

# Pasture News

## 2019 in review and the experience we've gained

Consistent in the South West over the past couple of years have been dry, late breaks with limited early soil moisture and cool soil temperatures going into winter.

That has had consequences on early pasture growth, which in turn has impacted on animal production on many properties early in the season.

Essentially, what many growers experienced in 2019 was low soil mineralisation rates in autumn and winter, and high mineralisation rates in spring with a good flush of growth late in the year.

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

Its significance is that mineralisation can be an important additional supply of nutrients to the ones that are added with fertilizers. But it's seasonally dependent!

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

### What does it mean for you?

Determining background nutrient availability is important for every season and even more critical if soil conditions have been dry. Summit Fertilizers can help growers make more informed decisions with state of the art soil and plant analysis.



By Ralph Papalia  
Business Manager/  
Agronomist  
Bunbury Depot

## N to boost ryegrass growth in a dry start



*The 2019 growing season started with a late, dry start in the South West and most agree these conditions are becoming increasingly common. Many growers saw pasture legumes, in particular clovers out growing ryegrass during the early stages of last year. Ryegrass needs nitrogen (N) to thrive and with little mineralised N in the soil, and in cases where N was not supplied in the form of fertilizer, N levels were just too low to support good ryegrass growth.*

*Providing there is sufficient N fixing rhizobia in the soil, clover is capable of fixing its own N. In these deficient situations, we have found ryegrass will respond to autumn and winter N applications in the range of 1-2 units of N/ha /day. To get best value from these fertilizer applications, ryegrass should be rested for between 20-40 days after application and allowed to grow 2.5 to 3 leaves /tiller.*

## Summit offers unique inSITE

Accurate soil testing is an essential part of developing a comprehensive fertilizer strategy, and plant testing can be a great way of determining whether specific nutrients are limiting growth once the crop or pasture is up.

All Summit Fertilizers soil and plant samples are analysed by our partner APAL (Australian Precision Ag Laboratory) in their new purpose built facility. Based on the lab results, our inSITE modelling and Area Manager knowledge and experience, we can then offer practical and impartial fertilizer recommendations to achieve target results. All results and reports are available to customers through SummitConnect.

# Balancing pasture growth for grazing

In nitrogen (N) deficient pasture situations, ryegrass will respond well to autumn and winter applications of 1-2 units of N/ha/day. We'd recommend farmers let their ryegrass grow to 2.5 to 3 leaves/tiller before grazing, not only for better overall pasture production, but also for animal health reasons.

Deferring grazing of ryegrass reduces the risk of grazing animals contracting Hypomagnesia (Grass Tetany - when serum magnesium levels fall below a critical level) and Hypocalcemia (milk fever - reduced blood calcium levels).

That's because important cations (positively charged ions) like potassium (K), calcium (Ca) and magnesium (Mg) compete for uptake into small ryegrass plants. K uptake occurs readily from the soil if supply is good and this is usually to the detriment of Ca and Mg uptake.

K is usually in abundance in small ryegrass plants. As the ryegrass plant continues to grow and is allowed to reach the 3 leaf stage, Ca and Mg concentration in the plant increases, effectively diluting the K concentration, which in turn reduces the risk of animals grazing the ryegrass succumbing to the metabolic issues mentioned above.

## Clover in the pasture

Many growers like to see clover in their pastures and believe 30 to 40% legume content provides a more healthy and balanced diet than a straight grass pasture.

Regular applications of N fertilizer or N released by soil mineralisation generally favours grasses and broadleaf weeds at the expense of legumes, and the legume content will be reduced by this faster growing competition.

Another factor to consider is that including legumes in mixtures with

grass lowers the amount of N fertilizer required for the pasture. Growers need to adjust their rates to accommodate for this and make sure phosphorus (P), K and sulphur availability is good.

## Analysis

So when considering the nutritional needs of pastures, it's difficult to generalise without knowing the location, soil type, growers objectives and any occurrence of specific nutrient deficiencies. Soils are inherently variable due to both geological processes and historic fertilizer applications.

For these reasons, soil and plant testing is essential to determine which nutrients are needed and in what amounts for optimal production.

Summit has an extensive range of pasture fertilizers that can be viewed on the Summit website, or growers can contact Ralph Papalia or Mark Ladny for more information.

# Let's connect with SummitConnect

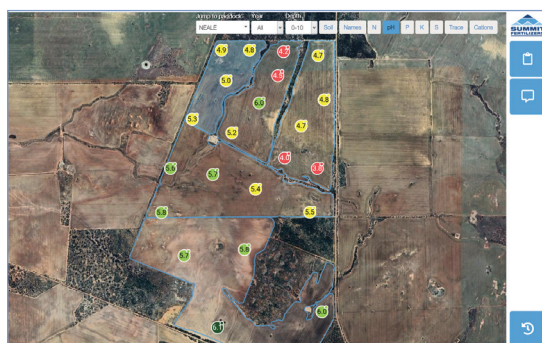
Summit Fertilizers is committed to ease of doing business and freeing up more time for South West growers so they can spend it on what's important to them.

We have recently launched our new and improved SummitConnect online customer portal, which has a number of impressive new features.

## Anywhere and anytime

The latest version of SummitConnect links customers to our inSITE platform, so they can view and download their entire soil and plant test history, including recommendation reports.

Another exciting feature that has been added are trend maps, which allows farmers to visualize how soil nutrients, pH and other soil properties (such as cation exchange capacity) are tracking over time, across different depths and in different paddocks. Ultimately our aim is to provide our customers with the most accurate data, in the most accessible way, enabling them to make better decisions with regard to their fertilizer inputs for next season and beyond.



A SummitConnect trend map showing pH results at 0-10cm depth across all years (above left).

The new SummitConnect dashboard (above right).

If you'd like to learn more about how our new SummitConnect customer portal could benefit you, get in touch with your local Summit Area Manager. To get started on the new version of SummitConnect for the first time, contact our team at [support@summitconnect.net.au](mailto:support@summitconnect.net.au) or call 08 9439 8999.

Description	Quantity Bt			Collection Month	Deposit	EDFY1
	Total	Collected	Remaining			
UAM	100	0	100	Nov 2018	Kemana	
Vigour	500	0	500	Mar 2020	Kemana	

## More simple and convenient

We've also developed a new user-friendly interface, allowing clients to easily view:

- Orders - see details of all your orders with Summit, including collection month and payment terms.
- Collections - view individual fertilizer collections and download loading and weight dockets.

- Transactions - review your payments, credit limit, monthly statements and download your tax invoices.

With the new SummitConnect portal everything you need is in one place, which makes it easier than ever to manage your business with us. You can even provide your accountant or consultant with access to your SummitConnect to save time when it comes to the end of the financial year.



# Treat pastures like a crop for best results

**B**ell Pasture Seeds is a well respected 4<sup>th</sup> generation family business and with experience in growing ryegrass and clover in the South West that dates back to the 1940's, they have plenty of accumulated knowledge.

Knowing what varieties to grow is important and it obviously needs to be matched with farming practices that get the best out of a diverse range of soil conditions and local climates. Leading into autumn pasture sowing, we asked Rob Bell to comment on some of the key points he believes growers need to consider to get the most from this season.

## Rob's tips

Soil health is king. Productive pastures can't grow well without healthy soil and any reputable fertilizer supplier needs to support their products with a package of local knowledge and farm monitoring with accurate analytical testing.

Through Summit, Rob soil tests half the paddocks on the farm each year, so that every paddock gets tested every two years. Using GPS site specific monitoring he can then observe trends. Significant to him are organic matter (carbon), phosphorus (P) and in particular potassium (K), because they harvest crop paddocks and sometimes sell the straw residue.

Soil testing for K is a guide only, and Rob looks at the K trends over a number of years.

## Planning and grazing

Growers should plan what they'll be planting, where and when they'll be putting in livestock, and what fertilizers will take care of the season. Good organization and advanced planning will keep things flowing smoothly. Rob said he makes early decisions on fertilizer required, orders it, and now has the ability to store it on farm.

## The seeds you plant

Once growers have made variety choices for grazing or hay production, be sure to use clean high-quality seed to prevent any surprises. When planting, consider inoculant e.g. *Rhizobium* (mainly Group C) for clover, and insecticides for insect control.



*Summit Fertilizers Area Manager Ralph Papalia (left) with client Rob Bell (right). Rob believes Summit offers his farm business a no fuss, fast turnaround soil test analysis service which when run through the inSITE soil model gives them the ability to change the model parameters to suit the prevailing circumstances.*

## Sow like a crop

Pastures aren't cheap to establish and should be sown with the same care and attention to detail as any crop. During sowing, make sure the seeds make good contact with the soil.

Rob said they have been moving over to machinery that provides:

- variable fertilizer rates;
- places seed where they want it;
- and can position fertilizer and any liquids (e.g. insecticides, trace elements etc) away or near the seed, depending on what is required. "We use nitrogen at seeding (because of lower mineralisation rates over the last couple of years) which has made a big difference for early plant growth and establishment," Rob said.

"We aim to retain carbon near the soil surface, but this has led to a refuge for insect pests, hence early insect control is imperative for pests like black beetle, red legged earth mite, cutworm, snails and slugs."

## Control weeds

Fast-growing weeds drain nutrients from pastures and can block out the sun when they shoot up — meaning the seeds you've planted will suffer.

There are solutions out there for every weed under the sun, so identify what weeds are trying to gain a foothold and act quickly.

Be aware of allelopathic weeds (silver grass, flatweed, goosefoot, mintweed and probably others) and keep any residue of these in paddocks to a minimum. Winter weeds need to be removed early when they are young and actively growing.

## Pay attention to the seasons

Seasons play a major role in farming. During the growing season, use a rotation and rest grazing system to keep livestock in good condition and keep grasses and vegetation cover from getting out of control. Give pasture seedlings a few weeks to get established. Once they're established, keep rotation ongoing to maintain healthy growth.

"Some of the new annual ryegrass varieties on the market that we sell retain four leaves before the oldest leaf senesces. This allows for a more competitive ryegrass as the plants can photosynthesize at a greater rate for longer. Good plant vigour and competition against weeds is one of the major tools growers can use for weed control," Rob said.

# Unlocking the “law of the minimum”

When growers think about South West crop and pasture nutrition, the critical elements that most quickly come to mind are nitrogen (N) and phosphorus (P) and potassium (K) or sulphur for high rainfall situations. Micro-nutrients (or trace elements) may then be considered, in particular for high rainfall pastures.

Perhaps N, P and K are considered as more important by some farmers because they are macronutrients and taken up by plants in larger amounts. Micronutrients are just as essential however, and it's worth taking a step back in time to remember some important plant nutrition basics that were first established more than 150 years ago. Justus von Liebig was a German Scientist who spent the early part of his working career pioneering organic chemistry. He first pinpointed the “law of the minimum”.

Justus von Liebig reasoned that yield is proportional to the amount of the most limiting nutrient, whichever nutrient it may be. From this, it was discussed that if the deficient nutrient was supplied in sufficient quantities, yield would improve to the point that some other nutrient would become limiting, hence, the law of the minimum would apply in turn to that nutrient.

With that in mind, let's go back to the basics of South West crop and pasture nutrition. Growers should think about nutrition holistically and supply all the plant's nutrient needs, with a particular focus on what is most scarce in relation to plant need. In other words, the availability of the most abundant nutrient in the soil is only as good as the availability of the least abundant nutrient in the soil.

To that end, Summit is here to help with soil analysis, plant analysis and custom blending to supply the right nutrients to meet the individual circumstances. We understand too that soil type influences the capacity of the land to produce, and soil characteristics are very important for long term land management.

Summit Fertilizers soil analysis is an essential part of developing a comprehensive fertilizer strategy for the season. It involves gathering critical information on nutrient levels and also other key soil traits such as organic carbon, electrical conductivity, pH and the soil's phosphorus buffering index (PBI).



Summit offers a complete soil analysis service and Ralph Papalia and Mark Ladny can help growers with impartial advice based on the results.

Plant analysis measures the amount of nutrient contained in the plant at the time of sampling. It is the best indicator of trace elements currently available. It's a tool that is useful for:

- Measuring what nutrients are available to the plant.
- Predicting plant nutritional problems during the early growing season. This is especially useful for when there are no visual signs of a nutrient deficiency.
- Monitoring the effectiveness of the current fertilizer strategy.
- Determining what nutrients are available to grazing animals.
- Locating specific areas of the paddock where deficiencies of one or more nutrients may occur and
- Optimising yields.

Summit introduced custom blending facilities to WA almost 30 years ago and can supply fertilizers that are suited to individual paddock requirements.

The Summit Bunbury Depot (above) offers customers remarkable flexibility with fertilizer blending and loading. The depot has facilities to do multiple product blends (up to 9 in a blend, including selenium and other trace elements) and can supply fertilizer in 1000kg bulka bags.

## Contact your Summit Great Southern or South West specialists

### Mark Ladny

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Mark covers the shires of:  
Albany (West), Denmark,  
Tambellup, Cranbrook,  
Plantagenet, and Broomehill.



Growers can also contact  
**Natalie Thompson** at the  
Albany Depot - 6819 6300.

### Ralph Papalia

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Ralph is responsible for the  
shires of: Harvey, Dardanup,  
Capel, Busselton, Bunbury,  
Collie, Augusta-Margaret River,  
Bridgetown, Boyup Brook  
Manjimup, Donnybrook, Nannup, Waroona and Pinjarra.  
Growers can also contact **Jenni McMeeken** at the  
Bunbury Depot - 9724 2700.

