



TOPPING UP LUCERNE

By Harry Armstrong

Lucerne continues to gain popularity throughout the region. Many producers have elected to have a go at establishing lucerne to take advantage of the benefits it offers. I don't intend to deal with the merits of growing lucerne in this

article, most growers are well aware of these already. Instead I will discuss some options for "fixing up" spring 2009 sown stands that are less than optimal in terms of plant numbers.

Spring is still the preferred sowing time for lucerne. September and October 2009 were still very wet in many areas so a lot of lucerne was sown in early November which is quite acceptable in most years. Lucerne can be sown quite late in spring provided weed control has been good and soil moisture levels have been maintained. There is always a risk of a couple of weeks of very hot weather in late spring, and this is what we got in November 2009. Some seed either failed to germinate or germinated and died due to the extreme heat.

Subsequently we are now seeing a lot of lucerne paddocks that are either too thin or quite patchy. All is not lost however as there is an opportunity to drill in some more seed this autumn. You get one opportunity to thicken up lucerne stands, and that is prior to its first birthday. The reason for this is that once a lucerne plant matures it then has an allelopathic (the suppressing effect one plant has on another) effect on surrounding seedlings. This is why seedling recruitment is almost non-existent in lucerne stands.

Before hooking the drill on you should take some time to go over your check list to identify the reason for the plant loss or low plant numbers. Was it just the dry spell in November or was there another cause? Some other possible causes could be:

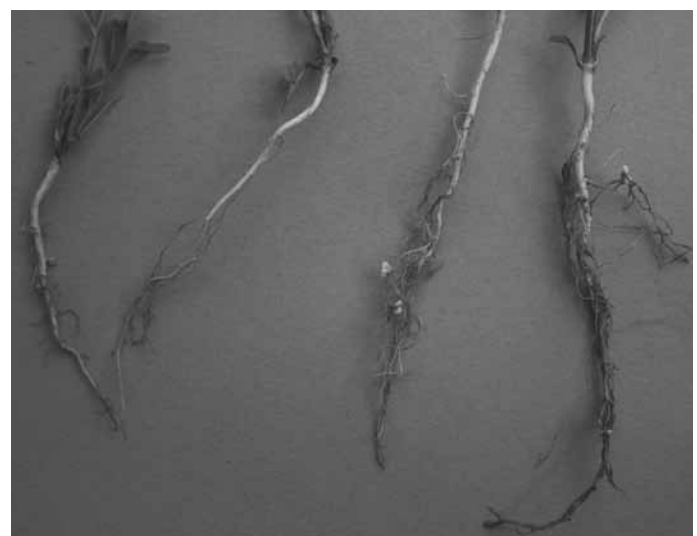
- Insect attack: Can be a major cause of patchy establishment.
- Soil fertility: Did I do a soil test?
- Molybdenum: Did I sow with or apply Moly?
- Seed inoculation: Was the seed freshly inoculated and stored correctly?
- Weeds: Were weeds totally controlled? Did I use Treflan for summer weed suppression?
- Sowing depth: How often did I check the sowing depth?

Optimal plant numbers per square meter for a pure lucerne stand is not clear cut as it varies according to things such as rainfall, soil type and intended use. Rule of thumb rates would be 450-500mm rainfall 12-20 plants per square meter, with 12 being adequate and 20 being excellent. For 600mm and above rainfall 20 +plants per square meter should be the target.

If you intend to resow to thicken the stand up you will need to graze it heavily early in autumn. In most situations herbicide won't be required pre sowing. Once there is sufficient soil moisture present and the existing stand has been grazed hard, you can drill in more seed. If molybdenum wasn't applied in spring it makes sense to sow with a fertiliser containing molybdenum. Molybdenum is an essential trace element for Lucerne stands; it plays an important role in the nodulation process. Vickery Bros are able to supply small lots of fertiliser containing molybdenum from Heywood or Coleraine depots.

Sowing rates will be determined by just how thin the stand is. If the original sowing rate was 15kg/ha then somewhere from 5 to 10kg/ha would be sufficient. Be sure to use fresh inoculated seed, not seed that was left over from last year. Apply an effective insecticide to protect emerging seedlings from Red Legged Earth Mite and Lucerne Flea.

Grass and broadleaf weeds can be controlled in winter with selective herbicides. Assess weeds present in winter and obtain advice regarding appropriate products, application rates and timing.



Molybdenum and seed inoculation critical for legume nodulation

Contents:

Topping up Lucerne	1
Patience pays dividends at the break	2
Pasture Species	3
The Green Bridge	5
Controlling barley grass	6
Slug alert in new sown pastures and crops	7



PATIENCE PAYS DIVIDENDS AT THE BREAK

By Kate Shaw

Given the best autumn break most areas have seen for many years it is easy to become complacent with grazing management as the grain feeder is returned to the shed. However despite the temptation of turning stock out onto a fresh green

pick the moment it appears; exercising patience will pay dividends throughout the growing season and beyond.

Autumn is the time when pastures are at their weakest due to the heat and moisture stress of summer which will have weakened or killed some plants despite good management.

Managing pastures effectively after the autumn break is critical to re-building and setting up your grazing system for the year ahead.

The aim of effective autumn grazing management is to:

- reduce dry standing feed at the break to maximise pasture quality following the break
- optimise clover germination
- minimise weed establishment
- protect the grass component of the pasture sward from being overgrazed.

To achieve these aims:

Grazing too early after the break will compromise tiller survival and lead to reduced growth. It is important to remember that the more leaf area plants have at the end of autumn the greater the growth rates through winter and beyond. By allowing pasture plants to grow to the appropriate leaf stage and biomass it will set the plant up for the season ahead.

It may be worth considering containment feeding stock through this period to ensure pastures have the best opportunity to grow to a target mass, to grow to the critical leaf stage and to recover root reserves of energy and nutrients. If this is unachievable selecting paddocks to spell that will respond best (paddocks with better pasture composition and/or better soil fertility) is recommended.

Deferring grazing also allows species to out compete weed seedlings. As such spell target paddocks to let desirable perennial grasses and legumes accumulate leaf to around 1,500kg DM/ha before the first grazing.

Again, pasture composition can be manipulated:

- Increase clover – maintain pastures at around 800kg DM/ha to reduce competition from taller species on the more prostrate clover.

- Increase perennial grasses by seedling recruitment in targeted paddocks – defer grazing for eight weeks for seedlings to establish. Assuming plants were allowed to run to seed last year.

After the break:

Rotationally graze to maximise pasture growth and persistence by preventing overgrazing of new growth and/or newly recruited plants. Ideally the following leaf stages should be observed:

- Ryegrass: 2 ½ - 3 leaf stage.
- Phalaris/cocksfoot/fescue: 4 leaf stage
- Clovers: 3 – 5 true leaves

In terms of dry matter/ha this roughly means maintaining pastures between 1000-1500 kg DM/ha (3-5 cm).

Perennial grasses use the rest period between grazing to build root reserves essential for growth and persistence. As such rotationally grazing pastures allows for a more vigorous pasture sward to be established and maintained.

A strategic application on nitrogen may be warranted at this time. Clover will typically only fix adequate quantities of nitrogen between September and December (the warmer months), and assuming that clover makes up at least 25 to 30% of the pasture there is likely to be a nitrogen deficit at this point in time. Once the soil temperature drops below 10°C the supply of nitrogen from clover is limited. Conversely most grasses will continue to grow and respond to nitrogen at temperatures as low as 4°C. Growth responses of between 10-15 kg DM/ha per kg nitrogen applied can be expected. As such nitrogen can be a useful and cost effective tool in filling feed gaps often experienced at this time of the year.

Nitrogen fertiliser is most effective when applied to pastures immediately after grazing as the nitrogen requirements of a pasture are highest during the active growth that takes place in the 2 weeks after grazing.

In conclusion:

Autumn is about re-building pasture density and composition and setting up pasture production potential for the year. It is important to refrain from eating pasture as soon as it grows to reduce autumn supplement use. This approach will restrict pasture growth in the following season.

Grazing management is ultimately a balancing act; for pastures to persist and be productive you must balance the needs of livestock to the pasture and the environment. Targeting specific dry matter rates at specific times of the year aims to achieve this balance. Overgrazing, where

minimum pasture mass and ground cover is not maintained, will ultimately damage pastures. Likewise, undergrazing can impact on both the plant and animal. Dead herbage may accumulate and shade growth points and reduce root growth whilst providing a poor feed option to livestock.

Increasing the use of green pasture grown can be the most cost effective way of lifting the productivity of your enterprise. Whilst apportioning paddocks at this time of the year is difficult, targeting a few productive paddocks to set aside at the break rather than stocking them all at once will result in more feed grown across your farm.



Rotational grazing improves pasture utilisation

PASTURE SPECIES

By Bill Feely



Every year I am amazed at the number of different grasses both annual and perennial, clovers, lucernes, alternative legumes and grazing cereals that inundate the market. Farmers are continuously being challenged by seed companies to make choices between

cultivars that are supposedly being superseded by better higher yielding or better persistence type cultivars. Since the dispersion of national independent bodies such as APPEC (Australian Pasture Plant Evaluation Coordinating Committee) and other independent bodies working in conjunction with the DPI there is no independent assessor of pasture varieties..

When making a selection of what to sow the criteria can be based on the following 3 requirements

- Suitability of the plant to the environment in which it is to be sown.
- Requirements of the pasture
- Management needs of the pasture

Environmental considerations include annual rainfall and its distribution, length of growing season, soil type, drainage, soil Ph, aluminium levels, soil fertility, salinity and occurrence of pests. Once species suited to the environment are known, the species and cultivars can then be selected based on the requirements which will be placed on the pastures.

The management requirements of pasture species also needs to be considered and whether they can be satisfied. When producers are making the decision of what to sow the most important fact that they must take into account is whether or not the pastures will be set stocked or rotationally grazed and by either sheep or cattle. One pertinent point to consider especially when looking at ryegrasses is whether they are diploids or tetraploids as they both have different grazing requirements. I think the last fact is probably the most pertinent with respect to helping pastures persist as farmers over graze them to the point where they cannot

be salvaged and then they have to be sown again.

Traditionally a rough rule of thumb that used to help producers in respect to whether or not a ryegrass based pasture is an option on their farm is to take into account the Glenelg Highway, generally speaking anything north of the highway was concerned marginal for perennial ryegrass. With the drier seasons becoming more common the line is slowly slipping south. Perennial ryegrass requires a minimum of 650 mm , a growing season of at least 7 months and mild summers as it does not have the deep root system other perennial grasses. With this in mind areas that were normally considered to perennial ryegrass dominant are now marginal.

My basic recommendations for South West Victoria based on local knowledge and experience. There will be exceptions such as lucerne that can be grown throughout the South West .There will be niche areas on farms that will have a separate requirement and these have to handled accordingly.

Pasture Species	Alternative cultivars	Sowing Rate
Perennial Ryegrass	Banquet 2, Bealey, Alto, Helix	20 kg/ha
White Clover	Waverly (large leaf) Sustain (small leaf)	2 kg/ha 2 kg/ha
Sub Clover	Leura (late season)	6 kg/ha

Basalt Soils (Annual rainfall 550 mm to 700 mm ,heavy black clay loam soils, wet over winter ,predominately sheep and beef cattle grazing and where high production is required.

Pasture Species	Alternative cultivars	Sowing Rate
Phalaris	Siroso, Holdfast (Winter Active) Australian (Summer Active)	2.5 kg/ha .5 kg/ha
OR		
Perennial Ryegrass	Avalon AR-1, Extreme, Bolton (only 1)	15 kg/ha

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Sub Clover(early)	Trikkala	7 kg/ha
Sub clover(late)	Leura	5 kg/ha
Balansa Clover	Paradarna (hard seeded self regenerating)	1 kg/ha

- Still regard Sirosa as the most active Phalaris.
- Most pastures will have a massive residual sub clover seed bank particularly Mt.Barker and Trikkala. Alternatively just sow Leura.

Volcanic soils – Stony rises and scoria cones where annual rainfall is 550 to 700 mm, well drained soils and grazed by beef and sheep.

Pasture Species	Alternative cultivars	Sowing Rate
Perennial Ryegrass	Avalon AR-1, Extreme, Bolton (only 1)	10 kg/ha
Cocksfoot	Porto Trikkala	2 kg/ha 7 kg/ha
Sub clover(late)	Leura or Napier	5 kg/ha
Balansa Clover	Paradarna (hard seeded self regenerating)	1 kg/ha

Black soils – Swampy , peaty soils where annual rainfall is above 600 mm ,waterlogged over winter and low levels of salinity.

Pasture Species	Alternative cultivars	Sowing Rate
Tall Fescue	Quantum (Summer Active)	15 kg/ha
Strawberry Clover	Palestine	1 kg/ha
Balansa Clover	Paradarna (hard seeded self regenerating)	3 kg/ha

Granitic soils – well drained sandy loam soils with low fertility and an annual rainfall of 500 mm to 700 mm.

Pasture Species	Alternative cultivars	Sowing Rate
Phalaris	Australian 2 Sirosa or Holdfast AT	1 kg/ha 2.25 kg/ha
Cocksfoot	Porto	1 kg/ha
Sub Clover (early)	Trikkala	7 kg/ha
Sub clover(late)	Leura or Napier	5 kg/ha
Balansa Clover	Paradarna (hard seeded self regenerating)	1 kg/ha

Saline soils- Saline areas with an EC less than 12,000 us/cm, where there is predominately sea barley grass or buckthorn plantain and water logging over winter.

Pasture Species	Alternative cultivars	Sowing Rate
Tall Wheatgrass	Dundas	20 kg/ha
Strawberry Clover	Palestine	1 kg/ha

Low rainfall Red Brown Soils – annual rainfall below 500 mm , autumn breaks are unreliable and paddocks go wet over winter.

Pasture Species	Alternative cultivars	Sowing Rate
Phalaris	Australian 2 Sirosa or Holdfast AT	0.75 kg/ha 2.25 kg/ha
Cocksfoot	Porto	1 kg/ha
Sub Clover(early)	Trikkala	7 kg/ha
Balansa	Paradarna (hard seeded self regenerating)	2 kg/ha

Dundas Tablelands – Clay loam soils of the tablelands with an annual rainfall of 600 -650 mm and where paddocks get wet over winter.

Pasture Species	Alternative cultivars	Sowing Rate
Phalaris	Australian 2 Sirosa or Holdfast AT	0.75 kg/ha 2.25 kg/ha
Cocksfoot	Porto	1 kg/ha
Sub Clover(early)	Trikkala	7 kg/ha
Balansa	Paradarna (hard seeded self regenerating)	2 kg/ha

These are just basic mixes that can be added to or subtracted from to enable you to make an informed decision on what is the most appropriate mix for your farm. There will be constraints eg edaphic (soil), grazing management and north /south aspect that will determine what will be sown. The more cultivars and species put into a mix merely complicates its management practice. If I sow a permanent pasture I want it to persist so keep it simple . There will be niche areas on farms that will have a separate requirement and these have to handled accordingly. The Evergraze program , run by the DPI is one body which is independently carry out trials that are enabling farmers to have access to scientific data. The amount of information out there regarding seed is mind boggling and confusing, but by adhering to a few basic principles correct decisions can be made.



Excellent sowing conditions after great break

THE GREEN BRIDGE

By James Stewart



Most of us have received good rainfall throughout the summer which is great for active pastures e.g. Lucerne, Fescue, Rape, Turnips etc. But if we look at this from a cropping phase cycle it poses threats and challenges to traditional winter cropping.

“The Green Bridge” (out of season rainfall which promotes crop volunteers and weeds) will produce an environment for carryover and early build up of crop diseases, pests and parasites.

An understanding of these hazards, their affects and management can shift the wet summer threat to an early season opportunity.

DISEASES

Cereal Rusts

Cereal rusts only survive on living plants, unlike other fungal pathogens. They have no dormant phase or any ability to feed on dead plant tissue. These factors act to reduce their success following a dry summer where survival with a host plant is rare. The presence of a “The Green Bridge” results in a much higher starting population of rust from which to build explosive population increases.

Take All

Growing wheat and barley continuously for several years may result in a build up of take all root rot. “Take All” has a host range confined to grass species. This range includes wheat, barley, triticale, barley grass, brome grass, silver grass and rye grass. Barley is more tolerant to the disease than wheat. It’s survival is also affected by soil moisture and temperature. Hosts plants from summer rain (volunteer cereals and weeds – “The Green Bridge”) will help increase “Take All” within the soil.

Scald

“Scald” is a major folia disease in barley. It is more common in high rainfall zones potentially putting us in a very damaging region. The 2009 growing season was a bad year for “scald” and the most common source of infection is from the residue of a previously infected crop or barley grass.

Spores release and spread with rain, spores splash on and infect emerged barley plants and form the infection in the crop. “Scald” can also be spread on the seed from an infected crop. With favourable temperatures and rainfall throughout summer, “scald” will most likely be in plague proportions during the growing season.

Root Lesion Nematodes

“Root Lesion Nematodes” are widely distributed within cropping soils. When soil is dry for a long period no living roots are available. Nematodes become dormant and survive in a dry form in dead root tissue. As soils become wet, normally in autumn and winter, the microscopic nematodes become active and attack roots growing nearby. If this cycle commences in summer, juvenile and adult nematodes (“The Green Bridge”) feed in the root cells of volunteer crops and reproduce. Therefore several cycles are possible before weeds are killed prior to winter crops are sown. If this is the case population levels would be at a level to damage crop production.

As well as what’s mentioned above survival of root diseases such as crown rot, pythium root rot and black leg is likely to be enhanced by favourable host roots over summer and autumn.

Insects

Cereal aphids and BYDV (Barley Yellow Dwarf Virus) rely on perennial grasses for summer survival. So with summer rainfall this can build up to extreme levels of self sown cereals.

Minimising the threat and maximising the opportunity

The same wet summer conditions that favour the build up of diseases and pests can also lead to opportunities for early sowing when affective weed management is achieved. Timely sowing will provide optimal crop performance with favourable soil moisture and temperatures, as well as help avoid the end of season drought stress which we have experienced in previous years.

Maximise your pre-plant fallow period with early weed control. This will reduce disease and pest activity before cropping. It is recommended that a minimum of 6 week chemical fallow is most important in seasons where summer rains promote volunteer cereals and weed growth. Another advantage of early weed control, which doesn’t apply to a lot of us, is conserving soil moisture.

Crop Rotations

“Crop Rotations” can help minimise plant disease potential by reducing populations of disease organisms surviving in the soil or on the old crop. But we must remember it reduces the risk, it doesn’t eliminate them. Small amounts of a disease organism may persist in the soil and build up over time. A rotation between cereal crops and broad leaf crops result in the least risk for plant diseases. If a proper rotation is not

continues on page 6

practiced, fungicide in furrow is highly recommended. Intake or Impact mixed with fertiliser at sowing can greatly reduce most fungal diseases mentioned as well. If cereals are being sown into new ground that was predominately annual grass pastures, and paddocks that have a long term history of cropping – fungicide in furrow would be beneficial. Intake or Impact mixed (coated) with sowing fertiliser can greatly reduce a number of diseases. In cereals, Takeall, Septoria



Dirty stubbles pose challenges for this season

Blotch, Stripe Rust, Powdery Mildew and Scald are all listed on the label. Intake / Impact also has black leg listed for canola.

Treated fertiliser should be sown in the same furrow as the seed, not broadcast.

From the summer we've just experienced this is the year to pay close attention and monitor your crops on a regular basis, especially leading into Spring later in the year. Over the next 2-3 weeks while you are busy sowing ask yourself, have I managed the "The Green Bridge" on my farm to my advantage? Are my paddock rotations in order and do I need to treat any of my sowing fertiliser with fungicide? If you are unsure what to look for during the growing season, or you have further queries on this matter, do not hesitate to give me a call.



Fontus Ag services sowing canola



CONTROLLING BARLEY GRASS

By Bill Feely

Barley grass is becoming a real concern in pasture over the past few seasons as it thrives under tougher paddock conditions and setting abundant annual seed reserves. Early in the season barley grass is often seen as useful feed, but as it

outcompetes other pasture species it becomes the dominant grass by the end of winter. Unfortunately, barley grass provides little spring feed and will hay to produce an unpalatable and damaging seed head. To attack this problem an integrated program of deferred grazing and chemical manipulation over 2-3 years has to be employed.

The density of weeds particularly annual weeds will fluctuate between seasons but if they are continually more than 30-40 % of the pasture during the growing season changes to stocking rates, grazing management, the use of herbicides and sowing perennial grasses should be considered. Barley grass

is a grass weed that thrives under conditions where there is no competition so once the barley grass is under control the quicker the pasture is returned to a dominant perennial pasture the better. Reliance on seed production is the only weak point of problem annual grasses. Annual grasses depend on seed production to ensure carry-over into the following season. Reducing the amount of seed –set and reducing the number of plants that establish are two key tactics in managing annual grass weeds. With the use of deferred grazing at strategic at certain times of the year plus the use of chemicals at different stages of the plant life are ways in which barley grass populations can be reduced.

Grazing:

Where feed availability is an issue, consider tactics on an individual paddock scale rather than across the whole farm. Target paddocks with the worst annual grass problem but which still have a pasture base of desirable species preferably

perennial grasses. Below are a few tips that can be adhered to when considering how to approach the problem from a grazing perspective.

Key to pasture management in this situation is utilising the young barley grass feed and not overgrazing other pasture species at the same time.

Heavy grazing in late autumn and winter will not reduce seed set of Barley grass as at this time of the year it has a very low growing point at this time of the year.

Defer grazing in heavily infested paddocks let pastures get to 3000 kg/ha or 14cm and then crash graze. Grazing cause's annual grass weeds to tiller and so increase seed production in spring. Deferring grazing reduces tillering and increases the effectiveness of spring grazing tactics to control the seed set of annual grass weeds.

In spring, and when grass stems are elongating, use short term high density grazing to remove all the developing and reduced number of seed heads while in the stem.

Chemical Manipulation:

On the break, light rates of glyphosate and paraquat on barley grass infested pastures that are at the 2-3 leaf stage can be used as a lead up to oversowing the pasture with permanent pasture or short term ryegrasses to provide strong competition for remaining barley grass yet to emerge. This can also be successful in eradicating other weeds that would have germinated after the break.

After the break in established perennial pastures more than

one year old chemicals such as Shogun and Correct can be used. Wait until at least 5 weeks after the break and spray at 250-300 mls/ha don't spray any later than late July as it will impact on spring production.

In spring the aim of spray topping annual grasses is to sterilise the seeds by applying either glyphosate or paraquat (contact spray) to the seedheads that have emerged. The objective of spray topping is to stop seed set of grass and in some cases broadleaf weeds. As most annual grass weeds apart from *Vulpia* (Silvergrass) have very few dormant seeds, spraytopping reduces the soil seed bank substantially. Timing is critical and with barley grass glyphosate should be applied as soon as seed heads have emerged through to anthesis (presence of anthers). However as it is a translocated chemical it can provide some control if applied to less mature seed heads that are still protected by the boot sheath. Paraquat is applied a little later, and is most effective at the anthesis. If it is applied too early, to less mature seed heads, the boot sheath can protect the seed heads from damage resulting in less effective control. Heavy grazing after spraying helps to prevent the emergence of late tillers.

The key to a successful spray topping is effectively managing paddock grazing at the end of winter and into spring. A good graze allows the barley grass seed heads to emerge evenly across the paddock. Staggered emergence makes it difficult and ultimately reduces the level of control spray topping can achieve.

Chemical rates and application timing should be confirmed to meet specific paddock needs in line with label recommendations.



SLUG ALERT IN NEW SOWN PASTURES AND CROPS!

By Harry Armstrong

Each year we see poorly established pastures on heavy clay soils. Results vary from patchy establishment to complete failures. Disappointing results are often blamed on things such as sowing depth, too dry, too wet, poor seed, rough seedbeds etc. While

these usual suspects can lead to failure of pastures to establish on these difficult soils, the overwhelming culprit is slugs.

Slugs are not a problem on loamy or sandy soils as they can't seem to cope with the grit contained in these soils. However they thrive on the heavy clay soils. This is why we see areas where the new sown grasses and clovers are thriving in a few spots of lighter soil in a paddock but nothing appears to be growing in the heavy clay soil on the rest. Slugs are very difficult to find in daylight as they hide under clods and in sowing slots only emerging at night to feed on newly emerging seedlings. It doesn't take many slugs to cause significant damage, 2-3 slugs per square meter are enough.

Seedlings eaten by slugs rarely recover, so controlling slugs and resowing is often the only option.

Slug bait is available from local retailers. Slugout or Metarex are the commonly sold baits. The water resistant pellets are more costly but much more effective. Application rates are 3-5kg/ha. Small bait spreaders are available or Vickery Bros can blend pellets with fertiliser and spread with spreader trucks/land cruisers if required.

Another option is to sow some slug pellets with the seed. Whatever you can do to prevent the damage these pests do in heavy soils will pay big dividends. The seed cost alone for pasture varieties sown into heavy clay soils such as summer active tall fescue and the like is \$250-\$300/ha.

Canola crops are at risk from slugs also. Last year we saw crops of Canola that needed resowing due to slug damage.

Prevention is better than the cure!!

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	

- Check new sown pastures and crops for earthmite and slugs today!
- Check crop trace element status at 3 to 4 leaf stage
- Ideal season for an early winter clean of pastures
- Apply Canola nitrogen requirements at 5 leaf stage

SEASONAL REMINDERS

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