

Welcome to the Spring edition of Brown's Agronomy News. In this edition we introduce Tim Manders, explore the importance of nitrogen in pastures, understand more about Lucerne flea and review different summer cropping options.

Introducing Tim

We are pleased to introduce Tim Manders, our new Agronomist at Koo Wee Rup. Tim Lives locally in the Yarra Ranges where he has a small lifestyle property.



Tim is passionate about all things agriculture having grown up in the Yarra Valley and completing a Farm Business Management Advanced Diploma at Marcus Oldham College.

Tim has developed a solid understanding of intensive horticulture, tree and vine crops from working across Victoria and throughout the United Kingdom.

Prior to joining the Browns Fertilisers team, Tim was a grower of Heirloom Tomatoes and Raspberries at Wandin, where he developed a deeper understanding of the challenges facing modern agriculture in Australia. Tim has a keen interest in soil health and understands that it is our greatest asset.

You may see Tim around the depot or out on farm. Tim can be contacted on 0417 972 200 or tmanders@brownsfert.com.au

Nitrogen for pastures

Nitrogen is the most required nutrient by plants followed by phosphorus, potassium and sulphur. The soil/plant relationship generates its own nitrogen through steady soil mineralisation. However, this may not be enough to fill feed gaps at certain times of the year, which is why nitrogen fertiliser is typically seen as a supplementary feed cost rather than annual "PKS fertiliser cost."

For an effective nitrogen application feed budgeting and forward planning is essential, as it can take four to six weeks to get best results. Below are some suggested guidelines to follow to maximise your potential return.

Nitrogen application guidelines:

- Only apply nitrogen when the pasture is in an active growth state.
- Nitrogen is dependable on adequate soil moisture, ensure there is sufficient soil moisture at or immediately after application.
- Ensure soil nutrients, fertility and health are adequate (Olsen P, Colwell K and pH).
- Aim to have soil surface temperatures above 7°C (measured at 9:00am)
- Apply nitrogen as soon as possible after grazing as this is when plants require access to N to maximise the chance of regrowth.

Farm feed requirements, either grazing or as harvested forage should determine the rate of nitrogen being applied. Research has demonstrated that good results are achieved when 25-60 kg/ha of nitrogen is applied.

The management of the pasture or crop grown is critical to ensure successful utilisation of the nitrogen application.

Grazing Management:

- Be aware of the recommended grazing withhold period of 21 days post application.
- Aim to graze pastures at the optional growth stage, for ryegrass this is at the 2-3 leaf stage or at canopy cover.
- Leaving residuals at 4-6 cm between the fertility clumps will help with regrowth.

Fodder Management:

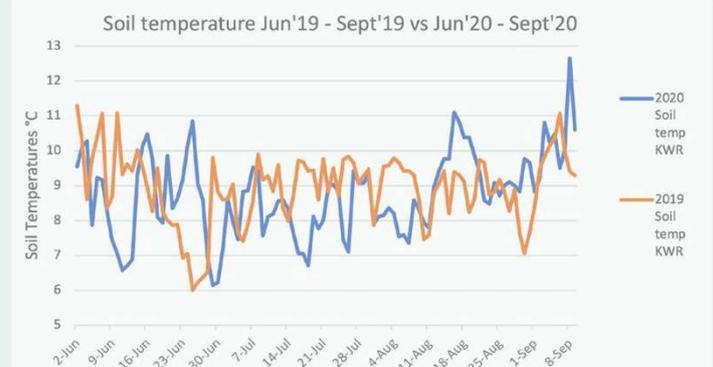
- Silage has a typical "lock up time" of 4-6 weeks, and is best conserved when the pasture is in its late vegetation stage.
- Hay has a typical "lock up time" of 6-8 weeks, conservation of the fodder is best when the pasture has 10-20% flowering.
- If "locked up" for longer periods of time, then quality of fodder is traded for quantity.

Talk with your local agronomist to determine if nitrogen is an option for your business.

Monthly Rainfall Data (mm) June - August						
	KWR 2020	KWR 2019	Pound creek 2020	Pound creek 2019	Maffra 2020	Maffra 2019
June	44.6	62	68.2	92.4	29.5	29.2
July	40.4	49	59.6	83.6	75.7	28.8
August	92.8	130	85.4	136.4	32.1	28.9

Monthly Soil Temps June - August					
Monthly soil temp	KWR 2020	KWR 2019	Stony Creek 2020	Stony Creek 2019	Maffra 2020
June	8.46	8.29	8.65	7.88	29.5
July	8.25	8.97	8.18	7.87	75.7
August	8.7	8.82	7.93	8.16	32.1

*note Stony creek soil temps in Aug data only available from the 1st -17th



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Pest profile

Pest Profile: Lucerne Flea

(*Sminthurus viridis*)

Due to vigorous pasture growth in spring, lucerne flea damage is often overlooked. It is important to monitor pastures during spring when activity is at its highest and severe infestations are harder to control. This is critically important as spring populations lay eggs that give rise to populations in the next autumn.

When: Lucerne flea is most active during April to June and September to November. They may also favour irrigated pastures during the summer period.

Identification: Adults are yellow-green and globular in shape, with some displaying darker markings. They are approximately 3mm in length, wingless and often characterised as 'springing' away when disturbed.

Damage caused: Clover leaves showing speckled appearance may be due to lucerne flea eating the green tissue. This creates window like holes and leaf skeletonising. In severe infestation the

amount of pasture available is reduced as well as the palatability of remaining feed. Newly sown pastures are more vulnerable than established pasture, and damage can affect establishment.

Life Cycle: Populations start to increase in autumn and usually reach a peak by early winter. Populations will decline during winter due to less favorable weather conditions, however return with greater activity during the warm, moist conditions of spring.

Control: Grazing management can influence lucerne flea population, grazing pastures opens the sward which reduces their favourable conditions. Insecticides are an effective way of controlling lucerne flea too, but for optimum control you should assess infected pastures and monitor pest life stage. Lucerne fleas are often patchily distributed within pasture which allows effective spot spraying to manage populations. Border spraying can reduce movement of lucerne fleas into neighboring paddocks. Seek advice from your agri-chemical representative if looking to control lucerne flea with insecticides.

Insecticide seed treatments are available and will provide protection for newly sown pastures. Seek advice from your seed representative to decide if this suits your production needs.



Damaged clover leaves showing the speckled appearance and windowing.

Summer cropping options

Comparing Summer Crops

Need to renovate paddocks this spring or just looking to fill the summer feed gap? Compare your forage options below to help make your decision as to which crop is most suited to your requirements:

Key considerations when making your decision:

- When will you require additional feed and for how long
- How much of the diet are you looking to supplement
- What is the minimum quality of feed required for your production system
- Do you need additional conserved fodder
- What are your plans for Autumn and the Timing

Crop	Minimum Rising Soil Temp °C 9am Planting	Typical Planting Months (variation per region)	Approx Days to Grazing	Ave. Yields DM/ha	MJ/kg DM (Metabolisable Energy)	Crude Protein %	Neutral Detergent Fiber
Hybrid Forage Brassica	10	Sept - Jan	45-60	6-11T	12	16	25
Turnips	10	Sept - Feb	70-90	6-12T	13	15	23
Chicory	12	Oct-Dec	70-90	6-10T	12	23	18
Millet (Jap/ Shirohie)	14	Nov - Jan	45-60	6-10T	9	12	60
Sorghum Hybrid	16	Nov - Jan	60-100	8-14T	10	18	55

Sowing below the optimum soil temperatures for the individual species will slow germination rates and increase the length of time to plant maturity (longer time to first grazing). Greater competition from weeds and pest pressure are likely as well as an increase in the risk of soil diseases.

Time of grazing is very important as crops grazed too early may pose livestock health issues, and if left too late dramatically reduce in quality.

Consider the energy and protein requirements of your enterprise and make sure you are providing adequate nutrition. The total diet needs to provide

adequate effective fibre, depending on the class of stock the NDF value needs to be above 30%, below this level animal health issues are likely, if levels are too high intake is limited which will limit production.

The maximum daily dietary dry matter intake of Brassica crops (including Turnips) shouldn't exceed 33% for Dairy, 70% for Beef and 90-100% for Lambs. This is similar to Chicory management due to low fibre (NDF) and potential milk taint in Dairy. The best utilisation of grown feed is achieved if paddocks are strip grazed and back fenced to offer maximum regrowth where possible.

To maximise potential yields adequate nutrient needs to be available at planting, post emergence and/or after grazing. Requirements will vary between regions, soil types, farms, water allocation and rainfall. Consider the nutrient removed if fodder is to be cut and replenish those levels as required. Apply an NPKS fertiliser at planting and throughout the growing stages to match the crop demand.

Average nutrient removal per tonne of dry matter in sorghum/millet silage						
Nitrogen (N)	Phosphorous (P)	Potassium (K)	Sulphur (S)	Calcium	Magnesium	
24	3	20	2	3	3	
Total kg nutrient removed on an 8 tonne crop						
Nitrogen (N)	Phosphorous (P)	Potassium (K)	Sulphur (S)	Calcium	Magnesium	
192	24	160	16	24	24	

Grazing alone will remove less nutrient, a general application rate for Brassica applied at 250kg/ha during planting:

Nitrogen (N)	Phosphorous (P)	Potassium (K)	Sulphur (S)
17	8	14	5

*Applying trace elements such as Boron and Molybdenum is also recommended with Brassica species, application rates dependant on soil conditions.

Additional Phosphorous, Potassium and Sulphur may be applied to build capital depending on base soil fertility. Follow up Nitrogen will depend on potential yield due to soil fertility and climatic conditions. This may be applied pre or post grazing depending on the crop, consider the required withholding period after application.



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