Spring 2022

# Pasture News

## The season to-date and its impact on spring nutrition

*By Ralph Papalia, Business Manager/ Agronomist, Bunbury Depot.*

It will be essential for growers to make the most of the opportunity over the coming weeks. Up to 70% of pasture growth can occur in spring, so you'll want to make every rain event count. Summit can help!

Armed with a wide range of tools, including SummitConnect and Summit inSITE, with independent soil and plant analysis through Eurofins APAL, we can help you put a plan in place that will optimise production and economic return on your fertilizer spend.

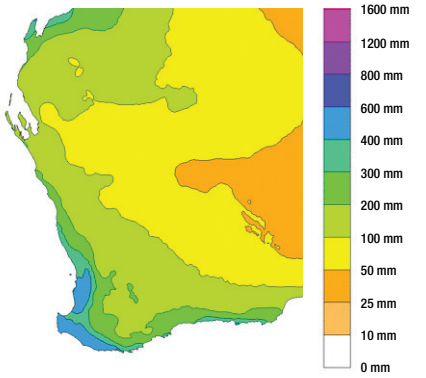
To make the most of this spring, you'll need to start with assessing the current fertility of your soils. Don't simply do what you did last year. While it may appear similar, 2021 was a very different season to this one.

2021 was a return to the 'winters of old' with an early break, followed by strong frontal systems and plenty of rain. Waterlogging prevailed right across the Southwest and last winter was exceptionally cold.

The break this year was a little more patchy and a little later. Nevertheless, rainfall has been good with ambient and soil temperatures staying warmer for much longer. As a consequence, we've had better mineralisation of organic matter to date.

Moisture, warmth and plenty of sunny daylight hours resulted in outstanding early pasture growth. That meant growers didn't need to push their pastures with added nutrition as hard as they did in 2021.

Hence, less fertilizer went on early. It was a good decision at the time, especially in view of higher input costs this year.




*June/July 2022 rainfall.*
*NB, does not include August.*

### So where does that leave us?

Because of the good establishment and early growth of pastures this year, they tend to have developed faster with bigger root systems. In late July and through August we had some very good rain events and we are now flooded with enquiries from growers wanting to promote strong spring growth. For many it is a scenario of:

- having pulled down the soils existing nutrient reserves;
- applying less fertilizer to-date; and
- more advanced pasture growth.

Going forward, spring nutrition decisions will depend on the physiological age and composition of the pasture. The key message at this time is to get into your paddocks and see what growth stage they are at. If they are moving into the reproductive phase you really want to get your fertilizer on ASAP.

Paddock nutrient levels are most likely to be lower - relative to last year, but it's hard to know categorically without testing. Recent tissue testing has revealed plant samples are coming in with lower nitrogen levels, indicating those plants haven't been taking up as much nitrogen recently.

*According to Summit Agronomist, Ralph Papalia (above), some growers have cut back on their pasture inputs this year. It is likely that those pastures will have a nutrient shortfall going into spring. With good rainfall in late July and August, there is still a chance to resurrect situations.*

### Robust spring rates

Cutting fertilizer rates this spring would be ill advised for many growers under the current circumstances.

Use robust rates, especially on your more productive paddocks, because you'll grow that extra tonne or two of dry matter. It's still much cheaper to grow feed in the paddock than buy it in.

On the next page I've outlined which spring fertilizers growers should consider, taking into account background soil nutrition and pasture composition.

# *N, K & S decisions*

Indications that available nitrogen in the soil is running low are appearing in paddock inspections in recent weeks. Tell tail signs are in oat and ryegrass pastures, where the oats as showing severe signs of deficiency. Lower leaves are dying off as the nitrogen moves from older leaves to emerging ones to support new growth.

In such situations, clearly there is a need for a nitrogen boost, but it needs to be supported by good background nutrition.

Some growers have cut back on potassium because of cost. Potassium is very important for a wide range of growth factors, including cell structure and water utilisation. There is a direct relationship between potassium availability and nitrogen uptake efficiency. So don't cut out the effect of nitrogen by not putting potassium on when it is needed.

Summit has a range of products to suit various paddock scenarios. Popular NKS products, for instance, have about double nitrogen to potassium content. That's assuming your soil type has some potassium.

Research has shown that oats and ryegrass do not need as much potassium as clover. So product choice really comes down to pasture composition. If you have a lot of clover look at fertilizers with good levels of potassium. Work has shown that if you leave the potassium out of the mix and just put out straight nitrogen, grasses and other weeds will smother the clover out.

So focus on nitrogen and keep potassium in balance, according to soil fertility and pasture composition.

You'll also need a good ratio of nitrogen to sulphur. Unless the soil has good levels of sulphur, which is often hard to determine accurately from just soil testing, in a reasonable rainfall year such as this, a likely ratio is three units of nitrogen for every unit of sulphur.

That will provide some degree of safeguard that sulphur levels will be maintained. Growers have been getting good results with that ratio.

If you had a big pasture year in 2021, nutrient removal can be calculated from Table 1.

Some fertilizer suggestions are provided in Table 2.

# Is it too late for ALOSCA?

Inoculating pasture legumes with rhizobia to improve nitrogen fixation has been around for a very long time, and it's inspiring to see the developments ALOSCA has made with improved techniques and well-matched strains. It's made a really big difference.

Growers should be aware that the presence of nodules on the plant can be misleading. Just because nodules are present does not necessarily mean they are efficiently fixing nitrogen.

In the last few years what growers are experiencing is great results with ALOSCA.

When they have us mix ALOSCA in with their autumn fertilizer, they are seeing clover plants with leaves that they used to see 20 to 30 years ago.

That's telling us the rhizobia they are introducing are more effective at forming an association with the plant roots and fixing more nitrogen.

*ALOSCA blends in well with our fertilizers.*

Growers are looking to clover as a means of producing more nutritious pasture, without huge nitrogen inputs. We're fielding questions now about adding ALOSCA into spring fertilizer, which can be a very good idea.

The bacteria multiply well through spring and will be in the soil ready for the season break next autumn. So it can be applied now and you won't need to inoculate next autumn.

**Table 1. Approximate nutrient removal (kg/t) of hay or silage**

| | Nitrogen | Phosphorus | Potassium | Sulphur | Calcium | Magnesium |
|---|---|---|---|---|---|---|
| Cereal hay | 20 | 2 | 12 | 1.5 | 12 | 3 |
| Mixed hay | 25 | 3 | 20 | 2.5 | 9 | 4 |

**Table 2. Fertilizer suggestions based on nutrition and pasture varieties**

| Product | Pasture mix | Paddock history and current nutrition | Rate |
|---|---|---|---|
| NKS32 | Mostly ryegrass, some clover | No phosphorus required in spring. The paddock has a long history of being cut for hay or silage and has low soil potassium test results. | 100kg/ha to 250kg/ha* |
| NKS21 | Mostly ryegrass, some clover | No phosphorus required in spring. Soil test results show good potassium levels. | |
| Fodder Max | Grass dominated pasture | No phosphorus required in spring. When higher rates of nitrogen and only low rates of potassium are required. | |
| NKS Spring | 50:50 clover and ryegrass | No phosphorus required in spring. Soil test results show low potassium. An economical solution. | |
| Grass Boost | Mostly clover, some ryegrass | No phosphorus required in spring. Low potassium soil test results. | |
| Hay Special | Mostly ryegrass, some clover | Some phosphorus required in spring. | |
| Hay | Mostly clover, some ryegrass | Some phosphorus required in spring. | |

* Fertilizer rate will depend on a range of factors including yield potential, seasonal conditions etc.
For typical nutrient analysis (%), refer to the newsletter inset or visit the Summit website.

*Summit Fertilizers has a range of pasture products designed for spring growth and they all have different nutrient ratios. For example, NKS32 is a high potassium product, very popular with silage and hay producers. NKS21 still has a reasonably high rate of potassium, ideal for those paddocks where soil or tissue tests reveal good potassium levels. And then we have products that have less nitrogen, ideal for maintaining legume content in pasture situations. An example would be NKS Spring. Hay Special and Hay have some phosphorus in them. These are appropriate fertilizer options when some phosphorus is required and the pasture would still benefit from a late season application. Ryegrass is an indeterminate species and has been shown to respond to late P.*

# Build soil nitrogen reserves for next year

*By Chloe Turner, Area Manager, Kojonup.*

For growers aiming to lift soil nitrogen reserves for next year, it is worth paying attention to the make-up of spring nutrition now. The right fertilizer strategy will improve growth, give legumes a competitive edge and improve conditions for nitrogen fixation.

With current nitrogen prices, that could well prove to be a great investment for next year.

Growers in my area tend to have a wide range of soil types. Lighter and higher PBI soils are commonplace. Nutrients applied to lighter soil types can leach beyond the root zone, and soils with a high PBI can lock-up elements like phosphorus, and that will all have an impact on your strategy.

With favourable temperatures and growing season rainfall to-date, especially in mid to late winter, growers should be thinking about:

- fertilizer timing;
- rate; and,
- which nutrients are needed.

As with pastures and crops, the rhizobium bacteria that live within the legume roots require healthy nutrition to be at peak production and fix good quantities of nitrogen. A deficiency of any one nutrient can impact on their ability to produce nitrogen efficiently.

Sulphur is a key nutrient! Sulphur availability to the plant is positively associated with the symbiotic fixation process.

Sulphur deficiency results in decreased nodule formation and a metabolic slowdown of existing nodules, hence a reduction in their ability to fix nitrogen.

### What you'll see

Sulphur deficiency in clover is typically seen as yellowing of both old and young leaves and, the leaves are generally smaller. That is because sulphur is more mobile within the clover plant compared to other legume species.

In other species, sulphur tends to be more immobile in the plant. Hence deficiency symptoms (yellowing) usually occur in the younger leaves. New growth is yellow while the older growth stays green.

*Chloe Turner, Summit Area Manager, Kojonup, taking clover plant samples for analysis. Growers in her area can contact Chloe and learn more about individual fertilizer requirements based on paddock assessment.*

### How to test

In-season plant samples and tissue analysis using the Summit inSITE program are an accurate way to diagnose many nutrient deficiencies, including sulphur, and are especially useful on leaching prone soil types.

The extent of leaching events in wetter seasons such as this are impossible to predict. Therefore, in the higher rainfall zones, we recommend growers apply most of their sulphur in the sulphate form after winter, prior to peak growth. Sulphate is soluble and relatively mobile in the soil. Spring rains will wash it in.

Depending on the pasture species mix, purpose of the pasture, seasonal conditions and soil type, most growers will require between 20 to 50kg/ha of sulphur for late winter/spring production.

Lighter soil types and forest gravels with higher PBI's may need their own nutrient strategy to maximise your fertilizer spend. Multiple applications at lower rates can improve the nutrient availability to plants throughout the season and reduce the risk of leaching.

Other nutrients that can be rectified in-season and commonly effect the rhizobia's ability to fix nitrogen include:

- potassium - has a positive effect on the development and functioning of root nodules;
- molybdenum - rhizobia bacteria require higher levels than the host plant; and
- phosphorus - improves growth of the host plant to provide more carbohydrates for the bacteria to metabolise.

## Introducing Steve

*Steven Della Franca has joined the Summit Bunbury Depot team as Customer Service Officer. For orders and depot information, growers can contact Steve on: 9724 2700.*

# New agricultural lime supply west of Albany

Great Southern Lime in conjunction with Summit Fertilizers are pleased to reveal the forthcoming opening of a new lime source in the Nullaki region, West of Albany.

Dispatches are due to commence in December, so now is a good time to be thinking about soils in a holistic way, with the aim of improving overall soil health for next season.

The first step will be to have an accurate idea of background soil traits including soil pH.

Summit offer clients a complete soil analysis service. Included with critical information on nutrient levels are other facts on soil health such as organic carbon, electrical conductivity, the soil's phosphorus buffering index (PBI) as well as pH.

Mark Ladny, Summit Area Manager Albany West, said all Summit soil samples go to a fully independent laboratory for assessment.

"It's not uncommon for pasture production in my area to be limited by factors of poor soil health, in particular soil acidity, as opposed to low nutrient status," Mark said.

"Some soils I've tested have a pH as low as 4.2. We know that as pH drops and acidity increases, some nutrients become unavailable. As a consequence, there is often a reduction in desirable pasture species such as clover.

"On Southwest soils, factors such as aluminium toxicity can come into play as the soil becomes more acidic. The result is poor root development and pasture production losses. This is especially the case in spring as plants with under developed roots can't take advantage of moisture deeper in the soil profile. Those pastures just battle to thrive as they should with the rainfall we have.

*Operations are gearing up for the opening of a new lime source west of Albany.*

"A big advantage for my growers with the development of a local quality lime pit will be lower transport costs.

"When budgeting for lime applications, growers need to calculate the total cost per hectare, which should take into account the cost of the lime, cost of transporting lime to the farm and the cost of spreading.

"Particle size distribution and the overall neutralising value are also important factors to consider.

"Testing has shown a weighted average neutralizing value of the Nullaki lime to be 79%.

"So the opening of this new pit will allow farmers in the Albany/ Denmark area to access a local quality lime product, without the high transportation costs of lime sourced from further afield," Mark said.

This new supply has required considerable time and expense to gain government approvals and will be subject to strict conditions including:

- Extraction not to exceed 50,000 tonnes in any 12 month period;
- Laden truck movements from the site to not exceed 14 per day.

It is proposed operation opening times will be restricted to 7am - 5pm Monday to Friday, and 8am - 5pm Saturday for the period of 1 December to 31 March only.

Mark said orders can be made directly through the Summit Fertilizers Albany Depot on 6819 6300.

## 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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