VICKERY BROS.
THE FERTILISER PROFESSIONALS

Spring 2010

VICKERY BROS. LIQUID FERTILISERS

Vickery Bros. have expanded their range of soil and plant nutrient options to include a greater number of liquid and foliar fertilisers. The recognition of the importance of the correct nutrient applied at the correct time to maximise farm productivity and to minimise any adverse impacts to the environment sees farmers move to more strategic applications of granular and liquid fertilisers to better match the plant's stage of growth.

Vickery Bros. broad range of fertiliser products allows our agronomic staff to tailor nutrient programs to best meet crop needs. There is no magic bullet for optimum crop and pasture production and nutrient recommendations are based on an assessment of the plant's needs balanced against the economics of the potential return to the product being considered.

The range of liquid fertilisers available includes products that apply the major nutrients Nitrogen, Phosphorus, Potassium, Sulphur and Calcium; these are best applied through "streaming nozzles" for soil application. Trace elements can be supplied in sulphate, chelated or oxide forms for foliar application, using conventional flat fan nozzles. In addition, Vickery Bros. are investigating the effectiveness of a number products to improve the biological activity of the soil and to improve the efficiency of plant nutrient uptake.

The increase in our range of products has meant a further investment in storage at our Coleraine depot. Purpose built storage capable of storing 10 individual products and mixing facilities allow us to custom blend liquid nutrients for your specific crop and pasture needs. Liquid fertiliser is available in returnable 1000litre shuttles.

Dave Vickery filling shuttles

REDUCING NITROGEN LOSS

By Geoff Robertson

Urea is currently the cheapest source of Nitrogen we can apply to our growing plants. However it does came with the risk of loss through volatilisation. This loss of nitrogen can vary from 3 to 6% in Dairy pastures in winter and early spring to 60% on alkaline soils in summer.

When Urea is applied to the soil, moisture from the soil and atmosphere dissolves the Urea and the enzyme urease, present in the soil, converts it to ammonium carbonate through a process of hydrolysis. As the ammonium carbonate is unstable until it attaches to soil particles and organic matter, the risk of loss as ammonia is highest when there is enough moisture to dissolve the Urea but not enough to carry it into the soil.

The key factors that influence nitrogen losses through volatilisation are

- Soil pH:- the higher the pH the higher the risk
- Soil temperature:- soil temperatures above 15˚C
- Daily temperature:- above 20˚C
- Moisture level:- timing of rain event greater than 5 days
- Wind:- lower the level of canopy the higher the risk
- Each of these factors should be weighed up before applying urea to asses the potential for loss.

As well as employing application strategies to avoid the risk of loss, Urea can be coated with Agrotain, a Urease inhibitor, that slows the conversion to ammonia. Agrotain has been trialled extensively around the world and when applied to Urea that is surface applied improves its efficiency and reduces potential environmental impacts. Australian trials also show the potential for drilled Urea treated with Agrotain to be used at seeding with wheat and canola. Higher levels of starter N can be achieved without impacting on plant germination.

While volatilisation is a risk, the risk can be kept to a minimum by planning the application timing by assessing the risk factors and using Agrotain treated Urea to slow the conversion to ammonium.

Contents:

THE SPRING SURPLUS: OPTIONS AND OPPORTUNITIES

By Kate Shaw

Although it has being a relatively kind winter we are looking forward to the onset of spring and realising the benefits of having managed pastures effectively over the last few months. However despite the fact spring is almost here and we feel that we can rest on our laures, we should have in the back of our mind the thought that summer will soon follow. Rather than becoming complacent, it is time to start thinking about building a feed wedge for the summer ahead as well as setting up paddocks for optimum production next year.

The great start we had to the season with good opening rain, mild temperatures over winter and rainfall at opportune times means most pastures are in pretty good shape. The typical feed gap experienced over winter has been mitigated by soil temperatures maintaining above 7°C. With the onset of spring we should see pastures growing faster than stock can graze them thereby leaving an excess. Managing this excess is a key determinant in setting up pastures for the year ahead.

This anticipated spring surplus will allow a window of opportunity to manipulate pasture composition and quality whether it is through grazing, harvesting surplus fodder or herbicide application.

The aim of effective spring grazing management is to:

- build a feed wedge for the upcoming summer
- optimise clover seed set
- optimise desirable grass seed set where applicable
- minimise weed seed set
- control pasture growth to prevent shading of growing points thereby maximising tiller production.

These aims will assist in achieving the following target percentages for pasture components, measured as a % of ground cover in spring:

- 60–70% Productive and/or perennial grasses
- 20–30% Legumes
- <10% Weeds
- <10% Bare ground

To achieve these aims:

In general terms, an efficient grazing system should maintain between 1400-2500 kg DM/ha in spring. Within this range, livestock requirements will be met, while pasture growth and utilisation will be maximised. Where possible maintaining pastures below 2,000kg DM/ha will minimise the decline in feed quality of perennial grasses at maturity.

Because individual pasture species have specific grazing requirements you can use these requirements to manipulate the composition of pastures:

- To reduce annual grasses use high intensity grazing pressure at early flowering, when less than 1% of tillers have a seed head just visible above the flag leaf sheath – typically early spring. Maintain pastures at 1,000–1,500kg to minimise seed set. Cutting pasture for silage before weeds flower can reduce weed seed set.
- To improve clover content set stock to graze pastures between 800kg and 1,500kg DM/ha to reduce shading, until clover begins flowering, then maintain below 2,000kg DM/ha. Set stocking may be more effective than rotational grazing in spring if the need is to increase legume content.
- To improve perennial grass vigour allow pasture paddocks to set seed so desirable plants (in particular young and stressed older plants) can replenish their energy reserves. In species such as phalaris, flowering stem development is also linked to dormant bud production at the plant base. These buds help plants survive dry summers. Seed set provides new seedling recruits, particularly in perennial ryegrass and cocksfoot paddocks.
- To improve annual grass seed set (i.e. annual ryegrass) as pasture growth turns from vegetative to reproductive, remove stock and allow to run to head. This may require DM/ha as high as 5000 kg DM/ha.
- To maintain feed quality of a perennial pasture - particularly cocksfoot, phalaris and fescue - use short, high density grazing to keep pastures below 2,000kg DM/ha. It can be hard to get some paddocks below 4,000kg DM/ha, but where it is achieved, legume content generally increases.

Remember to have clear objectives for the paddock. These may not be complimentary for example, grazing to 1200kgDM/ha through spring to reduce weed seed set will also severely reduce clover seed set and limit the growth of livestock.

The health of grazing stock must also be considered. We should not expect there to be a significant feed shortage this year however, when trying to manipulate pastures, livestock may not always receive adequate nutrition. Conversely a glut of feed, particularly clover, may see animal health issues arise such as bloat.

Another animal health issue that will pose a problem is barley grass, particularly in sheep. Removing stock from barley grass infested pastures at seed maturity is recommended. However it is worth remembering that the removal of stock at a problem time such as this swings the balance in favour of not only the grass weeds but also broadleaf species such as capeweed.

Mild winter conditions have seen barley grass already running to head. If current conditions continue many annual grass weeds including barley grass may set seed quickly and prolifically which will increase weed density next year. As such continue to monitor pastures for growth stages of the various weeds present and take action where possible. Consider spray topping to reduce seed set of grass weeds.

The other tool available to manipulate pasture quality and composition is fodder conservation.

Hay and silage not only allows feed conservation for summer but also has the potential to reduce weed seed set for the following year.

Kate Shaw and Jed Boshier checking grazing oat crop

While fodder conservation will significantly reduce the population of most common annual grasses and some broadleaves, the nutritive value of the fodder will be correlated to the species involved. Reasonable quality silage can be made from a wide range of weeds however weed dominant hay will be poor quality.

Conserving surplus pasture in spring for the summer ahead (and beyond) ensures that the feed available will be a higher quality than if it was left as dry standing feed. This is obviously a more expensive alternative to leaving it in the paddock however it provides a quality feed option when you need it the most. To make certain that the fodder harvested is a good quality and quantity, applying a nitrogen/potash based fertiliser at lock up is highly recommended.

At present the cost of buying in fodder is comparable with what it costs to harvest your own (taking into consideration direct harvesting costs such as baling, nutrient removal and labour). This may change due to the threat of locust plagues in parts of Victoria which may see the cost of fodder rise. As such, making your own hay or silage may be a good insurance policy against any possible price rise.

The opportunity to manage pasture to bring about a change in composition and quality is best achieved in spring when the surplus of feed on offer affords room to move in terms of grazing and feed conservation options. It is important to achieve target dry matter levels based on your aims but ultimately maintaining DM/ha within the critical range is the key. Remember that undergrazing can do as much damage as overgrazing. Ultimately spring pasture management is a balancing act between not only the different pasture species but also the grazing stock. However there are a range of options and opportunities that assist in keeping the balance.

SPRING SOWING

By Bill Feely

Irrespective of which school of thought (autumn vs. spring) producers belong to in regards to sowing pastures, there are circumstances and situations that make it inevitable for spring sowing to take place.

Whether the decline of the pasture is due to low soil fertility, overgrazing or undergrazing, the wrong species sown originally, or a combination of all of the above the decision to resow the paddock has to be made. Importantly it does need to be recognised that if the current management of the paddock that has led to the decline isn't addressed then the paddock will soon revert back to its original unproductive state.

Many direct drilled pastures sown in the autumn and that have not been baited have been decimated by slugs. Given the extent of damage that I have noticed in some paddocks I would be seriously contemplating the need to fully resow or at the very least topping up with perennial grasses. Checking plant numbers now will dictate which course of action is appropriate.

Sub Clover

Spring sowing self- regenerating annuals such as sub clover is generally not an option as they require a period of temperature between 7-12 degrees Celsius for 12 weeks for vernalisation to occur. Vernalisation hastens plant development and flowering to enable seed set.

The sowing of perennial white clover is appropriate if going under irrigation or if significant summer rain events were expected. Furthermore where there are paddocks that are sub clover dominant and have little perennial grass in them, there is an excellent opportunity to drill the paddocks with the desired perennial grasses at the recommended rates.

Weed Control

Sowing in spring provides a more effective opportunity to eliminate those difficult to kill weeds, than trying to remove them from a newly sown autumn pasture.

Ideally a knock down spray plus appropriate insecticide would be applied during the winter months with the intention of removing all weeds and pests. This would then be followed up by another knockdown just prior to sowing to give a clean seed bed. Rainfall that fell after the first spray would be stored within the soil and available later in the season. Alternatively, if spring sowing into a good clover sward, look at applying a selective broadleaf chemical to eliminate weeds once clovers are well established. Prior to sowing, to get rid of the annual grass, spray at an appropriate level Sprayseed after the paddock has been grazed hard.

Timing

Correct soil temperature is important in spring sowing and ideally the temperature should be at least 14 degree Celsius and rising when commencing sowing. Phalaris germination and seedling growth is at a maximum when average daily temperature is between 15-20 degrees Celsius. Lucerne in particular should be sown into soils that are at least 16 degrees Celsius and rising.

Nutrient and Pests

When sowing in spring the same regime applies as if sowing in the autumn. The plants need to be fed well and monitored regularly for insect pests. Insect control would ideally have commenced over the winter months with the second knock down spray and the inclusion of an insecticide.

Ideally the paddock will have been soil tested to establish an appropriate nutrient plan and, if required, Lime would already have been applied. Generally though, a fertiliser regime of a minimum of 20kg/ha of Phosphorus is required with 10-15 kg/ha of Nitrogen and appropriate levels of Potassium and sulphur dependent on soil type. The inclusion of trace elements particularly Copper and Molybdenum should be based on previous plant tissue tests.

Spring time is a busy time for all but after emergence, regular monitoring is required to prevent failure.

As with any sowing time, whether it be spring or autumn, if you do the basic steps correctly and given that the season is with you the desired outcome will be achieved. From then on, it is up to the producer to maintain and manage the pastures correctly. This will require appropriate fertiliser, pest and weed control and grazing management to ensure longevity of the new pasture.

TIMERITE AND REDLEGGED EARTH MITE

By Kate Shaw

A commonly held point of view is that unless Red legged earthmite (RLEM) are in extreme numbers then you don't do anything about them. This view is valid when heavy infestations of RLEM are damaging a crop or pasture. However taking a long term view on RLEM control and reducing RLEM for the following year is worthwhile. And to achieve this using Timerite, a predicted spring spraying date to achieve control of RLEM the following autumn, is critical.

Three generations of mites are produced each year from April through to November. The third generation dies leaving behind eggs inside the female's body (the RLEM population is female biased – there are more females than males). The carcass acts like an egg case protecting the eggs from the hot, dry conditions of summer. These egg filled carcasses blow around like grains of dirt in the summer and spread mite eggs across significant areas.

The eggs lie dormant over summer and when the temperature is right and there is enough moisture in the soil they hatch out and the cycle begins again, so as new pastures and crops are emerging so are millions of hungry sap sucking insects.

To achieve long term RLEM control requires breaking the breeding cycle. Timerite's efficacy is based on breaking this breeding cycle. Spraying on the prescribed day aims to destroy all of the last generation of adults before they produce their over summering eggs. Spraying on a date before the Timerite spray date will wipe out nearly all the adults but if there are eggs present they will survive and hatch and breed causing ongoing problems.

The time at which these mites produce over summering eggs and die is triggered by specific climatic conditions. These conditions are unique and there is one day that's the optimum for any property - 1 kilometre away and it might be a day later, As such the timing of spraying is critical.

The economic impact of RLEM is significant. RLEM numbers on affected paddocks and/or farms frequently exceed more than 12,000 per square metre - the equivalent of running one additional sheep per hectare. On a 2000 hectare property that can mean a mite infestation can consume the same as 2000 sheep. In addition RLEM have the biggest impact in autumn when pastures are re-establishing after summer dormancy or when newly sown crop or pasture seedlings are establishing potentially causing pasture or crop failure or reduce production into the future.

To determine your spray date you will need to access the Timerite website (http://timerite.wool.com/). You will first need to determine the longitude and latitude co-ordinates of your property. You can source this information from either Google earth or lookup "latitude longitude finder" on your web browser, choose a site and enter the property location. Your latitude longitude co-ordinates will be given. Enter these into the Timerite website, fill in your details and your spray date will be given.

This date will not change from year to year so remember to write in your dairy every year your RLEM Timerite spray day - and your wedding anniversary!

LAST CHANCE TO RESOW LUCERNE:

By Harry Armstrong

Spring 2009 was a particularly tough period for sowing lucerne and summer crops. We experienced an unusual hot spell in November with 10 days of temperatures in the high thirties. This led to some patchy germination and establishment in some crops sown just prior to this hot, dry spell. Despite this growers should not shy away from sowing lucerne in spring as it is still the preferred sowing time for lucerne in the South West. Lucerne seedlings are much more robust and capable of surviving a dry spell, better than many people imagine them to be. What they don't cope with is competition from weeds. So whatever you can do to eliminate weed competition will pay dividends.

Spring 2009 sown lucerne stands should be assessed now to decide if there are sufficient plant numbers present. Optimal plant numbers vary depending on rainfall, soil type and intended use, but somewhere between 15 & 30 plants per square metre would be considered adequate. If all or a significant % of the stand has lower plant numbers than what is required for your circumstance, then some topping up should be considered.

Lucerne can be topped up with a range of companion species, but this article will only deal with topping up with more Lucerne. A future article will discuss some of the options and advantages for sowing companion species with lucerne.

The "Topping up Lucerne" article in the last newsletter suggested the stand be grazed heavily and drilled with extra seed at or just prior to the autumn break. Sowing rate for topping up should be around 5 to 10 kg/ha of freshly inoculated seed.

Winter cleaning of lucerne using selective herbicides no later than June is common practice, especially in its first year. The spaced nature of lucerne plants will always make it easy for prolific seeding plants like silver grass and capeweed to proliferate.

Winter cleaning is just what the term implies. That is, it only cleans, it doesn't thicken the stand. So assuming you haven't drilled in some extra seed in autumn and if, after its first winter, there is still insufficient plant density, extra seed will need to be sown in early spring.

Aim to resow from mid August onwards as soil temperature and day length increases. Close grazing followed by the application

of a suitable knock down herbicide will need to occur just prior to sowing.

Once again the reason for the inadequate plant density needs to be rigorously investigated. Most failures of lucerne establishment can be traced back to short cuts taken in preparation.

Lucerne Checklist:

Site Selection. Is the paddock suitable for lucerne in terms of drainage and water logging?

Fertility. Has a soil test been done? Has there been adequate nutrient including trace elements been applied?

Weeds. Did I address soil fertility issues and commence weed control 18 months to 2 years prior to sowing?

Sowing. Did I sow with a minimum of 20kg/P/ha? Did I sow with fertiliser containing molybdenum?

Insects. Young lucerne plants are very susceptible to insect damage.

Seed Inoculation. Did I sow freshly inoculated seed?

Remember the future persistence and potential productivity of the lucerne stand is dependent on the plant density you achieve before the stands 1st anniversary.

CHEMICAL USE IN LUCERNE

By Harry Armstrong

Keeping a new sown Lucerne stand weed free in its first year is essential in terms of its productivity and longevity.

The importance of planning and implementing weed control strategies a couple of years prior to establishing Lucerne is well understood and accepted by most growers and failure to do this will usually lead to a less productive stand.

Assuming preliminary weed control has been attended to, and the stand has been sown, our attention should now focus on post sowing weed management.

Trifluralin applied immediately pre sowing will control most summer weeds such as wireweed as well as silvergrass. Trifluralin can only be used in a cultivated seed bed situation. In direct drilled stands Imazethapyr (Spinnaker) can be used to suppress weed germination quite successfully, but should only be considered if you are aiming for a pure Lucerne stand as there is a considerable plant back period that prevents us sowing any companion species.

Broad leaf weeds can be controlled in the lucernes first year with chemicals such as Buttress and Jaguar. In subsequent years Paraquat/Diquat and Paraquat/Diquat/Diuron mixes are commonly used to keep Lucerne clean and weed free. This is best done around June or July when Lucerne is dormant.

The application of herbicide in winter will reduce overall dry matter yield going into spring, so this loss of production needs to be taken into account.

Some level of weeds can be tolerated in certain situations such as when the stand is intended for grazing only. In other situations such as intensive prime hay production, a pure weed free stand ought to be the goal.

As with all chemical applications growers should seek professional advice from retailers or chemical suppliers in regard to rates and timing of applications and then follow the label instructions.

NUTRIENT MANAGEMENT FOR LUCERNE

By Harry Armstrong

Lucerne is such a productive plant that nutrient removal and replacement are important issues. Assuming all major nutrient deficiencies have been corrected prior to and at sowing, an annual top up program that simply replaces nutrients removed is all that is required.

Nutrient removal varies in line with the amount of crop removed, soil type and rainfall. Considering Lucerne can yield between 8 and 12 ton/ha for dryland and from 14 to 22ton/ha for highly productive irrigated stands, it's not surprising that we need to apply phosphorus (P) and potassium (K) at least twice a year. 1 ton/ha of Lucerne hay removes 3kg/ha of P from the paddock and 15kg/ha of K. For example, if we took 2 cuts of hay from a Lucerne stand which yielded a total of 6 ton/ha, to replace these nutrients would require 360kg/ha of Super Potash 1:1 (16 P & 90 K). This would only replace the nutrients from the hay removed and does not allow for anything that has been removed by grazing and leaching.

Strategic applications of liquid fertiliser can play a role in keeping Lucerne stands healthy and productive. The very rapid growth seen in spring and summer as Lucerne responds to rainfall or irrigation can see Lucerne plants struggling to take up nutrients via their roots. This is an ideal time to apply some foliar treatments containing not only potassium (K) but also some trace elements.

So a typical fertiliser program for a Lucerne stand would involve 2 applications of granular P, K & S and a top up with some extra (K) and trace elements applied post cutting or just prior to an anticipated rapid growth phase.

A soil test to monitor major nutrients status and a tissue test to check trace element levels taken every second year should also be a regular part of any Lucerne program.

CROPPING

By James Stewart

Crops in most areas have had plenty of rain and we are even seeing grain prices heading in the right direction. With the improvement in prices most crops will have now had some nitrogen (N) applied and if the rains continue there will be the opportunity to "top up" with some more N and trace element pre flowering.

As discussed in the previous newsletter the consequences of summer rainfall and the green bridge means crop diseases will be more than likely a massive issue as the temperatures warm up. Some major diseases to look out for will be:

Stripe Rust

Stripe rust is easily identified by the orange-yellow spores, which produce small, closely packed pustules developing into stripes along the length of the leaf. The spores occur on the upper surface of the leaves.

Stripe rust requires cool wet conditions to infect the crop, optimum temperatures are 10-15 degrees celsuis for 4 hours with moisture on the leaves. Pustules erupt 10-14 days after infection.

Stem Rust

Stem rust produces reddish-brown spore masses in oval pustules with torn margins. Towards the end of the season the pustules become black as a different spore type is produced. Stem rust can also attack barley and oats. Wheat varieties have reasonable resistance to stem rust.

Stem rust develops at higher temperatures than other wheat rusts with 20 degrees celsuis as optimum and a range of 15-40 degrees celsuis. Spores require free moisture (Dew, Rain) and take up to 6 hours to infect the plant.

Leaf Rust

Leaf rust produces reddish-orange to reddish-brown spores which occur in small 1.5mm oval pustules. These are found on the top surface of the leaves, distinguishing leaf rust from stem rust which is found on both surfaces of the leaf. Most wheat varieties have reasonable resistance meaning leaf rust is currently not a major concern.

Leaf rust develops at temperatures from 15-20 degrees celsuis. The spores, like other rusts, require free moisture (dew, rain) on the leaves with very high humidity to successfully infect wheat.

Rust fungi continuously change, producing new pathotypes. When resistant wheat varieties get a disease it means the fungi has changed.

So even if you have sown a resistant variety, the crop should be monitored on a regular basis. This should start no later than growth stage 32 (Timing of Urea application for optimum yield) the second node has formed on the main stem, and continue to at least growth stage 39, (Flag leaf). The reason for this is because the flag leaf and the two leaves below it are the main factors contributing to yield and quality. It is very important that these leaves are protected from diseases.

Foliar fungicides can give good control as long as they are applied early in the outbreak. Their effectiveness will depend on varietal resistance, level of infection and the stage of the crop growth at application.

Propiconazole is the active ingredient in fungicide spray that is registered for all three rust varieties.

So in summary and taking into account my previous newsletter article to reduce the risks of diseases in wheat:

- Destroy volunteer wheat which acts as a green bridge well before sowing.
- Sowing varieties with good levels of resistance to stem and leaf rust.
- Plan rotations and strategically use seed treatments and in-furrow fungicide.
- Regularly monitoring the crop throughout the season especially wet warmer weather conditions.
- Spraying foliar fungicide if necessary. Consider combining pre-flowering nutrient application where compatible.

Plague Locusts

The degree to which plague locusts will impact this region will depend on the level of control of immature locusts further north and the weather conditions when adults swarm.

The Australian Plague Locust web site www.daff.gov.au/animal-plant-health/locusts is an excellent resource regrading chemicals suitable for control of immature locusts and landholders obligations regarding chemical use and reporting outbreaks.

ALTERNATIVE SUMMER CROPS

By Bill Feely

By sowing a fodder crop not only do you provide valuable quality forage during the summer season but have a paddock that is in much better condition for an autumn sowing program. Forage summer crops, per hectacre, can be expensive in terms of growing costs and down time from start of preparation to the last grazing. It is therefore important to find crops that work. Given the susceptibility of Forage Brassica's to attack from insect damage, particularly Diamond Back moth, there are other alternatives to use such as Millet, Sorghum, Perennial herbs and lucerne.

Millet

Millet provides quick growing high quality feed compared with forage sorghum although total yield and drought tolerance is lower. Millet is a safe forage as it does not contain prussic acid, unlike Sorghum and provides excellent regrowth. Compared to forage sorghum, Shirohie millet can be planted at a lower soil temperature, ideally 14 degrees celsius or above between October and end of January giving it a wide sowing window. Millet should be sown no deeper than 1cm and with a minimum of 100 kg/ha of DAP or 80 kg/ha of MAP. Fine stems and leaves and better leaf to stem ratio than sorghum means that it is better suited to sheep, plus the fact that it has no prussic acid, it can be grazed once plants are anchored.

Another benefit is the ability of being able to graze it after 6 weeks. One set back that Millet has is that it is susceptible to frosts. Sowing rates for millet in pure sward range from 8 kg/ha in light soils up to 20 kg/ha in heavier soils. zeven if sown with a forage rape, Chicory, Red Clover or lucerne, you would still sow millet at 8 kg/ha. Weed control is very important and a knock down prior to sowing is required and if the sward is pure millet, broadleaf weeds can be taken in crop with 2,4-D amine. Millet like sorghum will grow in a soil pH range from 5.5- 7 (CaCl) and requires a balanced fertiliser regime in keeping with soil test recommendations.

Sorghum

Sorghum, like millet, provides quick high quality feed that can also be cut for silage, green chop and hay. All sorghums contain hydrocyanic acid (Prussic Acid) which is poisonous to livestock and ideally shouldn't be grazed before it is 0.5 metres tall. Care should also be taken when grazing stubbles and failed grain sorghum varieties as they also contain high levels of HCN. For optimum quality, graze when forage sorghum crop has reached about 80 cm in height. Forage quality declines rapidly after 1.2 m in height. When looking at cutting for hay and silage plant at higher rates for greater stand density, thinner stems and more leaf. Topdress crop with 40-60 units nitrogen prior to closing for silage. Like millet, sorghum offers excellent regrowth and if seasonal conditions are suitable at least 3-4 grazings are possible. When preparing a paddock for sorghum a soil test should be taken to identify fertiliser requirements. Generally speaking when sowing sorghum a starter fertiliser such as DAP at 100kg/ha or MAP at 90 kg/ha with a minimum of 15 units of Sulphur and Zinc. Consider using a pre-emergent herbicide especially if grass weeds are an issue or if in crop broadleaf weeds are a problem 2,4-D amine can be used. Sorghum unlike millet needs a warmer soil temperature requirement and temperature should be at least 16 degrees Celsius and rising. When sowing sorghums sow no deeper than 5cm and plant rows should be 15- 30cm. When grazing provide Sulphur and salt blocks as sorghum has a tendency to be low in sulphur up-take. One issue that sorghum presents when coming to resow the paddock is the potential of a heavy aftermath burden especially if the sorghum has been used for grazing .To produce heavy crops producers have cut back on sowing rates to produce bigger healthy plants. It has been a benefit when grazing however when it has come to sowing, it has become a bane. To offset this, sowing at a higher rate and having a denser crop but with smaller stems would be the preferred option.

Chicory

Is a perennial semi-erect broad leaf herb that has a deep tap root similar to lucerne but unlike lucerne has the ability to handle high aluminium, low pH soils and moderate salt levels .It has high feed value, anthelmintic properties and mineral content, being high in minerals such as copper and zinc. In areas prone to frost chicory should be sown in spring. Sowing rate for chicory in a single sward is 2-4 kg/ha and if sowing in a mix preferably lucerne and or white clover would have no more than 40% chicory. Ideally a clean seed bed is the preferred option as chicory has limitations in the first 12 months with regards to chemicals but once established behaves similar to lucerne. Rotational grazing is the preferred treatment for chicory. Chicory is also nitrogen responsive and will benefit from strategic nitrogen applications.

Plantain

Is a perennial semi –erect broad leaf herb that has many characteristics similar to chicory. It gives good all year round production with exceptional regrowth ability. Once again when sowing plantain a clean seed bed is required as it too is limited in the first 12 months to chemical applications. Once established like chicory and lucerne it is reasonably chemical friendly. Plantain will grow in a range of soils from 5-7.5 in CaCl. Like chicory, when given the chance to go to seed sets a prolific amount of seed. Once plantain is established it to becomes a permanent summer crop .The beauty of both chicory and plantain is that once established can be sown into with other species such as grasses both perennial and annuals and clovers. These attributes aside, Plantain also is not affected by Diamondback Moth and Cabbage Moth. Like chicory, plantain is responsive to applications of Nitrogen.

When providing a summer feed wedge it is important that producers sow something that fits their specific needs. Given that brassicas especially rapes are susceptible to severe insect damage there are alternatives that can be used that aren't prone to insect damage. The use of millet, sorghum, chicory, lucerne and plantain will alleviate this problem and still provide excellent summer feed. The added bonus especially with lucerne, chicory and plantain is that you have a permanent summer crop for years. As it can be treated as a monoculture or oversown with other species. The beauty of millet and sorghum is that they can be sown later in the summer if there has been a failed brassica crop as long as there is moisture about.

COMPOST

As well as our range of granular and liquid fertilsers we are able to supply an excellent quality chicken manure based compost.

Bokashi compost combines chicken manure and effective microorganisms through mechanical turning to produce a stable screened compost.

Table 1 Typical analysis.

Nitrogen (N)	2.9 – 3.9%
Phosphorus (P)	1.8 – 2.2%
Potassium (K)	2.0 – 2.4%
Carbon (C)	30%
Calcium (Ca)	6.3-8%

Bokashi compost provides plant available nutrient and slow relase organic plant nutrient. Can be applied on its own at 1 to 2 tonne per ha or fortified with Reactive Phosphate Rock, Sulphate of potash or sulphate of ammonia for more specific plant requirements.

Windrowng compost.

Contact the professional team at Vickery Bros.

For healthy soils.

Agronomy Team

Bill Feely	**0409 427 963**	**James Stewart**	**0427 752 773**
Kate Shaw	**0437 752 707**	**Harry Armstrong**	**0417 052 095**

Depots

Coleraine 03 5575 2777 **Heywood 03 5527 1777** **Edenhope 03 5585 1975**
Mount Gambier 0408 646 220 **Casterton 03 5575 2777**

SEASONAL REMINDERS

- ☐ Top up nutrient on cereal and canola crops
- ☐ Topdress Hay and Silage paddocks
- ☐ Soil and tissue test for nutrient monitoring

If undeliverable return to:
Vickery Bros. Pty. Ltd.
105 Whyte Street
Coleraine VIC 3315

POSTAGE
PAID
AUSTRALIA