Autumn 2024

Regional Fertilizer News

Latest news from the Esperance region

Welcome to Summit Regional Fertilizer News

Summit Fertilizers welcomes growers from Ravensthorpe through to Esperance - east, to the first edition of our Regional Fertilizer News.

It's a new initiative aimed at giving growers throughout the Esperance Region the most up-to-date and local information on crop and pasture nutrition.

There is no doubt farms in the south-east have their own unique climatic and soil conditions. We plan to deliver information that is more regionally specific, and already there is plenty to get excited about for this season.

Firstly, Summit Fertilizers Regional Sales Manager - South, Gary Lewis, said he would like to acknowledge the great work done in the Esperance region by Tim Donkin.

"It was sad to see Tim leave us," Gary said, "but we trust retirement will serve him well. From all of us at Summit, we wish Tim the very best.

"His very capable replacement, Matt Ryan, has taken over as Summit Esperance Area Manager - West.

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"Plenty of growers will already know Matt for his great work and extensive knowledge of farming systems in the Esperance region.

"He has more than 20 years experience in the area, most recently in a wide-ranging agronomic role.

"In the coming seasons Summit will unveil an exciting array of new agronomic tools to help growers with fertilizer decision making.

"Matt has the perfect background to help with this nutrition evolution. He is looking forward to catching up with growers in his area and using his extensive skill set.

"Growers west of Esperance should make sure they make contact with Matt.

"And of course, Matt joins the hard working, ever reliable Nick Donkin who continues to service growers nutrition needs east of Esperance.

"Nick's passion and enthusiasm for helping growers is unquestionable.

"His knowledge of the Esperance region is comprehensive.

"We think Nick and Matt will make a great team," Gary said.

Inside this issue!

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For more information talk to your local Summit Area Manager

SUMMIT FERTILIZERS

The value of DGT-P

The DGT-P soil test used by Summit has potential to redefine crop P requirement predictions on phosphorus-fixing soils.

Summit has for a long time offered the Colwell P test as a measure of the amount of soil P available for plant uptake. This test however has shown some limitations with values that can be somewhat independent of the soil's ability to bind phosphorus.

Hence, the Colwell P test needs to be interpreted in association with a PBI test. Again, this can be problematic as these methods have been shown to overestimate available P on certain soil types including;

- calcareous;
- acidic soils; or,
- where iron or aluminium are present in high concentrations.

The Summit Fertilizers partnership with independent soil and plant analysis laboratory APAL, introduced a new procedure to WA growers to gauge plant-available soil P.

The DGT-P test from APAL differs from more conventional soil extraction methods in that it mimics the action of plant roots. An iron oxide gel disc is placed on a saturated soil sample. The gel acts as a sink, binding forms of P that are able to diffuse through the soil solution and through an additional gel membrane, just like a cell membrane in root uptake (see image above).

The amount of P bound to the gel is then measured.

An advantage of the DGT-P test is that the inherent properties that govern P availability in the soil will determine the test result, so testing for a second correcting factor (such as PBI with Colwell P) is not necessary.

Summit P trials are continuing to build our knowledge on the value of DGT-P tests, relative to crop response.

Some 2023 research highlights

(L - R) Summit Fertilizers Regional Sales Manager - South, Gary Lewis, recently retired Tim Donkin and Summit Area Manager Esperance - East, Nick Donkin in the Boyatup NPK wheat trial last year.

The challenging weather conditions that confronted many WA growers in 2023 was likewise felt by the Summit Field Research Team.

The northern wheatbelt was very dry. Many areas to the south received little-to-no rainfall after mid-September, coinciding with critical spring grain filling and pasture growth.

Nevertheless, the Field Research Team pushed on and 36 nutrition trials were established and harvested, offering a varying range of treatment responses. Bearing in mind the long standing variability in WA's seasonal fortunes, it all helps us provide the most appropriate nutrient management advice for our clients.

P is key trials

Summit 'P is key' trials added weight to our growing database of soil Colwell P and DGT-P tests, relative to crop response (for information on DGT-P tests, see article left).

The 2023 results aligned with previous Summit and GRDC trial work on soils with PBI of 50 and above, and further reinforce that DGT-P soil testing is the most reliable indicator of cereal crop responsiveness to P fertilizer. Both DGT-P and Colwell P testing are available through Summit's soil analysis program - inSITE.

A focus on N efficacy

Elsewhere, nitrogen was a focal point, in particular with the increased interest in urea volatilisation.

Summit Field Research incorporated NBPT (N-(n-Butyl) thiophosphoric triamide) based urease inhibitor into five crop and three pasture trials in 2023, for preliminary investigation.

Despite the overall weather conditions not being particularly conducive to either volatilisation or nitrification, the results generally showed no substantive increase in production from the use of inhibitors.

Importantly though, no negative impacts on profitability were seen.

There were indicators of plant physiology responses that require more investigation, such as increased shoot tissue nitrogen concentrations in pasture through a grazing rotation, and a hint of higher grain protein unrelated to yield.

The addition of N-Shield NBPT and N-Shield Dual to Summit's range this season is generating a lot of interest (refer page 4).

Research to clarify the optimum use scenarios for these inhibitor products is ongoing in 2024.

Esperance 2023 trials

In 2023, Summit had two relatively high yielding NPK trials at Boyatup - 100 km east of Esperance. One trial was in Illabo wheat and the other was 45Y28 RR canola.

The aim was to test our current ideas on production boundaries by removing nutrient limitations, known within Summit as 'Apex Yield' trials.

Aside from testing responses in either wheat or canola, both trials had identical treatments. They were factorial design and tested two rates of P, three rates of K and five rates of N, as follows:

- P: 20 and 40 kg/ha
- K: 0, 25 and 50 kg/ha
- N: 0, 80, 120, 160 and 200 kg/ha (Higher N rates received top-up in-season applications)

Sown in April, the trials had well above average rainfall for that month (about 80 mm) and well above average rainfall for June (about 130 mm).

However, rainfall in spring was below average in September, well below average in October and virtually nonexistent in November.

The sharp finish to the season meant the big accumulated crop biomass ran out of soil moisture quickly. Hence, these trials shared the same fate as many grower crops in 2023, i.e. a season that 'could have been'.

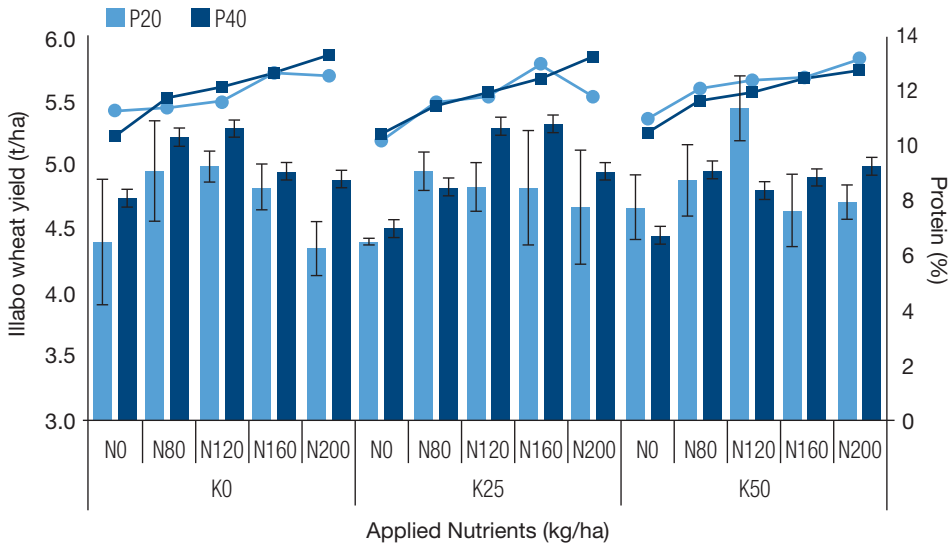
Esperance region 2024 trials

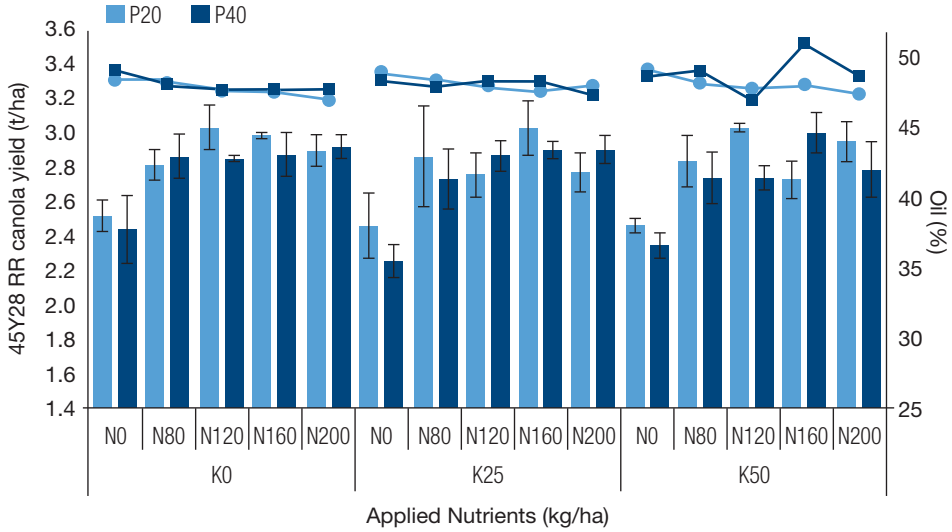
2024 will be another big season for Summit nutrition research in the Esperance region. Three separate trials are planned.

Summit has long-term phosphorus and long-term potassium trials already in-place. Both are now in their fifth year and are revealing a lot of information as they stretch over common region rotations.

The third trial is planned to be an extensive investigation of some of the most exciting new Enhanced Efficiency Fertilizer (EEF) products to improve nitrogen use. So stay in touch.

Top two images - right, are the 2023 NPK Illabo wheat trial site at Boyatup with yield and protein results. Below those images are the 45Y28 RR canola trial site and details of yield and oil content. Contact Nick Donkin or Matt Ryan if you would like more information.





Protecting your urea investment

For growers who apply urea and have to cope with conditions that can reduce its efficacy i.e. unpredictable follow-up rainfall, warm/windy weather, high-pH soils, or rainfall leaching events, Summit has released two exciting new solutions.

N-Shield NBPT and N-Shield Dual are new options for 2024 and are designed to optimise nitrogen use efficiency. They are the first of the Summit Enhanced Efficiency Fertilizer (EEF) range of products.

N-Shield NBPT contains N-(n-butyl) thiophosphoric triamide (commonly known as NBPT).

NBPT slows down the conversion of urea to ammonium by inhibiting the enzyme 'urease'.

Ammonium gas is an intermediary in that conversion and can be lost to the atmosphere (volatilisation).

NBPT provides protection against volatilisation after light rain events and can last up to 28 days (depending on weather conditions). Full urea release typically occurs after individual rainfall events of 6 mm or more.

It is important to note that N-Shield NBPT is in a unique environmentally-friendly position, because it does not include N-methyl Pyrrolidone in the solvent package (a known carcinogen often used in other NBPT products).

Growers wanting another level of protection for their urea applications should consider N-Shield Dual.

N-Shield Dual is a premium urea fertilizer, suited in particular to higher rainfall situations.

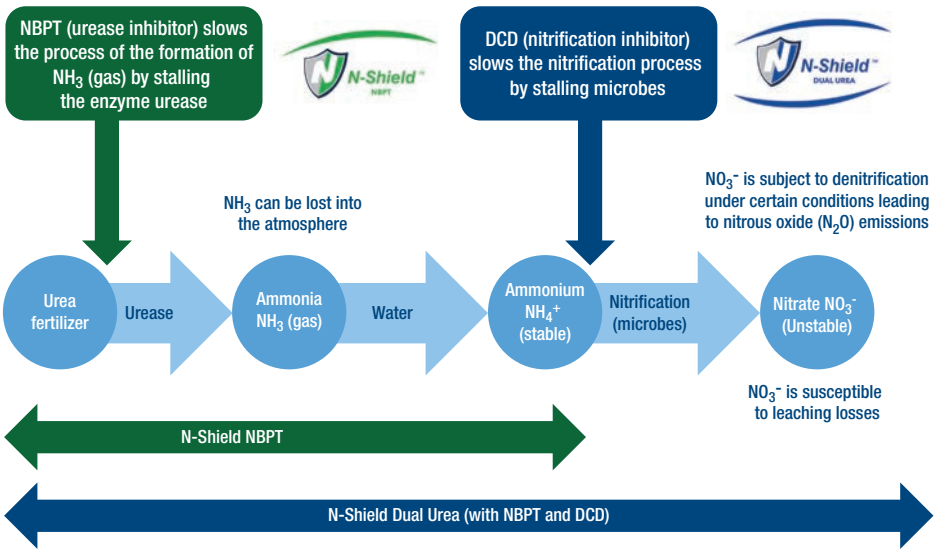
It has all of the protection benefits of the NBPT in N-Shield NBPT, with the added benefit of Dicyandiamide (DCD).

DCD controls the release of nitrogen by maintaining it in the more stable NH_4^+ form for longer.

The addition of DCD to NBPT In N-Shield Dual has the added potential to reduce leaching losses, and could conceivably lead to less frequent N applications at higher rates.

N-Shield Dual is the only high active dual inhibitor on the Australian market.

Growers wanting more information on these exciting 2024 urea developments should contact their local Summit Fertilizers Area Manager.



Good for growers, good for the environment

There continues to be a lot of discussion around environmentally responsible farming. To meet the continued push towards 'net zero' emissions, Summit is working with growers, grower groups and industry to provide practical solutions for our customers. We have recently been trialing urease inhibitors applied to granular urea and are pleased to introduce N-Shield.

The N-Shield range is designed to optimise nitrogen use efficiency and reduce ammonia volatilisation. In higher rainfall zones a dual action NBPT/DCD coating can also minimise the leaching of nitrates, and in waterlogged situations, nitrous oxide emissions caused by the denitrification process.

N-Shield™ Sustainable Enhanced Nitrogen

Summit news your way, your choice!

Summit has for a long time offered our Newsletters in direct mailed print form. We thought it about time we give you more choice as to how you can receive this, along with other up-to-date news we have available!

If you prefer, you can have the Newsletter emailed straight to your inbox. Or, you can choose to receive via both email and mail.

Just let us know by sending your delivery preference to:

marketing@summitfertz.com.au

please include:

- your name,
- trading name, and/or
- customer number.

Social Media too

Between newsletter issues there is always plenty happening at Summit.

Trials are going in, field days are being held, community functions are being supported and our Area Managers continue to go about their business helping customers.

Join us on:

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A big season planned for 2024 Field Research

The coming season will see the Summit Field Research team embark on its most ambitious field trial program ever.

Plans are in place for more than 60 field experiments across State. These will cover many aspects of crop and pasture nutrition, and with a few important themes.

The growing focus on emissions from agriculture has led to a rejuvenation of interest in both old and new technologies to decrease volatilisation and potential for denitrification of soil nitrogen.

The introduction of N-Shield® NBPT and Dual to the Summit range provides opportunity to look at how these and potential new products perform over the diverse range of conditions.

Potential to integrate this technology into farming systems in different ways, and the ultimate impact on grower profits will be a strong emphasis of the 2024 program.

Similar to the broad spread of nitrogen process inhibition products, we are seeing a suite of new offerings from our suppliers in what may be termed the “biostimulant” sector.

We will be working with a select few from a collection of many, to assess whether they enhance the health, growth and yield of crops. They can benefit nutrition by a number of mechanisms. Watch this space!

Collaborative field work with UWA, DPIRD and GRDC on pasture legumes in cropping rotations, plus a broader grain legume fertilizer requirement project will keep our agronomy advice in step with external research findings.

Our partnerships with CropX and DataFarming will progress development of a range of new and exciting technical services for customers that require field testing and validation.

And of course, we continue with our long-standing independent and robust work on fertilizer rates and applications. This work relates to soil and plant indicator requirements specific to local conditions. It remains a foundation for our crop nutrition research, as the farming landscape evolves and changes through machinery, paddock practice and a shifting climate take place.

Testing new enhanced efficiency products

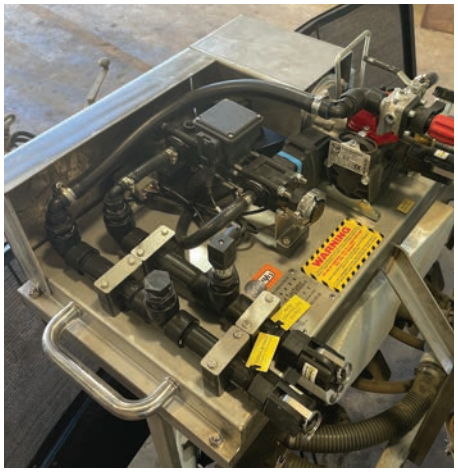
Taking action on increased grower interest in additives and coatings that can improve nitrogen use efficiency, Summit has 15 specific trials planned for 2024.

These trials will test the N-Shield product range across the WA agricultural region - from Eradu to Esperance. They include major crop types, as well as pasture production. Four products will be compared at each site and compared with straight urea and UAN.

As well as various timings, alternate application strategies and their effectiveness seeding and post-seeding will be tested. Trials will be placed strategically to cover a wide variation in rainfall, soil types and farming systems.

The recent addition of a variable rate liquid rate controller (pictured right) to our trial seeder will allow us more flexibility with trialing new products.

To complement the 2024 trial season and testing of N-Shield, we will be continuing to investigate some new Enhanced Efficiency Fertilizer (EEF) products.



Summit trials that put the addition of the N-Shield range of products up against straight urea and UAN will stretch across the entire State in 2024. A variable rate liquid controller fitted to the trial seeder ready for the 2024 season will allow the team to band variable rates of UAN in each trial plot.

Gary Matten, our newest Field Research Officer

To achieve all our research goals in 2024 and beyond requires substantial resources, including people. It gives us great pleasure to welcome Gary Matten to our team as our newest Field Research Officer.

Gary is a Curtin University Agribusiness graduate. He shows a passion for the science that underpins agriculture, especially soil and plant nutrition, and determining how things work that lead to the best agronomy outcomes.

Look out for Gary and the rest of the team. No doubt, they will be in your neck of the woods at some stage as the season progresses.

All the best to WA growers for a safe and prosperous 2024.

SUMMIT CONNECT

SummitConnect is our online customer portal, where customers can view both their fertilizer transactions and inSITE soil and plant test history.

SummitConnect is available on the Summit Fertilizers App or via web browser. Download the App on your mobile device from the Apple App Store or Google Play.

If you have questions on how to sign-up for SummitConnect or how it will benefit you, please contact Nick Donkin or Matt Ryan.

CropX agronomic tools to help decision making

2024 signifies an important landmark in Summit's technical service offering as we officially announce we are the CropX distributor for Western Australia.

CropX is a digital farming solutions company founded in New Zealand in 2013. Their vision is to integrate soil sensor technology with digital platforms, to help growers better understand and utilise available soil moisture.

CropX is all about data-driven decisions for improved agronomy, i.e. real time measurements from your own farm paddocks, interpreted by smart systems, helping you make better decisions.

Central to the CropX system is patented hardware including:

- the CropX Soil Sensor. These are wireless and easy to install with a unique spiral design. They monitor below ground soil moisture and electrical conductivity;
- the CropX digital rain gauge; and,
- the CropX Telemetry Device, capable of connecting to a wide range of third party sensors and other devices.

cropx

www.cropx.com

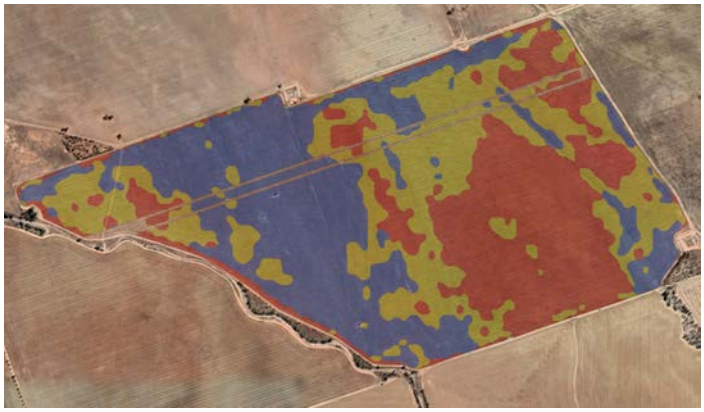
Validating CropX for WA

In 2023, the Summit Field Research team undertook a substantial validation program to determine how well CropX digital farming solutions might fit as a management tool in WA broadacre farming. Despite being a sub-optimal rainfall season across large parts of the wheatbelt, the data collection proved very useful, and we observed strong and consistent relative data values between CropX and our field observations.

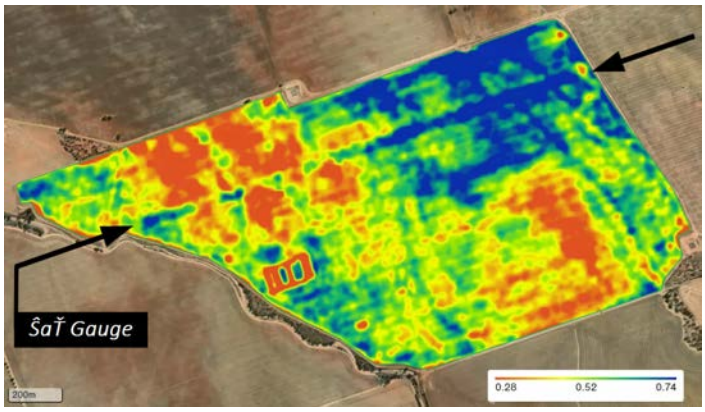
Hot off the press

A new feature to the CropX digital farming solutions system is technology and hardware to determine evapotranspiration. It interconnects soil moisture measurements with crop water use, for a more complete picture of water movement in the paddock and through the plants. This and more farm machine data features are nearing roll-out.

SaT Gauges and what they could do for you



SaT Gauges are large scale nitrogen strips that can cross a number of different paddock production zones. A lot of their value comes from showing how each crop zone is likely to respond to applied N.



At Summit, we can now combine satellite NDVI with paddock-scale SaT Gauges and our in-season N Calculator to generate variable rate N application maps. This will shore up confidence that nitrogen is being applied more strategically to optimise performance.

Understanding your soil moisture status and how it changes during the season has long been a missing piece of the crop management puzzle for growers. Lack of accurate, up-to-date, on-farm soil moisture information adds to the guesswork of in-season fertilizer decisions.

Tackling this issue, newly available CropX tools available through Summit have a lot to offer growers and we see a number of exciting possibilities.

Linking CropX's AI data analysis power to our current crop assessment procedures will help to 'de-risk' in-season nutrition and application decisions.

In our last Broadacre newsletter we introduced the concept of SaT Gauges. SaT Gauges are large, farmer scale nitrogen strips in the paddock that can cross a number of different production zones. They combine satellite NDVI with the in-season N Calculator, to guide more informed N management decisions.

SaT Gauges incorporate the option of variable rate N application within a paddock, if desired. The N calculator was breakthrough technology designed by Esperance farmer David Cox. It uses model estimations of decile 5 rainfall post-application, to help determine responsiveness and optimal return on applied N.

Advancing technology with CropX system hardware has meant we are now at the next step with the luxury of real time, on-farm rainfall data, and up-to-date soil moisture measurements.

It is a huge step and will improve model response calculations.

50,000 tonnes of extra UAN storage capacity

Back in 2007, Summit officially opened the Esperance liquid fertilizer plant. At the time, the facility had 350 tonnes of liquid storage capacity and the potential to generate up to 200 tonnes of liquid fertilizer per 24-hour shift.

The investment undoubtedly benefited south-eastern growers, by offering more choice and increased competition in the marketplace.

"Over the past 17 years there has been ever-expanding demand for liquid N, in particular for UAN," says Nick Donkin, Summit Fertilizers Esperance Area Manager - East.

"Being subject to seasonal conditions, the demand for UAN, including at the Esperance Depot can be high.

"When the season gets into full swing and decent rain falls, growers having access to UAN when they need it is absolutely critical.

"Hence, Summit's investment in bulk UAN storage at the Kwinana Depot, with the capacity to store up 50,000 tonnes of UAN, provides us with a huge back up supply when needed," Nick said.

Locally manufactured UAN has already started flowing into the new storage facility at the Kwinana Depot in preparation for the 2024 season.

Addressing the issue of 'locked up' nutrients

In some areas last year, late winter and spring rains did not keep up with early season moisture and crop growth.

That brought about many scenarios, particularly to the north, where applied soil nutrients were taken up by the crop with early growth. Then, the result of poor finishing rains was those nutrients were not mobilised to fill grain.

For this season it all adds another layer of complexity to nutrient decisions. The simple assumption would be that if a crop with a yield potential of 5 t/ha only reached 3 t/ha, then those nutrients would remain after harvest and allow you to cut back on your fertilizer spend this year.

That could be the case, especially if your property has received substantial summer or autumn rainfall and stubble has been incorporated back into the soil and broken down.

Often though, it isn't that straight forward because there are significant processes involved in the release of nutrients from stubble. Full nutrient recycling can take many months or years, and is determined by rainfall and temperatures, microbial activity, and how the stubble is managed.

So a key message for 2024 is that some of those nutrients may be still in the paddock, but locked up and unavailable, especially early in the season.

Hence, the importance of recent soil testing should not be underestimated to gain the most up-to-date information for your current seeding requirements.

Summit offers a comprehensive soil testing package that includes analysis done by APAL, a completely independent testing laboratory.

And remember, Area Managers - Nick Donkin and Matt Ryan are here to help you every step of the way.

SUMMIT inSITE

Soil test with Summit Fertilizers inSITE, the industry leading soil analysis program.

Benefits include:

- Independent laboratory.
- Fast turnaround times.
- Wide range of analytes measured.
- Recommendations based on extensive database modeling and area manager experience.
- Support from your experienced local Summit Fertilizers Area Manager.
- View results on SummitConnect.
- Customers own their data.

Working together with growers, contact your local Summit Area Manager

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Summit works alongside farmers, and collaborates with grower groups and research organisations. We are proud sponsors and supporters of

SEPWA

ASHEEP & BEEF

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