

Fertilizer News

Fertilizer planning after a year when nutrient removal outstripped supply

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After a relatively dry winter, many AWA broadacre farmers were pleasantly surprised by their 2020 season harvest results. On crops that were set up early, reasonable spring rainfall and cool grain filling conditions led to very high grain yield per millimetre of growing season rainfall.

However, because of a poor season in 2019 and the dry winter of 2020, many growers reduced their overall nutrient inputs for last year's crop. That means in many paddocks

harvested nutrient removal would have outstripped fertilizer inputs.

It is hard to measure the impact on yield from under fertilizing without a control for comparison, but it is safe to assume that nitrogen was limiting in 2020 as 50 percent of wheat delivered was ASW due to low protein levels.

A Summit Apex Yield trial at Corrigin (page 3) has shown what returns can be achieved under tough seasonal conditions from fertilizer.

Applying N, P and K in the right balance promotes healthy crops with strong root growth and plant tops that

can better withstand stresses like dry conditions or disease pressure.

Balanced early nutrition enables crops to reap the benefits of better conditions later in the season.

A calculation of the nutrient balance in 2020 shows that crops removed more nutrients than were applied, meaning a reduction in soil reserves.

For example, a 3t/ha wheat crop would remove 69kg of nitrogen, 10.5kg of phosphorus and 15kg of potassium. The nutrients removed in a 1.5t canola crop is similar.

To replace those nutrients would require at least 140kg/ha of urea, 50kg/ha of MAP and 30kg/ha of MOP.

Table 1 is a guide to nutrients removed by each tonne of wheat, canola and hay.

Because of the higher tonnage of hay grown per hectare, nutrient removal from hay paddocks is often much greater than from those harvested for grain.

It should be noted that because nutrient use efficiency is not 100 percent, in many cases the crop demand for nutrients is higher than the removal rate.

Table 1. Nutrients removed by each tonne of wheat, canola or hay

	Macronutrients removed (kg/t)				Trace elements (g/t)	
	N	P	K	S	Cu	Zn
Wheat	23	3.5	5	1.4	5	29
Canola	40	6.5	9.2	9.8	4	40
Hay	16	2.5	12	1.5	5	25

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The right early balance sets up yield potential

Taking into account how efficiently applied nutrients will be utilised is important when planning fertilizer programs and targeting yield potential. Nutrient use efficiency is improved by good fertilizer management but also impacted by soil conditions and plant-water utilisation.

The overall objective should be to improve crop performance while minimising losses to the system.

The following points are important for phosphorus, nitrogen and potassium planning.

Phosphorus

When phosphorus is applied to soils it is strongly bound to clay particles that can make it unavailable for uptake by plant roots.

The phosphorus needs to be released from the clay into soil solution. The lower the phosphorus soil level, the less that becomes available for uptake by plants, therefore further lowering the nutrient use efficiency.

Nitrogen

Nitrogen use efficiency is influenced by soil type, rainfall intensity and timing of fertilizer application. On light soils nitrogen can be lost by leaching beyond the root zone.

Or, a lack of rain after application may lead to the nitrogen not reaching the root zone. It may also be taken up by weeds growing in the paddock.

Potassium

Crops require large quantities of potassium during their life cycle.

Only relatively small amounts however are removed in grain, the majority is held in the leaves and stems and returned to the soil from stubbles after rain.

Because of the high demand for potassium, yield will be limited on paddocks with low soil levels.

Low potassium supply will also limit the efficiency of nitrogen uptake which in turn limits yield and grain protein.

As growers finalise plans for this season's fertilizer requirements, they need to consider the amount of nutrients previously removed in grain or hay.

This is particularly important if fertilizer rates were reduced in 2020.



There is an emerging train of thought that traditional approaches to nitrogen, phosphorus and potassium management are leaving crops short. Effects can be seen as not maximising yields or disappointing grain protein levels, but ultimately growers may be forgoing profit by playing the season late and not addressing crop demand early when yield potential is critically set. Crop nutrition is all about striking the right balance and setting up yield potential early.

Summer rain and yield potential

Recent summer rains will add to the yield potential of 2021 crops as there will be good levels of soil moisture going into winter. As potential yield increases it becomes even more critical that crops are not under fertilized, limiting any upside in yield from the start.

This is particularly important for phosphorus because it cannot be topped up later.

And even though nitrogen, potassium and sulphur can be applied in-season, any limitations in crop growth due to early shortages of availability, even for just one nutrient, cannot be made up with later applications.

Therefore, the starter fertilizer should supply all nutrients in adequate amounts to ensure good, early, healthy crop growth.

Summer rain will also lead to mineralization of soil organic matter.

Mineralization is a continual process where plant available nutrients are produced from decomposing organic matter in the soil.

Warm moist soil conditions after summer rain will increase the amount of mineralization. However, if the soil is low in organic carbon levels, which most continuous crop paddocks are, you cannot rely on mineralization to supply early nitrogen.

In cases where significant cereal stubble or grass residue persist, the amount of early available nitrogen can be reduced because of the requirements of soil microbes to break down the organic carbon.

Growers can contact their local Summit Area Manager who can assist you in reviewing your fertilizer requirements for 2021.

Apex Yield trials take wheat to the next level

In 2019 Summit established the first of our Apex Yield series trials. These trials are aimed at providing a range of nutrient treatments at the high end of the scale to determine the yield response potential of popular wheat varieties, often selected for their farm use based on National Variety Trial yields.

The results so far have been quite extraordinary and show just how important balanced, early nutrient availability is if growers are to capitalise on ever improving varieties. It's clearly not just about addressing deficiencies if you want to achieve the biggest rewards.

Results to date show that in 2019 on a highly productive soil at Dandaragan, Scepter wheat yield did not 'top out', even when 190 kg N/ha was applied for the season (Figure 1). This trial also builds on the evidence that early in-season N application (in this case applied between 4 and 8 weeks after emergence) produced a significant yield advantage over later applications (8 and 12 weeks).

In 2020 the Apex Yield series continued, including a site near Corrigin. Soils at this site were moderate in P status and showed marginal surface K that increased with depth. This trial design incorporated N, P and K rates, with N in-particular applied to a high rate of 240 kg/ha. Despite challenging conditions post seeding and a decile 2 growing season rainfall of 188 mm (64 mm below average - Figure 2) plots of Scepter wheat in this trial achieved yields of up to 4.9 t/ha.

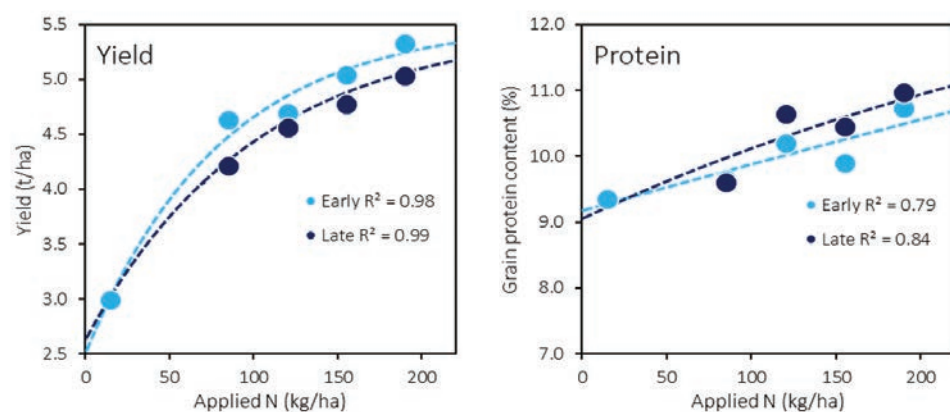


Figure 1. Comparison of early and late in-season nitrogen application on yield and grain protein accumulation at Dandaragan 2019.

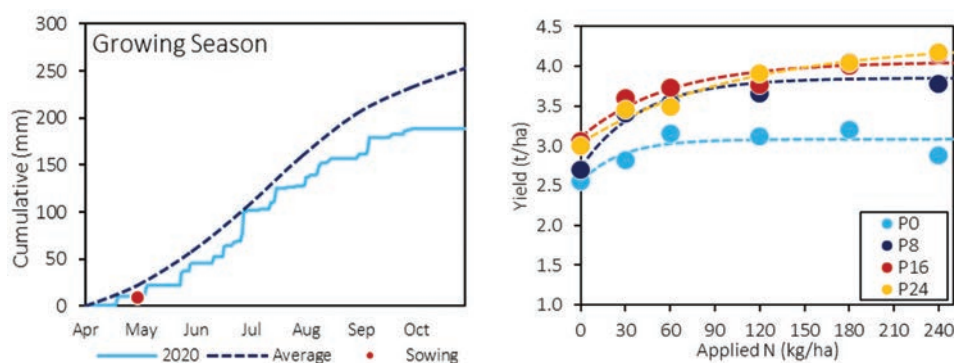


Figure 2. Rainfall (above) and wheat yield (above right) at the 2020 Corrigin Apex Yield trial site. NB. Data from treatments with nil K applied.

Table 3. Soil nutrient test results for the 2020 Corrigin site

Soil depth (cm)	OC %	N	P _[Col]	K _[Col]	K _[Exch]	Al	pH _[Ca]
0-10	1.1	6	19	63	68	0.1	6.40
10-20	0.6	3	18	95	101	0.3	5.03
20-30	0.3	2	10	105	102	0.3	4.97

The value of establishment P providing a foundation for in-season N to push yield higher was clear, as maximum yields stepped up progressively through P application of 0, 8, 16 and 24 kg/ha.

While increasing rates of P and N to such high levels achieved striking yield gains, the Corrigin site also showed how supplementary K can have an important supporting role. Applying 20 kg K/ha along with the banded P boosted yield by an additional 400 kg/ha (Figure 3).

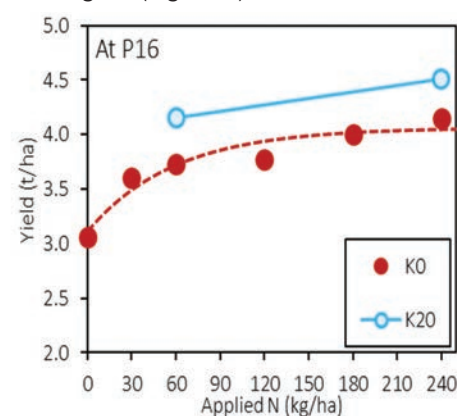


Figure 3. Additive effect of K at the Corrigin Apex Yield site to assist uptake from the soil K pool as high N and P rates encourage rapid growth rates.

It is important to maintain a balance of all nutrients especially if rapid growth rates are encouraged by other management practice, such as applying high P and N rates.

The rainfall use efficiency (RUE) achieved at the Corrigin site was extraordinary, demonstrating the value and resilience of breeding lines adapted to the evolving WA climatic conditions.

Importantly, optimising nutrition will dramatically increase RUE. The poorest treatment in the Corrigin trial, the nil control, achieved yield of 13 kg/mm of growing season rainfall. Applying 180 kg of N/ha only improved this to 16.5 kg/mm. However, if the optimum trial treatment of 16 kg P, 20 kg K and 240 kg N/ha is selected, RUE jumps to almost 24.5 kg/mm.

These results provide further support for the need to select the most appropriate combination of nutrient rates to take full advantage of both site and genetic potential, rather than rely on N alone.

Applying the right form of manganese is crucial

Recent Summit trials have highlighted the importance of supplying manganese to crops in the sulphate form. In 2019 the Field Research team carried out manganese field trials in lupins, wheat and barley comparing uptake of the sulphate versus the oxide form.

The results were clear-cut with the advantage going to manganese supplied to crops in sowing fertilizer in the Mn²⁺ sulphate form.

In Spartacus barley at Darkan (Figure 4), manganese applied in the sulphate form (4 kg/ha), led to higher stem manganese concentrations compared to the nil control. Manganese sulphate in the compounded granule outperformed the manganese sulphate in the

blended product and supplying manganese oxide did not improve manganese uptake at all.

Manganese responses in Scepter wheat at the Tincurrin site (Figure 5) showed similar results. Manganese oxide was ineffective compared to manganese sulphate in supplying manganese to the plant.

Results from Summit's lupin trial at Eradu (Figure 6) showed low lupin stem manganese concentrations were present in the nil treatment and when 3 kg/ha of manganese was supplied in the oxide form, indicating manganese oxide is an ineffective short-term manganese source.

Supplying 3 kg/ha of manganese in sulphate form roughly doubled the manganese concentration in lupin

New MAP & Mn

In 2020 a new formulation of MAP & Mn was released with 100% of manganese supplied as manganese sulphate.

MAP & Mn is a fully compounded product formulated for superior handling and nutrient distribution.

stems compared with the nil treatment or 3kg/ha of manganese oxide.

7 kg/ha of manganese supplied in this trial in the sulphate form was highly effective in improving concentrations in lupin stems to the critical level.

Split seed is strongly correlated with stem concentration below 20 mg/kg.

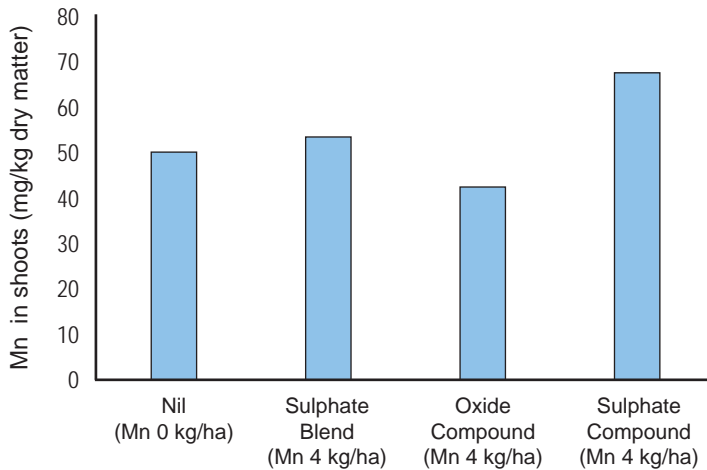


Figure 4. Manganese in Spartacus barley shoots (Darkan, 2019).

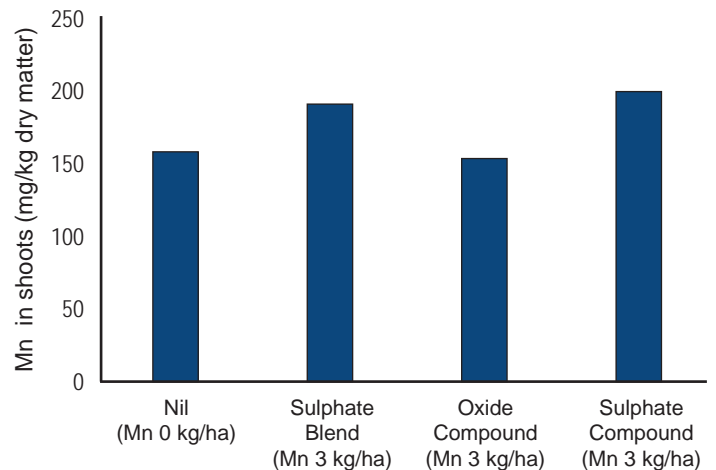
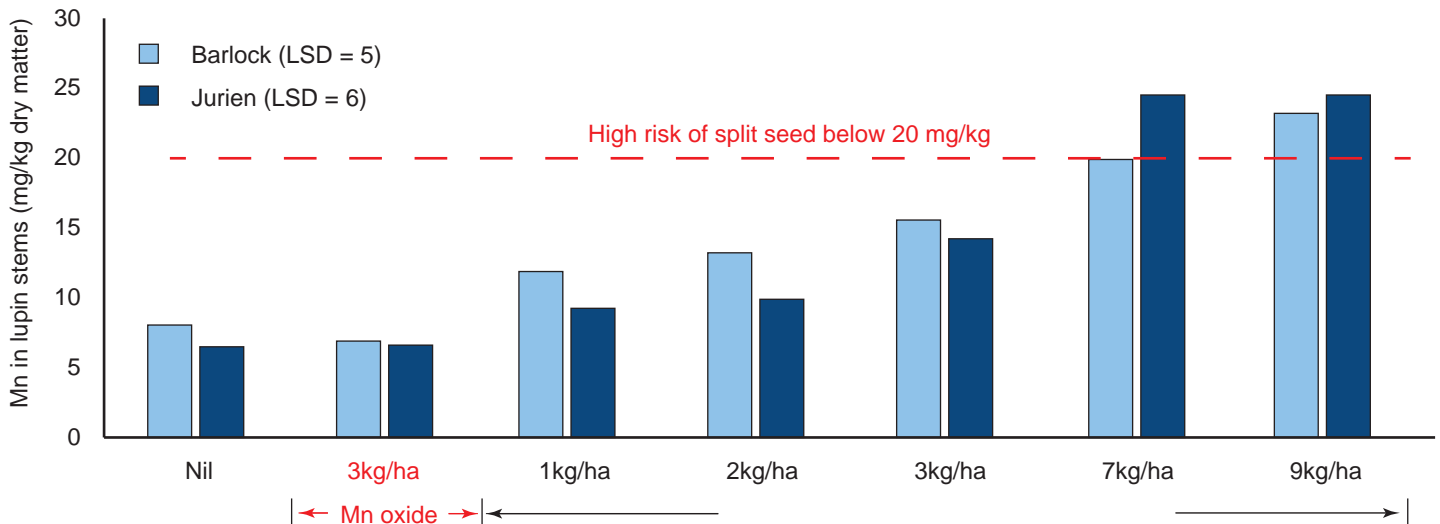


Figure 5. Manganese in Scepter wheat shoots (Tincurrin, 2019).



NB. Mn was applied in the sowing fertilizer

Figure 6. Manganese concentration in lupin stems (Eradu, 2019).

inSITE trend maps prove popular with Brad and Raylene

Summit Geraldton based Area Manager, Shane Turner, first started taking soil samples on Brad and Raylene Burns' property back in 2005. The soil test results from their Balla farm (east of Binu and north of Yuna) were faithfully loaded onto spreadsheets that were printed off and stored away in folders.

It was a good system in the day. It locked in all that valuable historical data that still helps guide their nutrition decisions.

While that information was easy enough to capture and store, it wasn't the easiest of practices to pull out the historical data and compare spreadsheet results for individual locations or paddocks across a number of years and do what they really wanted to do, which was to identify trends that were happening in the soil.

In short, it was a lengthy process to review the data and reveal nutrition and pH trends. Thankfully, that complex process all changed when Brad and Raylene signed up to the online customer portal - SummitConnect.

SummitConnect enables clients to access all their inSITE soil and plant analysis data.

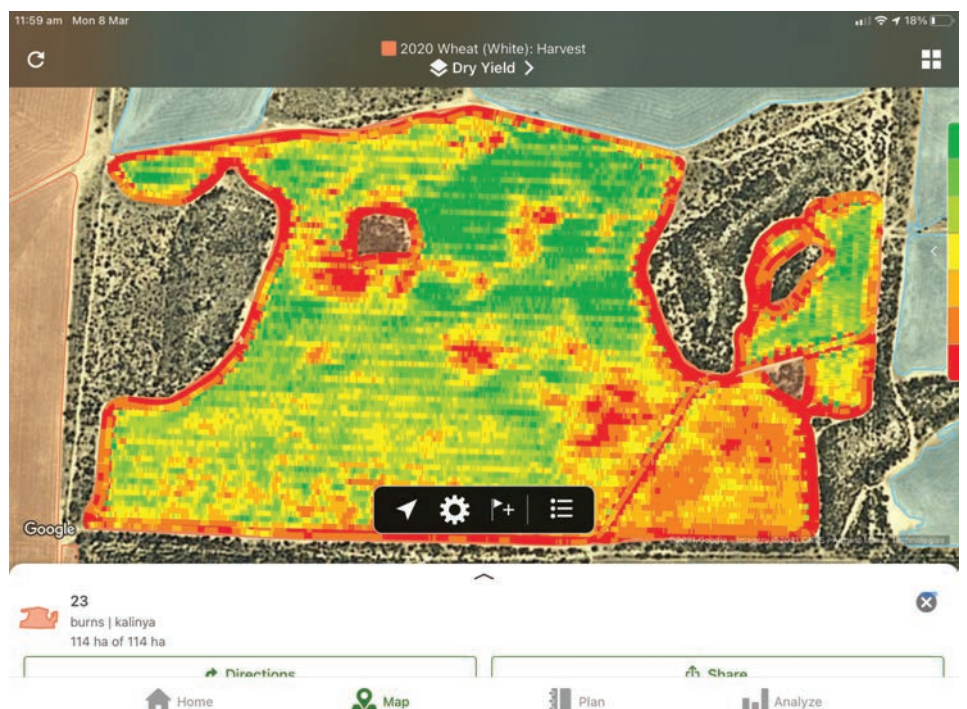
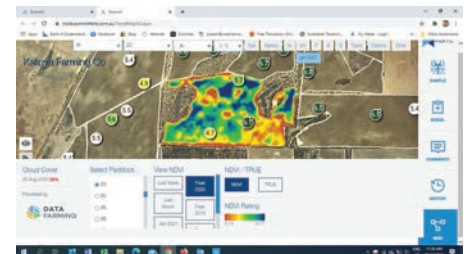
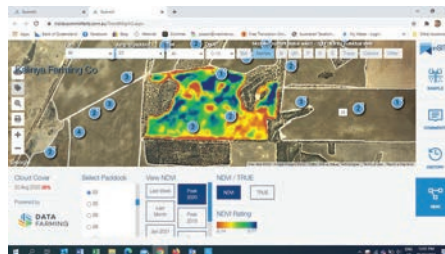
With inSITE, they can receive a full breakdown of test results for individual paddocks. It also includes a useful trend map feature, which is a visual display of how soil nutrients like potassium or soil pH are tracking across different depths, in different paddocks over the years they specify.

"We've come to view inSITE as a one stop shop if you like," says Brad. "It's a good tool for us to be able to look at soil trends for things like our liming program results or potash applications and compare the soil test results with crop performance. It gathers historical data into a visual display that's easy to understand and compare.

Raylene said "We know where we have tested. Shane records the GPS location along with the year. We aim to soil test every paddock roughly every five years. Instead of spending hours poring over old spread sheets and making plans, it's just so much quicker and easier to do the job with inSITE."



Each year Brad and Raylene Burns (above) of Balla crop about 6000ha. Depending on how the season is setup they can grow wheat, lupins and canola. Fallow comes more into play in the dryer years. Their soil types vary from deep yellow sand to red loamy country and like many farms in the area they face the challenge of low soil pH. inSITE soil analysis is an essential part of their fertilizer strategy and with the help of Shane Turner (above right) they have been steadily accumulating critical information on soil nutrition along with other key traits such as organic carbon, electrical conductivity, pH and the soil's phosphorus buffering index (PBI). Using Summit inSITE they can easily pull up maps for many soil characteristics including sample locations and soil pH (images directly below). This information can be compared with harvest yield data from their header (bottom image).



Fuel Gauges reveal potassium limiting yield



Coorow farmers Rod (left) and Daniel Birch with Summit Area Manager, Juliet McDonald. Last season a Fuel Gauge strip (above left) revealed a need for more potassium on medium country that had not been identified before.

As crop yields continue to rise over time with improved management, nutrients are being increasingly removed. Potassium (K) draw-down from the soil profile is an area of interest for Daniel Birch as it seems to be increasingly important on his property, especially on soil types where K issues have never been identified in the past.

Daniel and his wife Jen, along with parents Rod and Shelley, grow wheat, canola and lupins at Catalina Farms, Coorow. Their soil types vary from yellow sandplain through to medium loam with limited heavy country. Their long term annual rainfall is 310 mm and growing season rainfall of about 210 mm. Over the past three years the rainfall has been lower than that.

Addressing a suspected K issue, Daniel asked Summit Area Manager, Juliet McDonald, to set up a K Fuel Gauge on some of their medium country in 2020.

"Juliet has been putting Fuel Gauges in for us for the past six years," he said. "The gauges are very important for us because we like to ground-truth our inputs and analyse what return we are getting from those fertilizers each year.

"The Fuel Gauges allow us to understand if there is any extra yield we could be achieving for a limited additional input. Based on Juliet's Greenseeker readings and Summit analysis, we can calculate whether we should be aiming to put higher quantities of fertilizer on or not.

"In most cases, there is not a great amount of difference between the crops and the strips, which shows us that we are either applying an adequate amount of fertilizer or we may even be over applying for the seasonal conditions.

"But in some cases, we realise we need to be doing more than we are doing, and we wouldn't have known that without the Fuel Gauges.

"We suspected potassium deficiency through some of our more medium country. So we spoke with Juliet and

asked if she could target those locations.

"In 2019 we didn't see any difference in the K Gauges, but our feeling was that in a year of relative drought (140 mm for the year) any deficiency wouldn't have shown up.

"In 2020, the K Fuel Gauges showed up a lot more than what we were expecting despite soil testing on a four-year rotation showing potassium was not an obvious issue.

"Last year plants in the K strip were lush and more advanced, while the rest of the crop was noticeably smaller and lacking the same vigour. The response in the N strip was nowhere near that of the K strip. Greenseeker indications were a 300 kg/ha yield response to K. Plant testing on and off the strip confirmed a K deficiency so we discussed a K strategy with Juliet.

"Initially we discussed direct drilling K down the tube at seeding time, but we had concerns about our single shoot delivery system and how the K product might handle being added to the usual seeding compound. We also didn't want to make the mixture too hot as we are placing fertilizer quite near the seed.

"So, we decided to top spread MOP with variable rate technology in February and March as we have time at that time of year to do that. And hopefully the K will have time to move down with seeding incorporation and rainfall to be near the seed where it should be plant available.

"We wanted to be able to use variable rate technology to target more deficient parts of the paddock with a higher rate and also use soil sampling to try and decide which parts needed higher rates. Applying K in February and March takes out one level of complexity at seeding time and also solves any questions on mixing and handling issues.

"Our seeding fertilizer is Summit DAPSZC, as we feel we get a lot out of the zinc and copper and don't need to do any micronutrient top ups."

Big investment for our northern farmers



automatically controls the process including conveyer belt speed for each hopper, which is regulated to correspond with the weight of loss of each hopper.

"The desired ratios of the different fertilizers are all imputed into the system for the final blend. It all ensures a very even mix of product. With three hoppers we can combine three separate products into our blends and then a fungicide or other coating can be applied if required," Phil said.

With the demand for liquid nitrogen products continuing to rise and every farm having different fertilizer requirements, Summit has invested in some important upgrades to the Geraldton Depot.

In preparation for the coming season, liquid storage capacity for UAN and MAXamFLO at the Geraldton Depot has doubled, and the blending plant has been upgraded with a state-of-the-art Programmable Logistical Controller (PLC).

Summit Executive Manager of Operations, Phil Jacob, said the aim with the new 600t storage capacity would be to maintain full tanks at the Geraldton Depot at all the times during the season and not run stocks down.

"We will continue to manufacture high grade UAN and MAXamFLO locally at Geraldton. If there is

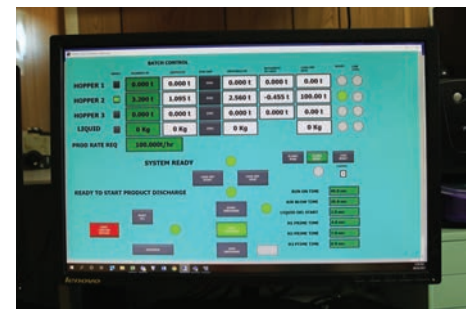
exceptionally high seasonal demand, we can also send product up from the Kwinana depot to supplement the local manufacture.

"More local storage with product available if needed from Kwinana gives us an important supply buffer for the northern area. We have also added radar tank level sensors, which can be monitored and viewed from the Kwinana Depot to improve inventory management and response.

"The blending plant in Geraldton has served us well for many years, but as with many things in the farming industry technology has advanced, and you need to take advantage of it.

"The newly installed PLC system gives us even more refined control over the blending process. We fill the hoppers, which are all on load cells.

"As the weight goes down the PLC



Summit Executive Manager of Operations, Phil Jacob (above left) at the liquid fertilizer plant control box. Geraldton Depot liquid storage capacity has doubled (top) and further refinements with the installation of a PLC system (above) have been made to the blending plant.

Summit website transformed for new season

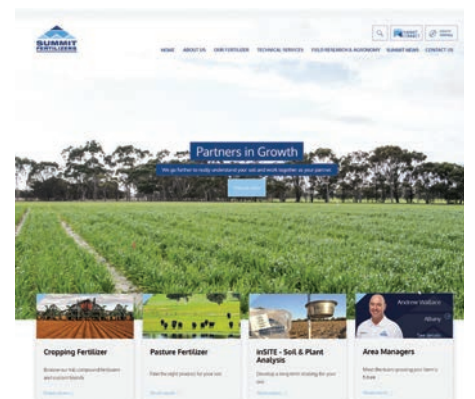
Recent visitors to the Summit website would have seen it has undergone a major makeover. The look and feel of the site have been transformed with easier navigation and information more readily accessible.

As the season progresses, growers are encouraged to visit the site regularly and keep up-to-date.

Trial results are loaded onto the Field Research and Agronomy section as they become available and there will be plenty of news updates.

Recent website upgrades include.

- Improved user-friendliness and up to the minute information.
- A Summit blog, featuring the latest news and stories about how our area managers are working alongside progressive growers.
- Additional fertilizer calculators, organised into a new easier to use layout.
- Optimisation for mobile and tablet devices.



Do you need N or N&S in a liquid product?

Most liquid nitrogen is supplied to WA crops in the form of UAN, however in situations where both nitrogen and sulphur are required at the same time, MAXamFLO offers a well targeted nutrient balance.

MAXamFLO contains 6.2% w/w sulphur and 22% w/w nitrogen.

Growers will find MAXamFLO to be an effective option for many situations and as with UAN, is ideal for use in pre and post-emergent applications.

MAXamFLO offers handling and storage advantages over sulphur-rich granular products such as UreaPlus and sulphate of ammonia.

It is also physically compatible with a range of herbicides, insecticides and fungicides. Summit has carried out compatibility testing (the ability of a pesticide to physically mix with a liquid fertilizer and be used through standard boom sprays) for both MAXamFLO and UAN.

The results and recommendations on use are available on our website.

inSITE plant analysis

As crops emerge following seeding, plant analysis will be an invaluable guide as to whether specific nutrients are 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.
- Area Managers trained in the best plant sampling techniques.
- Customer owned data can be viewed on SummitConnect.

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



Summit MAXamFLO and UAN have similarities and differences. Both are very price competitive products and it is worth noting that on-farm pricing this year has resulted in growers getting their nitrogen in MAXamFLO for a similar price per unit as in UAN. The sulphur in MAXamFLO has come as a welcome bonus. Both are great handling, convenient to use liquid products that store well. They are different formulations however and as such have their own unique properties in terms of mixing compatibilities.

Growers should contact their local Area Manager to discuss just how well MAXamFLO stacks up against UAN this season or check out our website.

Go to www.summitfertz.com.au/liquids-range/key-to-compatibility

Easy to use fertilizer calculators

MAXamFLO and UAN are sold by weight and used by volume. Hence, converting between tonnes and litres (or vice versa) is often required when budgeting for and using these liquid fertilizers.

Taking this into account, Summit has developed a series of easy-to-use fertilizer calculators that are available on our website.

Our calculators make answering questions, such as these a breeze!

- How many litres are there per tonne of UAN or MAXamFLO?
- How much Urea, UAN or MAXamFLO do I need to apply to meet my target N rate?



- How much liquid fertilizer will I use at a particular application rate and paddock size?

Find the answers at

www.summitfertz.com.au/field-research-agronomy/fertilizer-calculator

Gusto with double the Zn & Cu for 2021

Our InSITE soil and plant testing program has shown that copper (Cu) and zinc (Zn) deficiencies in WA soils are still relatively common in some areas.

To help address this issue, the Zn and Cu levels in, Gusto, have been boosted for 2021 (Figure 7).

The reformulated Gusto has double the amount of these important trace elements.

Growers not accustomed with Gusto will find it to be a well balanced easy handling seeding fertilizer. A fully compounded product, every Gusto granule contains the same proportion of nitrogen (N), phosphorus (P), potassium (K), sulphur (S), Cu and Zn to ensure even distribution in the drill row.

Feedback from our Area Manager

team has indicated that the refined formulation will sit more in line with what growers need from an all-purpose cropping compound.

As seen in Figure 8, the K and S content in Gusto has been reduced marginally, which should make the product more cost-effective.

The K and S in Gusto is supplied as sulphate of potash (SOP). SOP contains no chloride, hence has lower salt index and is relatively safer (than MOP - potassium chloride) when placed close to the seed.

Gusto's sulphur in the sulphate form is immediately available to the emerging crop.

Growers interested in learning more about the reformulated Gusto, should get in touch with their local Area Manager or contact 1800 198 224.

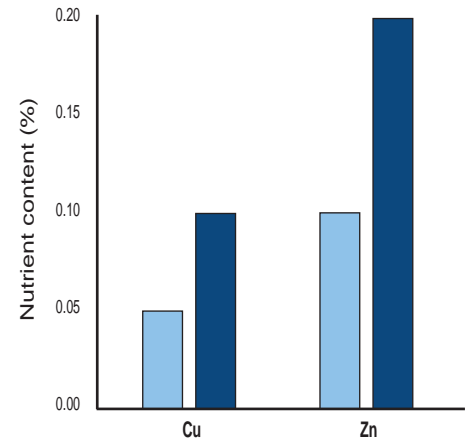


Figure 7. Gusto trace element changes

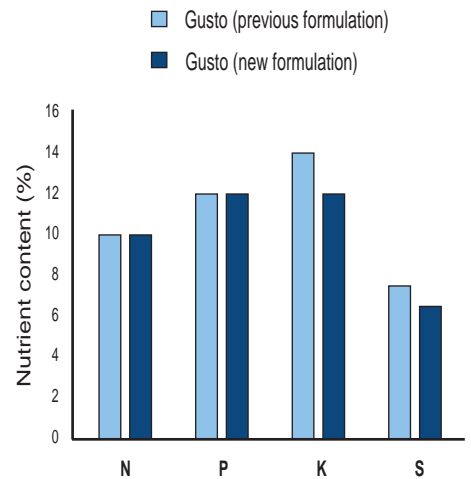


Figure 8. Gusto macronutrient changes

Table 4. Typical product analysis for Gusto and Gusto based products

Product	Analysis (%)							t/m ³
	N	P	K	S	Cu	Zn	Mn	
Gusto	10.0	12.0	12.0	6.5	0.10	0.20		1.12
GustoGold	10.2	13.1	10.3	6.7	0.11	0.23	0.01	1.11
GustoStar	10.4	14.5	8.6	6.4	0.11	0.22	0.02	1.09
GustoRite	10.6	15.9	6.8	6.0	0.11	0.21	0.03	1.07
GustoRich	11.2	11.3	9.6	7.7	0.08	0.16		1.10

Handling fertilizer in high humidity conditions

Following some good summer and autumn rainfall events, it's likely relative humidity on many farms may be higher than normal leading up to seeding. Humid conditions will bring challenges with regards to handling fertilizers.

While farmers have experienced humidity problems it would be easy to overlook lessons learnt because in the past few years, humidity has generally been low and seeding has occurred mostly in drier conditions.

Fertilizers vary considerably in their ability to tolerate atmospheric moisture. It is worth remembering that fertilizer blends generally have lower critical relative humidity than their components.

In some cases it will be significantly lower, making some blends impractical.

Regardless of product or blend, it is good practise to spread a thin layer of hydrated lime on the floor of the fertilizer storage shed. This helps stop the fertilizer drawing up moisture through the concrete.

After the shed is filled, spread more hydrated lime lightly over the fertilizer and cover it with a tarp or plastic. That helps keep air and moisture out and is especially important if the shed doorway faces the prevailing winds.

All fertilizer should be covered whenever it is practical to do so.

When seeding in humid conditions it is good practise to throw a handful of hydrated lime into the fan of the seeder first thing in the morning.

This will be blown throughout the seeding rig and dry everything out before you start.

Leaving seeder tyres on the

ground overnight can cause problems because it will suck moisture up from the soil to condense in the boots.

When loading fertilizer into the seeder, sprinkling a little hydrated lime onto fertilizer going up the auger will coat the granules and again, prevents the granule from sucking in moisture.

When the fertilizer bin is full, add another 1-2kg of lime to the top.

This little extra amount will flow through the system and keep things dry, as in humid conditions the air that is pushed through the system will carry moisture.

Over-use of hydrated lime should also be avoided, because this can create its own problems.

Hydrated lime is caustic so care should be taken when it is being handled, including appropriate clothing, dust mask and eye protection.

Grower based issues drive our research priorities

At Summit we know fertilizer is one of the larger on-farm annual expenditures. To make sure growers get the “best bang for their buck” and use our products in the most profitable and environmentally responsible way, our Area Manager and Field Research teams are here to provide support.

Through working closely with growers, Summit Area Managers are able to identify local crop nutrition issues, which can then be followed up for investigation by our Field Research team. It's the ideal process to ensure Summit trial work meets grower needs and answers relevant questions.

Last season for example, we carried out three Apex Yield trials for Scepter wheat in the Mingenew and Corrigin areas. The goal for these trials was to remove crop nutrient limitations and as such, set a yield benchmark for growers as a reference point for future decision making.

With this thinking in mind, we want to encourage farmers to reach out to their Summit Area Manager and provide information about the local crop nutritional issues that are of importance to them.



Our Area Managers are active in organising local field walks with growers in their region to discuss trial results.

In addition, trial results can also be viewed online at:

Northam Summit Area Manager Brayden Noble hosting a field trial walk with local growers last season. The aim of this trial was to assess the response of Scepter and RockStar wheat varieties to increasing rates of applied phosphorus when sown at different times during the sowing window in the Northam area.

www.summitfertz.com.au/field-research-agronomy/field-research-trials

Would autumn fertilizer boost your pasture profits?

This year, the situation for many livestock producers is that summer and early autumn rains have boosted soil moisture reserves, hopefully setting the season up for a good early start.

So, once you have made the decision to fertilize pastures, the next decision is what should you use?

What you use and how much you put on should be related to the intensity of your livestock production and should also take into consideration other aims you have. For example, maybe you are fertilizing your pasture to increase nitrogen fixation for the following years' crop (assuming you have a legume component of more than 30%).

You should start with soil testing to determine N, P, K and S levels in the soil. All these elements should be there in the right balance before the weather gets too cold. Consider also applying trace elements Cu, Zn and Mo.

If the grass content is more than 70%, consider nitrogen as well.

Table 6. Some of the Summit pasture fertilizer range

Product	Typical analysis (%)			Bulk density (t/m ³)
	P	S	Ca	
Superphosphate (full compound)	9.1	11.0	20.0	1.15
SuperPasture	13.6	10.5	17.1	1.11
Summit Pasture	18.2	10.0	14.2	1.07

Summit offers the widest range of pasture fertilizers in Western Australia. Even so, our extensive range is not the whole story.

Quality products make life easier and end up returning you more dollars. Uneven spreading for example, caused by poor fertilizer quality, results in irregular production and wasted fertilizer.

Summit features the best quality superphosphate in WA. Summit Superphosphate has even granule distribution, so as well as great handling you can achieve a more even spread across your paddocks.

Another great handling product is Summit SuperPasture.

A well granulated even fertilizer, SuperPasture is more concentrated than SuperPhosphate, offering savings in freight, handling and spreading.

SuperPasture has both quick acting and sustained release forms of sulphur for extended sulphur supply to plants. It is an ideal fertilizer for wetter winters and areas of paddocks that are hard to access when wet.

Complementing the range, Summit Pasture combines even higher levels of phosphorus with a sulphur top up, potentially delivering even more freight and handling savings.

All these products can be purchased containing potash or trace elements including selenium.

SummitConnect an easy to use business portal

At Summit, we want to make it as easy and convenient as possible for growers to do business with us. In line with that philosophy we have invested significant time and resources into developing the SummitConnect business portal.

The goal of SummitConnect is to provide customers with anytime access to key information about their Summit account and inSITE soil and plant testing reports. Many customers have already signed up and we are keen to get many more on board so that they can take advantage of this great facility.

A particularly useful feature of the portal is inSITE trend maps, which allows paddock boundaries to be inputted so growers can monitor how soil nutrients, pH and other soil properties are tracking over time.

As a result of our partnership with DataFarming, these trend maps can be overlaid with 10 x 10m NDVI (normalised difference vegetation index) satellite generated images. These maps are updated at least every 5 days, enabling continuous monitoring throughout the growing season.

This handy tool provided free for Summit clients is particularly useful for growers and Summit Area Managers.

Problem areas in paddocks can be readily identified and quickly followed up for further investigation with tools like Summit inSITE Soil & Plant Analysis.

In addition, SummitConnect provides a simple and convenient way to oversee all of your fertilizer transactions with us.

The user-friendly interface, allows clients to easily view:

- Details of all orders with Summit, including collection month and payment terms.
- Individual fertilizer collections and download loading and weight dockets.
- Transactions like your payments, credit limit, monthly statements and your tax invoices.

With the SummitConnect portal everything you need is in the 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 save time when it comes to the end of the financial year. If you'd like

to learn more about how our new customer portal will benefit you, contact your local Summit Area Manager.



A SummitConnect trend map showing inSITE soil analysis results overlaid with NDVI data provided by DataFarming.

New agent in Boyup Brook area

Summit is pleased to welcome Saxon Service Industries as a new fertilizer agent operating in the Boyup Brook area.

Saxon Service Industries Principal, Andrew Ricetti (below), will work with Summit Area Manager,

Kojonup, Chloe Turner to service the needs of local growers. Both Andrew and Chloe have extensive experience in the cropping and livestock sectors.

Growers can contact Andrew on 0419 672 035.



Your Local Summit Fertilizers Area Manager



GERALDTON
Shane Turner
0429 947 919



COOROW
Juliet McDonald
0429 945 332



WONGAN HILLS
Brenna Gray
0408 711 954



MOORA
Brett Beard
0429 900 607



NORTHAM
Brayden Noble
0417 490 047



KELLERBERRIN
Tracey Hobbs
0429 470 007



MERREDIN
Kobus Marais
0427 766 508



NARROGIN
Brett Coxon
0427 766 506



CORRIGIN
Steve Cooke
0429 934 243



BUNBURY
Ralph Papalia
0427 766 535



WILLIAMS
Jarrad Martin
0427 788 521



KOJONUP
Chloe Turner
0447 469 245



LAKE GRACE
Mark Stephens
0427 766 517



ESPERANCE (WEST)
Tim Donkin
0408 092 355



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