Autumn/Winter 2022

Pasture News

Planning decisions will need fine tuning for 2022

Many Southwest growers have now enjoyed two good years, which is a welcome relief after a run of drier than average seasons. Anticipating good prices for farm produce, a lot of growers decided to go that little bit extra in 2020 and 2021 with their fertilizer rates.

Combined with good rainfall, the past two years of high production will have some nutrition implications for the coming season.

Going into this season a lot has changed. Global supply shortages of fertilizer have pushed prices up locally and nutrient demands from the soil have been high. It's definitely time to review your early pasture and crop nutrition plans.

Rainfall conditions are also very different to last year.

The two charts below left for the summer of 2020/21 and March to April 2021 rainfall, show just how much early rain Southwest farms received last year. Soil profiles were well topped-up by the end of April.

There were some absolutely sensational irrigated and dryland pastures around last year and that carried animals in good condition well into winter.

This season's summer rainfall was in stark contrast to the previous one. The chart below, Summer 2021/22 rainfall (third left) from the Bureau of Meteorology shows just how dry the summer months were. You would have to conclude that soil mineralisation over summer with such dry conditions was close to non-existent.

Mineralisation is the conversion, primarily by microbes, of nutrients (such as nitrogen (N) and sulphur (S)) that are temporarily 'locked up' in soil organic matter into plant available forms.

Mineralisation is highly variable. It can slow down to almost a stop with low soil moisture and/or cold temperatures and speed up very quickly as conditions improve.

Its significance is that mineralisation is an important additional supply of nutrients to the ones that are added with fertilizers.

The 2021/22 March/April rainfall (below right) has been reasonable.

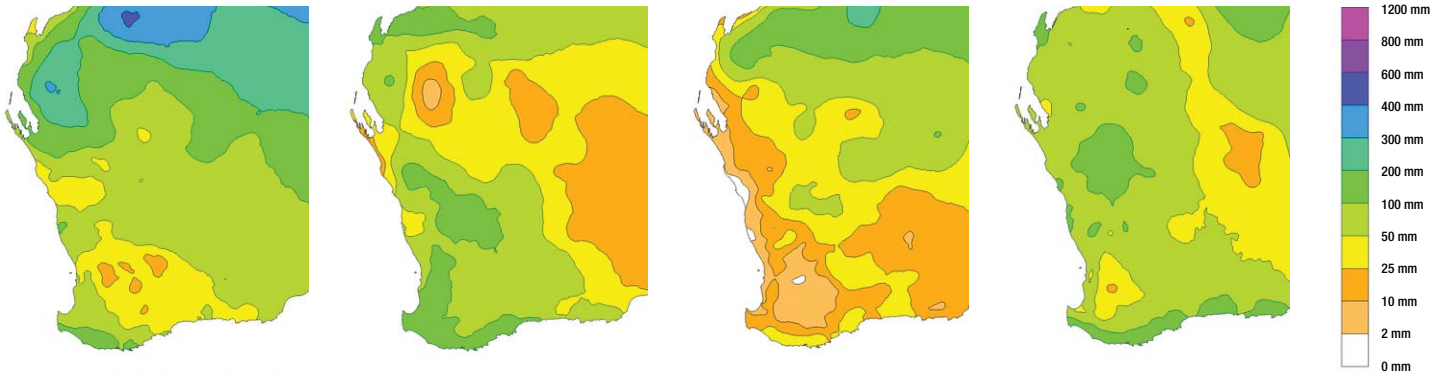
Ralph Papalia
Business Manager/Agronomist
Bunbury Depot

What's the next step?

Determining the soil's background nutrient availability is always important, especially after such a big production season as last year.

Summit Fertilizers can help you make more informed decisions with state-of-the-art soil and plant analysis through our inSITE program.

Contact us and we'll help you navigate your way through the season ahead by tapping into the management tools we have available.



Summer 2020/21 rainfall | *March and April 2021 rainfall* | *Summer 2021/22 rainfall* | *March and April 2022 rainfall*

For more information talk to your local Summit Area Manager

SUMMIT FERTILIZERS

Use inSITE to improve your fertilizer efficiency

Article by Summit Area Manager, Mark Ladny.
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Today's environmental standards are high indeed and given the current price of fertilizer, there's never been a better time to maximise nutrient use efficiency and align application rates, timings and production targets using data from Summit inSITE.

Growers would appreciate there is potential for any nutrient to move off target and it's not just restricted to the more mobile elements like nitrogen (N) and sulphur (S).

A good example is phosphorus (P). P is generally considered to be relatively immobile in the soil.

However, this is not the case in every situation, in particular on sands with a low Phosphate Buffering Index (PBI) in our high rainfall zones. Hence P application rates and timings need to target the seasonal demand.

As a general rule of thumb, growers looking at maintenance P application should budget on around 1kg P/ha per dry sheep equivalent (DSE) per year.

Therefore, one dry cow to the hectare would equate to around 8 to 10 DSE/ha and a cow with calf at foot up to 16 DSE/ha.

Historically, farmers have used application rates that typically do not vary across a paddock or farm. As we go forward and strive to improve fertilizer efficiency, that makes less economic sense, because even across relatively small paddocks, soil types can change and so to do the removal and/or demand for nutrients.

Although many farmers fear terms like variable rate technology (VRT), it can be adopted relatively simply and application rates changed according to nutrient maps.

Within our inSITE toolbox, Summit can help you to develop these information rich maps (example below).

The savings you make or better returns you generate can be spent on other things like soil amelioration. Or, thinking ahead put towards hay or silage paddocks that will require spring applications of nitrogen and potassium.

This could be particularly beneficial this year because many broadacre farmers have indicated plans to increase canola sowing and will likely come to rely on out-sourced hay or silage to carry livestock.

Summit clients can access maps free of charge through SummitConnect>inSITE>Trend Maps for all their macro and micro nutrients, organic carbon levels and soil pH.

An example of how the Summit inSITE program can be utilised to give growers a better return is given above.
In this example supplied by Mark Ladny, the client's P status map takes into consideration Colwell P values read in conjunction with PBI results to provide an overall P status.
This combination is important because the higher your PBI, the higher your critical value of Colwell P needs to be to ensure an optimal P status.
It can be seen that the majority of the farm in this example has excess or luxury P in soil reserve and hence, P application is not necessary in the purple or blue areas.
Two sites (green) have adequate P levels and only one (yellow) was marginal for P.
If we assume a carrying capacity of 12 DSE/ha, in the area identified with adequate P, 12kg P/ha would be the maintenance rate. This may increase to 18kg/ha for the marginal P area. If this site also had a low PBI, splitting the P application would reduce the risk of leaching or run-off, therefore returning an even better result from the fertilizer strategy.

Graeme Burrows (right) of Narralda Pty Ltd, West Albany discusses nutrient mapping provided through Summit Fertilizers inSITE program with Summit Area Manager Mark Ladny. Graeme says, "Having easy access to Summit nutrient maps ensures we are applying the right rates of fertilizer and lime to the paddocks that require it. It's encouraging to see as our soil test results improve, so does pasture production."

A year to look for targeted opportunities

Article by Summit Bunbury Business Manager/ Agronomist, Ralph Papalia, Mob: 0427 766 535 rpapalia@summitfertz.com.au

Compared with the previous two years, it's clear that Southwest growers will have to take a fresh approach this season with their farm program. For dairy farmers and potato growers in particular, the price of produce hasn't risen in line with input costs like fertilizer. Hence, targeted decisions will have to be made that lower risk without impacting too much on production. It's important to keep in mind if we get a good season from here with good growth conditions that you'll still need to have the underlying nutrition to support the growth potential.

Look for opportunities

How much fertilizer you apply should be targeted at how well your pastures or crops are likely to respond.

Each soil type or paddock can be different and will have its own nutrient response curve. Some have relatively flat curves and some are relatively steep. All response curves flatten out eventually and that is where no matter how much more you put on there is no growth or yield benefit.

Opportunities may exist for you to target fertilizer inputs more strategically. For example, dairy farmers will recognise that certain areas like feed out paddocks and night paddocks require less fertilizer or no fertilizer because nutrients are continually being brought onto those areas.

The cut and carry situations of silage or hay paddocks drain the soil of nutrients including phosphorus (P) and potassium (K) which will have to be replaced. Cut and carry paddocks also tend to be less grazed so there is less nutrient recycling during the season. Look to apply fertilizer that is appropriate for the individual situation.

In 2022 growers will again rely on pastures as the cheapest way to feed animals. The best way is to make fertilizer decisions, paddock by paddock, based on where in the response curve you want to get to. For many Southwest producers the good news is that all the decisions and risk do not have to be made up-front.

Opportunities in 2022 for Southwest growers according to Summit Bunbury Business Manager and Agronomist, Ralph Papalia, could rest with more strategic fertilizer applications through planning and tissue testing, and growing more legumes to produce nitrogen in the paddock.

Know what you are dealing with!

I describe species like ryegrass as indeterminant plants, which means they can still take-up phosphorus when it is applied later. Determinant plants like clovers are different, because yield potential is determined early in their growth. If you cut early P rates to clover paddocks you could expect to have an impact on growth towards the end of the season.

Whereas with ryegrass there is a bit more flexibility. You can make the decision to put most of the P on in autumn and then a little more in winter and even more as late as spring to match the season's potential. So, with ryegrass pastures it can be a series of P decisions based on the season and objective data like tissue testing to monitor where your P levels are.

Grow your own N

With historically high nitrogen (N) prices, grower feedback has been that legumes will be important this season and those areas really need to be set-up to maximise nitrogen fixation.

Based on the lack of pink or red leghaemoglobin inside the nodules, past surveys have shown that 50% or more of Southwest legume pastures are not fixing N effectively.

We have helped growers achieve good results with dry legume inoculants from Alosca Technologies, where the relevant rhizobia strain is impregnated into bentonite clay granules. Alosca granules offer great flexibility and can be applied with fertilizer before the break, at the break or even after the season has broken. The rhizobia find their way out of the bentonite into the soil and move down in water to the legume roots. Summit can mix Alosca inoculants with any fertilizer, although adding to fertilizers containing copper is not recommended.

To grow good legumes growers should also factor in the need for sulphur (S). Clovers generally take-up more S than grasses as their sulphur requirements are higher. If you are trying to increase the clover content in the pasture, then S becomes even more critical so don't cut yourself short.

In the Southwest, sulphur soil test results should be used as a guide only. In-season tissue analysis is very important, in particular on sandy soils and especially if you have heavy rainfall events. Summit can help with this. We have excellent tissue analysis capability through our inSITE program, with quick turn-around time and independent laboratory results.

Fuel Gauges help identify non-nutrition soil constraints

Summit Area Manager, Chloe Turner, has been delving into the science of soil conditions that constrain production for years. Each year she installs dozens of Fuel Gauge strips in clients paddocks to test local seasonal growing conditions.

Fuel Gauges are fertilizer strips that supply non-limiting nutrition to the pasture or crop. In Chloe's case, she typically installs four strips: one each for nitrogen, phosphorus and potassium and then a combination of all three nutrients.

In 2019 Boyup Brook farmer Wayne White commented that he was putting fertilizer out on a permanent pasture paddock and not seeing any response. Testing nutrition first, Chloe installed Fuel Gauges. Even with luxury fertilizer rates there was no response.

Clearly, there was a lot going on beneath the soil surface that needed further investigation, so last season working with the grower they installed a paddock scale on-farm trial.

"We soil tested the paddock first and there wasn't really anything of note that was holding production back," Chloe said. "So I suggested we test other constraints to see what would give him the best 'bang for buck'. We set up treatments for soil water repellency by applying wetting agent, soil pH with 2t/ha of lime and soil compaction with tillage, either light aeration with an old set of harrows, or heavier, deeper tillage to a depth of 15cm with a Reefinator.

"Each treatment was applied in +/- form, so that all treatments had interactions (design above right). Over the top of those non-nutrition treatments we had three different fertilizer practices which included no fertilizer, district practice and double the district practice, used as a top end luxury supply.

"This site had three different soil types which made for interesting comparisons. The clearest and biggest biomass response was seen with the deeper tillage. It's a reminder that growers need to think about soil productivity holistically. Soil constraints other than nutrition also need attention to fully utilise fertilizer applications for pasture growth," Chloe said.

Non-performing pasture - farmer installed paddock scale trial

FERTILISER SPREADER DIRECTION ↓

			Rep 1			Rep 2			Rep 3				
			1	2	3	2	1	3	3	1	2		
Lime	Wetter	Cultivation	Standard P	Control	Luxury P	Standard P	Control	Luxury P	Luxury P	Control	Standard P		
1	1	1										9m	
		2										9m	27m
		3										9m	
	2	1										9m	
		2										9m	27m
		3										9m	
2	1	1										9m	
		2										9m	27m
		3										9m	
	2	1										9m	
		2										9m	27m
		3										9m	
			27m	27m	27m	27m	27m	27m	27m	27m	27m		

BOOMSPRAY & CULTIVATION DIRECTION ↓

2.62 Ha

2021 Treatments

Fertiliser Spreader Width
1 Control - no fertiliser applied
2 Standard district P rate
3 Double district P rate

Cultivation
1 Heavier aeration - shallow Reefinator
2 Light aeration - old harrows
3 Control

Wetter Boomspray Width
1 Control
2 Wetter - Lure H20 @ 8L/ha

Lime
1 2 t/ha
2 Control - 0 t/ha

Boyup Brook farmer Wayne White applies lime to the paddock trial site in 2021. Wayne said after he applied wetting agent it started to rain. He could see the difference in soil water uptake right before his eyes, a clear indication water repellency is part of the issue.

Ripping not only alleviated soil compaction, it would also have enabled better soil oxygenation to improve soil microbial activity. The Reefinator with its roller is designed to leave close, short furrows which likely improved water retention.

An interesting observation was that annual ryegrass established and grew much better where the soil received heavy tillage (left), and there was very little capeweed in that treatment.

Compaction showed the greatest constraint on one soil type at the site (treated right versus untreated left). Chloe Turner and Wayne White have identified compaction and water repellent soil properties as two key issues that are likely to be holding back productivity on Wayne's farm.

Take home message

Chloe Turner's take home message is that sometimes it's easy to lose sight of the basics and growers should think about pasture and crop nutrition holistically. It can be a long process to work through what's really going on in the paddock and Summit Area Managers and Fuel Gauges can be an important component in that process.

Supplying the plant's nutrient needs is often just part of the equation.

Growers can contact Chloe on Mob: 0447 469 245, or Email: cturner@summitfertz.com.au

Protecting the environment

Summit Fertilizers has a strong corporate responsibility to protecting the environment and giving due consideration to all relevant environmental issues.
It's in our DNA!

We want all our fertilizers to be used by growers in a way that maximises their efficiency and complies with environmental laws and regulations.

This paddock trial of Chloe Turner's is a great example. We simply do not want farmers to waste money by applying fertilizer that is not fully utilised.

Sometimes soil constraints are hidden or out of our control, however we will continue to work with growers and strive to achieve global best practice fertilizer use.

Caring about your soils

Summit Fertilizers is a Fertcare accredited organisation.
Our Area Managers are trained to provide the highest quality advice, allowing you to optimise productivity while minimising environmental and food safety risks.

For further information on Summit Fertilizers, visit our website or call your local Area Manager.

Organisation
FERTCARE®

Soil testing the key to pasture nutrition after fire

The summer fires in Denmark and Bridgetown that burnt through close to 4,700 hectares have raised questions on the impact of pasture burning on soil nutrition. In the very unfortunate situation where a fire has burnt through a paddock or farm, there is potential for nutrient loss.

In terms of macro nutrients, nitrogen and sulphur in the paddock residue can be lost as a direct result of the fire. Phosphorus and potassium remain in the ash, however leading up to the season breaking, there is always a risk of these nutrients too being lost if the paddocks are exposed to wind erosion.

Nutrients below the soil surface are generally not impacted by fire. The exception may be paddocks with higher organic matter at the surface which, if burnt, can reduce the nitrogen and sulphur soil concentration.

This is more likely to be an issue in long-term high organic matter pasture paddocks.

Of course, every scenario is different and growers should definitely soil test paddocks after a fire event.

Summit inSITE analysis is an excellent tool for identifying exactly what has happened and what you need to do next.

Unfortunately, the Denmark fire burnt through some of the property of Roydon Nominees, managed by John Fleay.

Summit Area Manager Mark Ladny has recently taken soil samples for John, from burnt and unburnt areas in the same paddock. The samples were submitted for inSITE analysis and tested for nutrient availability.

"When burnt areas with the same soil type and within the same paddock were compared with unburnt sites, the organic matter reduction was more than 9%," Mark said.

"The top soil had collapsed as a result. While some nutrients and soil pH were unaffected, there was a large reduction in nitrogen as well as potassium due to ash removal by wind events. John now begins the task of speed tillering affected areas and reseeding desirable pasture species to ensure that he can maintain production targets," Mark said.

Summit Fertilizers Area Manager, Mark Ladny, takes soil samples for inSITE analysis on Denmark property, Roydon Nominees. Mark and Roydon Nominees Farm Manager, John Fleay, are discussing fertilizer strategy for pasture rehabilitation after fires. Burnt pasture can be seen in the background.

Partners in growth

At Summit we aim to offer much more than just fertilizer. Our core business will always be delivering high quality fertilizers and local advice. To assist with additional support services we work closely with independent industry business partners.

For soil and plant analysis, Summit has enjoyed a long-standing relationship with APAL (Australian Precision Ag Laboratory). APAL has state-of-the-art laboratories and is an accredited member of ASPAC (Australasian Soil and Plant Analysis Council).

In 2020, Summit Fertilizers joined forces with DataFarming. The result was that our clients immediately had free and regular access to 10 x 10m resolution, satellite based NDVI images through the SummitConnect user platform. This free NDVI information can be overlaid with Summit's inSITE test results to provide an exciting new way of looking in-season at paddock performance.

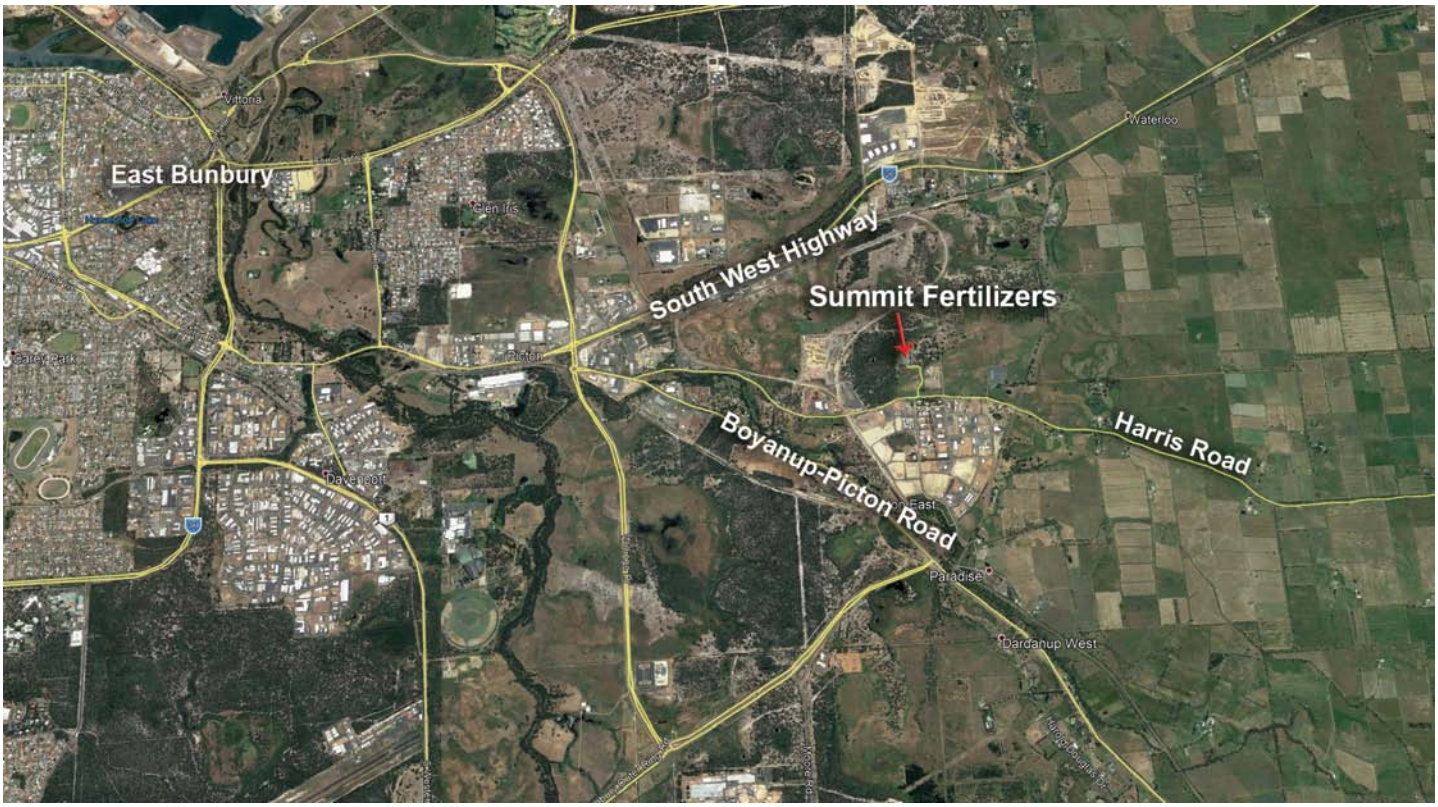
More precision with molybdenum results

Being able to accurately quantify molybdenum (Mo) content in the plant using tissue analysis is important. Both animals and plants require just very small amounts of Mo. But don't be mistaken, trace amounts of this element are absolutely critical for normal growth.

Measuring for such small amounts is a challenge, so it's pleasing to be able to inform growers that Summit Fertilizers' partner, Australian Precision Ag Laboratory (APAL), has invested in new state-of-the-art equipment to more accurately measure Mo content.

With great precision and accuracy the APAL equipment can measure Mo to 0.02 mg/kg, which will allow clear management decisions for Mo.

Bunbury Depot provides a quick and efficient despatch



Summit Fertilizers Bunbury based Business Manager, Ralph Papalia, is proud to say that his depot strives to deliver the highest level of customer service for farmers and transport companies. From customer service to despatch, local operations personnel demonstrate a high level of professionalism and flexibility to ensure farmer needs are met.

When you arrive to collect orders from our Bunbury depot you'll be greeted with a smile and as soon as your paperwork is processed and collected, you'll be directed to the load out point.

It's worth pointing out that the Bunbury facilities are extremely well maintained, clean and tidy, and offer customers great flexibility with loading. The Bunbury depot has facilities to do multiple product blends (up to 9 in a blend, including trace elements).

Products are also available in 1000kg bulka bags. Clients should pre-order and allow 48 hours (during the busy time) for bulka bags to be filled and ready for pickup.

Drivers can direct staff on load placement to ensure axle weights comply with the current Certified Weighbridge Mass Management Scheme standards.

You may not be aware but some of the special things we offer include:

- extended despatch hours during periods of high demand; and,
- flexibility for booking times and we always do our best to fit you in.

inSITE soil and plant analysis will reveal this season's requirements

When it comes to insightful soil and plant analysis results, why, when and where samples are taken really comes down to what you are trying to achieve. This could be troubleshooting a specific area, monitoring soil fertility over the longer term, or a combination of both.

Either way, Summit's inSITE soil analysis and plant testing program is an essential part of a comprehensive fertilizer strategy that makes the most of the season and minimises the risk to the environment.

Summit inSITE soil testing can quickly identify the specific macro-nutrients and other soil chemical properties that are constraining production and could be limiting growth. Plant analysis is especially useful as often there are no visual signs of a nutrient deficiency (hidden hunger) early on. Unlike soil testing, which predicts how much of each nutrient is likely to be available, plant testing reflects what's actually available to the root system which can help to fine tune the fertilizer strategy.

Key benefits of Summit Fertilizers inSITE plant analysis are:

- Independent laboratory.
- Rapid turnaround times.
- Wide range of nutrients measured.
- Our staff are trained in the best plant sampling techniques.
- Customer owned data can be viewed on SummitConnect.

For more information on Summit inSITE, growers should talk with their local Summit Area Manager.

Summit Pasture & Fodder Products

PRODUCT	NUTRIENT CONTENT (%)								BD
	N	P	K	S	Ca	Cu	Zn	Mo	(t/m³)
PASTURE RANGE									
Superphosphate		9.1		11.0	20.0				1.15
Super Potash 1:1		4.6	25.0	5.9	10.0				1.13
Super Potash 3:2		5.5	20.0	6.9	12.0				1.13
Super Potash 2:1		6.1	16.5	7.6	13.4				1.13
Super Potash 3:1		6.8	12.5	8.4	15.0				1.14
Super Potash 4:1		7.3	10.0	8.9	16.0				1.14
Super Potash 5:1		7.6	8.5	9.2	16.6				1.14
SuperPasture		13.6		10.5	17.1				1.11
SuperPasture Potash 1:1		5.5	30.0	4.6	6.8				1.10
SuperPasture Potash 3:2		6.8	25.0	5.6	8.6				1.11
SuperPasture Potash 2:1		7.9	21.0	6.4	9.9				1.11
SuperPasture Potash 3:1		8.7	18.0	7.0	10.9				1.11
SuperPasture Potash 4:1		10.0	13.5	7.8	12.5				1.11
SuperPasture Potash 5:1		10.4	12.0	8.1	13.0				1.11
Pasture		18.2		10.0	14.2				1.07
Pasture Potash 1:1		6.4	32.5	3.9	5.0				1.09
Pasture Potash 3:2		7.8	28.5	4.7	6.1				1.09
Pasture Potash 2:1		9.1	25.0	5.3	7.1				1.09
Pasture Potash 3:1		10.9	20.0	6.3	8.5				1.08
Pasture Potash 4:1		12.2	16.5	6.9	9.5				1.08
Pasture Potash 5:1		13.1	14.0	7.4	10.2				1.08
SuperPasture CZM		13.8		8.4	17.2	0.60	0.30	0.05	1.11
Pasture CZM		18.7		6.0	14.6	0.60	0.30	0.04	1.07
Super CZM		9.0		10.8	19.7	0.60	0.30	0.06	1.15
Supreme	5.3	13.6		13.5	10.6				1.04
Supreme Potash	3.6	9.1	16.5	9.3	7.1				1.06
Muriate of Potash			50.0	0.7					1.10
Sulphate of Potash			41.5	17.0					1.28
FODDER RANGE									
Hay	13.2	3.0	16.5	13.7		0.02	0.03		1.00
Hay Special	18.3	2.6	16.5	9.2		0.01	0.03		0.96
Dairy	14.6	8.0	12.5	9.3					1.00
Dairy TE	12.3	7.9	12.5	10.6		0.08	0.15		1.02
Dairy N	22.2	6.0	10.0	6.7					0.94
Dairy S	15.9	6.0	10.0	12.7					0.99
GrassBoost	13.9		17.0	16.1					1.00
Fodder Max	30.4		7.5	8.5					0.87
Graze Extra	26.3	3.9	8.5	6.2					0.89
NKS21	28.8		12.5	5.7					0.88
NKS32	25.6		16.5	5.3					0.91

Contact your Summit Fertilizers pasture specialists

Harvey, Capel, Dardanup, Busselton, Bunbury, Collie, Augusta-Margaret River, Bridgetown, Manjimup, Donnybrook, Nannup, Pinjarra, Waroona.

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