicated. An interesting point was raised by Dr David Kemp in the April 2008 edition of the Grasslands Society of Southern Australia Inc. Newsletter. In his article on weed control he mentions the use of chemicals as second or third option to eradicate weeds. He believes that a combination of addressing the weeds fertility requirements, growth stage and susceptibility to strategic grazing were conditions that should be addressed before looking at chemicals. One of the worst grasses that I have seen in this area is Barley Grass. Most producers will try a couple of hits of chemical whether it be Correct, Sprayseed or spray topping in an attempt to eradicate it. Sometimes these strategies are less than successful so the next year they take it down to the crown in an attempt to graze it out. All they are doing is compounding the problem by producing more tillers and growing points from which thousands of seed heads will emerge in mid spring depending on the season. An alternate option is to defer grazing till mid winter which enables the pasture to produce upward of 2500 kg/ha of DM and then it can be crash grazed. In doing this a reasonable feed wedge is utilised and less seed heads are produced.

Before looking at a resowing and spraying program that will cost a lot of money, step back and weigh up the situation across each paddock. When looking at paddocks to resow, assess the composition of the pasture and apply the appropriate procedure whether it is using a broadleaf at light rates or a grass selective also at light rates. Why take out desirable species with knockdowns when it isn't necessary?

SUCCESSFUL FESCUE ESTABLISHMENT AT BALLANGEICH

By Harry Armstrong

Tony Allen of Ballangeich West sowed 30ha to Jessup Max P (summer active) Tall Fescue in autumn 2007 into heavy black flats on his property at Woolsthorpe.

Perennial ryegrass persistence and performance in these areas has been poor, often failing after only one season. While there are several probable causes of poor persistence of grasses on these black cracking clay soils, the main factors affecting perennial ryegrass persistence in these flats would appear to be heat over summer and water logging in winter. Fescue can tolerate both of these extremes. Tony regularly controls field crickets on these flats, but fescues can also persist in areas with high cricket populations.

It is now almost 12 months since the fescue was established. Dry matter production over this period has been nothing short of outstanding. Liveweight gains in young bulls of 1.5kg/head/day were achieved over 80 days in Jan, Feb & March 2008. No supplementary feeding was done during this period. This pasture was grazed extensively with lambs over winter and spring growth was managed by strip grazing with bulls.

As a result of the huge gains in productivity Tony has seen and measured on this area, he is very enthusiastic to increase the area sown to fescue in autumn 2008. So much so, he is intending to sow another 30ha to Jessup Max P further up the slope into the more loamy soils and not just restrict it to the black clay soils on the flats.

Tony is delighted with not only the fantastic growth of the fescue in its establishment year, but also with the above average liveweight gains of the animals. The improved livestock performance could well be attributed to the low toxin endophyte status of fescue. (See separate article on mycotoxins in ryegrass)

Effective weed control and good fertility is essential for successful fescue establishment. A summer crop was grown on this site in spring 2006. The paddock was than sprayed out with a full knock down herbicide in April 2007. It was then lightly cultivated, sown and rolled. The sowing rate of Jessup Max P was 25kg/ha with 2.5kg/ha of Braidwood White Clover and 2.5kg/ha of Prestige White Clover.

Tony Allen of Ballangeich West inspecting fescue establishment

This represents a substantial up-front seed cost, however the increased production and persistence over many years in a permanent pasture such as this would rapidly repay the extra investment in seed.

DAP (18-20-0-0) was sown down the tube at 100kg/ha and was followed with 2 applications of urea (46-0-0-0) applied at 80kg/ha during the growing season. The first urea application was 6 weeks post sowing, the second in mid August. Grazing management is important when dealing with fescue. Very high stocking rates are required through spring to keep on top of the growth rate of fescue during this period. Failure to graze it sufficiently at this time will result in poor quality rank feed. Conversely extremely high quality feed is produced when it is grazed correctly.

These outstanding results are a testament to what happens when we plan well, pay attention to detail and refuse to cut corners or compromise when renovating our pastures.

MOLYBDENUM FOR RESOWN PASTURES

By Bill Feely

Sowing a new legume/grass based pasture is a costly procedure so to ensure that the best result is achieved various procedures must be put in place. This is usually done by selecting the correct species for the situation, taking into account soil type, paddock profile and aspect.

Once that has been decided the next step is to assess the edaphic or soil status and general fertility of the paddock. This is achieved by a soil test and preferably a tissue test as well. Soil testing will give an indication of the status of the macro (major nutrients). Tissue testing will enable us to assess the micro nutrients (trace elements) of the pasture, especially molybdenum (moly) which is an essential element for new legume/grass pastures. Tissue tests

will give a moly analysis and if the reading is below 0.4 mg/kg then a moly application would be recommended. The soil test will give an indication of soil pH and the aluminium % of the cation exchange. These are two important factors in determining the availability of nutrients such as calcium, phosphorus and moly. If the pH of the soil is too acidic then the availability of these nutrients is affected. When the pH of the soil is below 5 in calcium chloride and aluminium levels greater than 6% the availability of calcium, phosphorus and moly will be diminished.

Moly is often low in paddocks that have a predominance of gravely seams. In moly deficient soils clover nodulation is restricted. Another way to detect possible moly deficiency is to physically dig up the existing clover plants in the paddock prior to sowing and to locate the nodules and bust them open. If they are clear and pinkish in colour they are alright but if they are green then effective nodulation may not be occurring and there is a fair chance moly should be considered.

Incorporating lime is common procedure when sowing new pastures. However if direct drilling, the topdressing of lime should really take place 12 months prior to sowing otherwise lime may not have time to become effective. Lime should not be considered as an alternative for moly. Lime is applied for different reasons. The moly release which occurs when lime is applied is just a side effect. It costs approximately $10/Ha extra to include moly with fertiliser, but $100/Ha to release it using lime. Applying moly to your newly resown pasture with a boom spray using sodium molybdate is an alternative worth considering in some cases. When sowing pastures, especially legumes in molybdenum deficient soils, 50 grams of moly is required per Ha, which is equal to that supplied in 250 kg/Ha of 0.02% super moly. This would also apply 20 units of phosphorus, 27 units of sulphur. Phosphorus, sulphur and moly are essential for nitrogen fixation. The phosphorus is essential for root development and that in turn gives the new pasture a greater chance of getting out of the ground quicker. Nodulation on the clover plants begin to take shape after 4 -6 weeks and this is the commencement of the N fixation.

The primary aim when applying moly to resown pastures is to stimulate clover nodulation that in turn helps the clover to produce its own nitrogen. The companion species, generally grasses can then utilise the free N. Given that soil nitrogen accumulation under subterranean clover pastures has been measured at between 40 and 100 kg of N per Ha per year. It is important that the clover is given every opportunity to establish with urea (46 units of N/100 kg applied) at $660/t any free N is a real bonus.

GRAIN AND GRAZE ROAD SHOW PART 1

By Jane Tosetti (formerly Wilkinson)
Sales Agronomist

Grain & Graze is a research program that is working with producers and catchment groups in Australia's wheat-sheep zone to improve on-farm profitability and productivity while also achieving local catchment management targets. Grain & Graze is a joint initiative between MLA, GRDC, AWI and Land & Water Australia.

The workshops were to provide farmers with an understanding of how winter crops could change the amount of feed available for grazing. A collection of speakers presented information on the risks and benefits of grazing winter crops under the Grain and Graze Program.

Why Graze?

Many people may be keen to try the 'grazing thing' but are too worried they may not manage the crop successfully enough to ensure the optimum yield. Grazing a crop when it is tillering allows the usually wasted leaves at the base of the plant to be utilized when other feed is often in short supply. Once grazed, there is still opportunity to make use of the crop for silage, hay, grain and straw, though reductions in hay, silage and straw will occur.

There are many ways to value grazing i.e. the dry matter eaten, live weight gain, stocking rate, extra pasture growth or by examining a whole farm examination of costs and returns.

Dry matter value

This may be the simplest way of estimating value, but it is likely to overestimate benefits. This may be due the farmer not normally feeding the stock at an equivalent nutritional value and or it assumes no other feed such as pasture is available.

Say we graze with first cross ewes in late pregnancy.
Feed eaten: 600 ewes @ 2 DSE/ewe = 1200kg eaten per day x 21 days =25,200kg
Energy in feed eaten: 25,200kg @ 11.5 MJ ME/kg = 289,800 MJ ME
Equivalent barley eaten: 289,800 MJ ME/ 12.5MJ ME/kg =23.2 tonnes of grain.
Equivalent value of barley: 23.2 tonnes of barley @ $290/tonne =$6,728.
Therefore estimated value of grazing the crop with ewes is $6,728.

This does not take into consideration added fertiliser costs, added weed control measures if needed or mineral supplements.

Some Rules:

Which cereals can be grazed?

All winter cereals can be grazed. Not just the dual purpose or winter varieties. Dual purpose and winter cereals need a vernalisation period which inhibits them from running up to head before a period of cold, usually in late winter. Hence they provide a relatively longer period of grazing when sown early compared to spring varieties. Spring varieties are also more unpredictable when changing from vegetative to reproductive stages.

At what stage can I start to graze?

Cereals can be grazed when the plants can not longer be pulled out easily and have grown secondary roots. This is typically around three leaf stage. You can put your mind at ease by performing a quick test. Use your thumb and index finger to snap the leaves off in a pinch twist and pull motion. If the plant does not pull out you can send the stock in.

When should I stop grazing?

Completion of grazing should be before the cereal reaches growth stage 30, which is just before stem elongation. This is when the main shoot is split and examined, the tip of the developing ear is 1cm or more from the base of the stem where the lowest leaves are attach to the shoot apex. No internodes are greater than 1cm. A suggestion is to stock heavily and have and 'exclusion zone' with a cage to monitor an un-grazed area as it will be a few days ahead in maturity than the remainder of the paddock.

Grazing to the ground will not cause a yield penalty if removed at the correct stage and the spring conditions are favourable!!!

This is the most critical stage.

What will happen to my cereal?

By grazing, flowering may be delayed up to 10 days. This may be enough to avoid 'that' frost. Be aware that if the grazing is not even throughout the paddock you may end up with a paddock with two or more different harvest times.

The quality of grain is no different when comparing grazed and un-grazed in screenings, 1000 grain weight, energy and CP, with the exception being barley which dropped in CP by 1% on the grazed treatment.

Options vary, but uneven grazing can be reduced by stocking heavily and grazing down to a minimum of 300kg/ha within 10-14days, and if need be, be grazed again at a later date.

GRAZING WINTER CEREALS

Entec is a new product available for nitrogen users to consider this season.

So what is it?

Entec is an ammonium stabilizer that can be coated onto certain nitrogen based products. While it can be coated onto several products, the most common use initially will be with urea.

What is an ammonium stabilizer?

Ammonium stabilizers slow down the activity of nitrifying bacteria that convert ammonium nitrate into nitrate nitrogen. Entecs mode of action is bacteriostatic rather than bactericidal. In other words it puts the nitrifying bacteria to sleep for a while rather than killing them.

Why do we want to slow this process?

By slowing the conversion of ammonium nitrate to nitrate nitrogen we can extend the period that nitrogen is available for plant growth. Regular nitrogen users would be well aware of the "spikes" in growth that we get when urea is applied. What Entec does is flatten out those growth spurts thus reducing what is known as nitrogen pulsing in crops and pastures.

Are there other benefits?

There are 2 very significant environmental advantages of using Entec.

- Reduced leaching. Nitrate leaching through the soil profile is a serious and measurable issue. We are not only losing nutrient and hence potential production but also adding to nitrate levels in ground water and waterways. In the future producers will undoubtedly be scrutinized more rigorously regarding nutrient run off and leaching.
- Reduced atmospheric emissions. Nitrous oxide emissions occur when soils become waterlogged and release nitrous oxide gas into the atmosphere. This process is known as denitrification. On specific soils that are prone to water logging, denitrification losses may be significant. Nitrous oxide is a major component of greenhouse gas emissions. Urea may produce up to 1% of nitrous oxide emissions. Ammonium stabilizers (Entec) are able to reduce nitrous oxide emissions by up to 60%.

This issue should not be confused with volatilization, which is the loss of gaseous ammonia from the soil surface, which can occur from urine patches or following surface applications of urea or any ammonium-containing fertilizers in certain situations.

Entec offers no advantage over conventional nitrogenous fertilizers in terms of losses from volatilization; the advantages are in reduced leaching and greenhouse gas emissions.

Main agronomic advantages

- Reduced leaching which leads to higher N use efficiency on leaky soils
- Reductions in the number of applications of N within a season
- Potential for ammonium nutrition leading to improved efficiency of other nutrients
- Reduced losses of nitrate in high rainfall and irrigation situations

If any of the above points seem relevant to your situation, please speak to any of the agronomic team at Vickery Bros.

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

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