Winter/Spring 2020

Pasture News

Eyes in the sky focused on delivering easy to use on-ground solutions

Summit Fertilizers has joined forces with Australian company DataFarming in an exciting partnership that will grow and expand the value of easy to use precision agriculture (PA) tools. Initially, what it will mean is that Summit clients can have free access through the SummitConnect user platform to 10 x 10m NDVI¥ (normalised difference vegetation index) images. Updated at least every 5 days, these satellite generated images can be combined with other Summit inSITE tools like soil and plant testing, to provide growers with new ways of reviewing paddock performance.

This exciting development will enable Summit clients and Area Managers to more easily:

- View pasture or crop health.
- Pinpoint on-ground issues in-season, to identify problem areas worthy of further investigation.
- Save time and money knowing where to best target fertilizer applications.

For Summit, combining laboratory analysis data with remote sensing information is a logical step. However, if not handled with care it can generate a lot of complexity which may be overwhelming, or time consuming and produce splendid visuals with animations that make the data seem more complex than it needs to be.

While Summit are experts in crop nutrition, we are not experts in remote sensing or precision agriculture tools.

So it's pleasing that our relationship with DataFarming has developed so quickly. DataFarming has a goal to make accessing and benefiting from PA technology as easy as possible and in doing so, break down the barriers to grower adoption.

By Ralph Papalia
Business Manager/
Agronomist
Bunbury Depot

We share a common philosophy with regard to digital technology and integrating that technology into usable agricultural practices. Usefulness should be at the core. We are looking to simplicity over 'bells and whistles' along with affordability for growers.

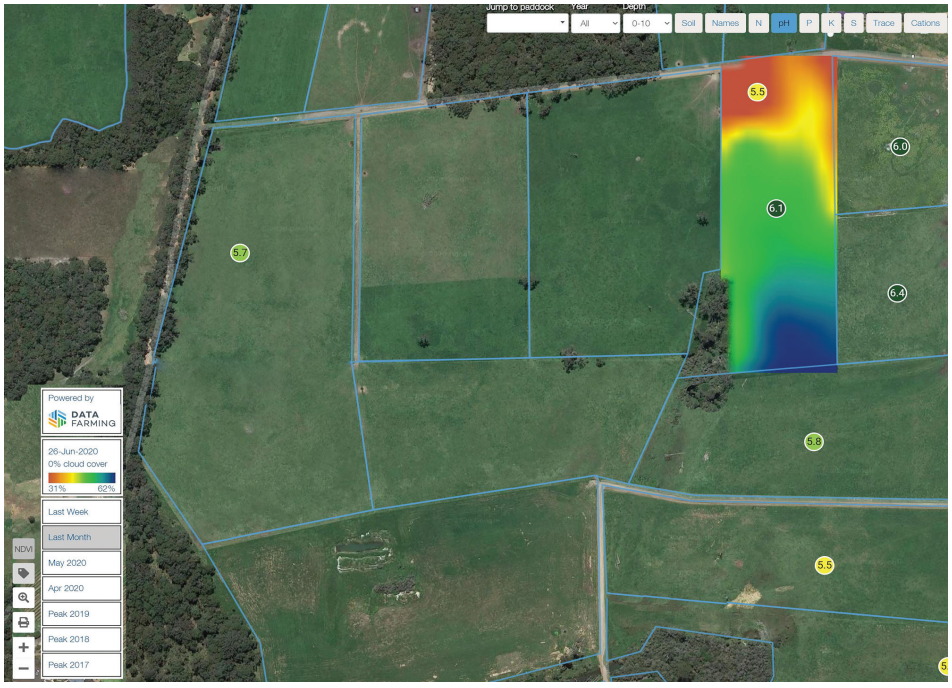
The products DataFarming is developing fit very nicely with our offering. We already have tools that are simple to use, to better determine soil and tissue sample locations.

The development of new Summit software allows the integration of tools such as regular NDVI satellite imagery.

Both soil and tissue sampling need to be targeted. The days of bulk sampling are over. Like us, DataFarming work closely with APAL labs, which further integrates the services for farmers who use Summit.

DATAFARMING

¥ See page 3 for a full article on NDVI and the exciting potential.



In an exciting new development, Summit customers can have free access to NDVI images updated at least every 5 days through our partnership with DataFarming.

For more information talk to your local Summit Area Manager

SUMMIT FERTILIZERS

Growers should gear up for spring pasture growth

The end of winter is the ideal time to review the season to date, so that you can put into place a fertilizer program that will maximize spring pasture and crop growth.

Every day's growth will be important from here on.

With the past two years now behind us the philosophy of many is to grow feed that is in excess to their animals current needs to create a growth wedge. It's good to have that feed buffer because animals can go from having excess pasture to very little in a short period of time as a result of unseasonable weather. Looking towards the longer term, you want to set your pastures up for the best possible spring growth.

Reviewing the season to date is important because recent weather conditions and pasture or crop growth will have an impact on soil fertility and pasture productivity going forward.

To summarise the first half of the year, rainfall in the Southwest would best be described as reasonable - although somewhat patchy.

Compared to the previous two years though, growers have managed to produce some very handy pastures, in particular those that received decent early opening rains.

In general, growers have done well with the rainfall and many pastures looked like they had a dose of early nitrogen. That is due largely to the fact that the soil stayed much warmer for longer this year.

In relative terms, June 2020 was a very warm month for the Southwest. Mean maximum temperatures were above to very much above the long term average for the month.

It follows a much bigger statewide trend which showed that WA's mean maximum temperature for June was the highest on record. In fact, right across the State it has been a particularly warm start to the year (January–June) with the statewide mean temperature being the fifth warmest January–June period on record.

What are the implications?

If we compare the first half of 2020 with the previous two, 2019 and 2018 had particularly late rainfall breaks as a lead up to winter.

As a result, pastures in 2018 and 2019 got off to a slow start. Pasture seed didn't germinate as well in the cooler soil conditions, seedling growth was reduced due to a cold start and early season nutrient mineralisation was limited, firstly by the lack of moisture and secondly because when the rains did come, low soil temperatures slowed down microbial activity in the soil.

Lack of early season mineralisation meant that as soils warmed up later in the season, microbial activity and the nutrients that then became available - along with applied fertilizer fuelled spring growth.

A very different scenario in 2020

More soil moisture and above average soil temperatures has enabled better mineralisation in the first half of 2020. Some of the nutrients that have been locked up because of two poor mineralisation years have been released.

The take home message is don't be lulled into a false sense of security. It is a very different scenario to last season. If pastures have grown well up until now, they are drawing on soil nutrient reserves. You want to make sure you have enough nutrition there to finish off the season.

Nitrogen, potassium and sulphur are the macro-nutrients you want to pay particular attention to at this time of the year. If you experience heavy rain events and have lighter soils, watch out for sulphur. Even though previous soil tests have shown robust sulphur levels, it is a leachable nutrient on sandy soils

So, review your fertilizer inputs for the year to date and draw up a new set of plans if you need to.

Overall, this year could be a bigger production year than the previous two and growers will need to monitor the situation and fertilize their pastures accordingly.

Armed with soil analysis results and other useful tools like inSITE plant tissue analysis, growers can put a plan into place that will achieve maximum economic returns for their fertilizer spend.

Growers should call myself (Ralph Papalia) or Mark Ladny if you need any specific advice.

Table 1. Fertilizer suggestions based on nutrition and pasture varieties

Paddock nutrition and pasture mix scenario	Product	Fertilizer rate
Some phosphorus required in spring. Paddock has predominantly ryegrass and some clover in the sward.	HaySpecial	150kg/ha to 250kg/ha*
Some phosphorus required in spring. Paddock has predominantly clover and some ryegrass in the sward.	Hay	
No phosphorus required in spring. Paddock predominantly ryegrass and some clover. The paddock has a long history of being cut for hay or silage and has low soil potassium test results.	NKS32	
No phosphorus required in spring with predominantly ryegrass and some clover, but has good soil test results for potassium	NKS21	
No phosphorus required in spring and predominantly clover with some ryegrass and low potassium soil test results	GrassBoost	

*Fertilizer rate will depend on a range of factors including yield potential, seasonal conditions etc.

Table 2. Approximate nutrient removal (kg/t) of hay or silage

	Nitrogen	Phosphorus	Potassium	Sulphur	Calcium	Magnesium
Cereal hay	20	2	12	1.5	12	3
Ryegrass & clover hay	25	3	20	2.5	9	4

If growers are not rotating silage or hay paddocks, they need to be aware these farm practices remove large amounts of nutrients (see Tables 1 and 2 for fertilizer suggestions and approximate nutrient removal). To maintain long-term soil fertility, removed nutrients should be replenished (either as fertilizer or other nutrient carriers – dung, urine, hay etc) or both. Summit inSITE tissue testing will add certainty to fertilizer decisions.

Introducing DataFarming

DataFarming Managing Director - Tim Neale

On the news of a strategic alliance between Summit Fertilizers and DataFarming, we asked DataFarming Managing Director, Tim Neale, to provide his insight into his company's strengths and the partnership.

Q. What is the overall vision/goals of DataFarming?

A. Our aim is to take precision agriculture (PA) from boutique to mainstream – and to massively increase adoption. We want digital technology to be a part of daily agronomy activities to improve efficiency and reduce variability, and ultimately provide greater returns for growers. Most paddocks in Australia typically vary at least 300% in yield. There is a lot of opportunity to reduce this variability and this starts with quantifying the problem and ground truthing; which is where technology can help. Our platform already has 16,000 farms and 80,000 paddocks using satellite imagery – mostly in Australia. Growers and agronomists really want this data, it just needs to be provided in an easy to use and cost-effective manner.

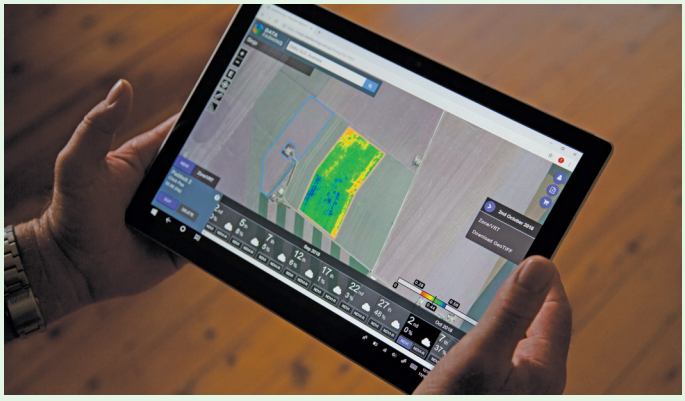
Q. How do you think partnering with Summit will help?

A. Partnering with Summit provides a fantastic pipeline to the market due to the close connection that Summit has with WA farmers. Trusted advisors are key to getting this data used on the ground – and they are the ones helping growers most. The products that DataFarming have developed fit very nicely with Summit's offering as well. We offer simple tools to determine soil and tissue sample locations, as well as variable rate fertilizer application.

Q. Why do you think Summit is a good partner?

A. Summit is a well-respected company that has great presence in WA and is a leader in the market. The development of Summits' new software allows the integration of tools such as regular NDVI satellite imagery, and in the future auto-zoning for variable rate prescription. Soil and tissue sampling need to be targeted. The days of bulk sampling are over. DataFarming also work closely with APAL labs, which completes the loop for farmers in WA who use Summit.

What is NDVI and what are the opportunities for pastures?



Normalised difference vegetation index or NDVI as it is more commonly known, is all about identifying variability and is a very useful tool for identifying differences in vegetative growth. Put simply, NDVI is a measure of the greenness of plants over an area (dark to light). An underlying assumption often made is that dark green correlates with better growth and higher yields.

Differences can be large or small, but very discernible as a vegetation index when, sometimes, differences are not visible to the naked eye. On their own, these differences and their distribution can be used to:

- Detect areas of stressed plants and areas of concern.
- Identify high to low performing areas.
- Track plant health.

It is when NDVI is combined with other data, tools and models that Summit is continuing to develop that it becomes more powerful. Then it can then be used to:

- Estimate yields of crops.
- Predict optimum fertilizer requirement at a given point in the season.
- Create variable prescription maps (for all sorts of things, including fertilizer).
- Relate performance to historical factors (soil nutrient analysis, fertilizer use, weather, management etc).
- Compare particular time frames of performance or averages with current status.

One of the things that DataFarming provide is rapid, automated, smoothed NDVI data at multiple resolutions.

While this is an exciting development indeed, growers should understand combining these tools is very much in the development stage in pastures.

For example, some tetraploid ryegrass varieties are lighter than diploid varieties, but can accumulate more growth, or, recently grazed pastures that have been fertilized after grazing can be dark green compared to pastures that have grown out for 30-40 days and are about to be grazed.

So while NDVI may have some limitations at the moment, growers can rest assured Summit is working on building the bigger picture on how to maximise the 'usefulness' of this technology.

Tackling sulphur deficiency in leaching soils

At this time of year it's not uncommon to see sulphur deficiency in pastures on lighter soils that have a base of sand or gravel. Sulphur in the sulphate form is highly mobile in the soil. Hence it can be leached down below the root zone of annual plants after significant rain events.

Plants need sulphur as it is required for essential amino acids to make proteins. Any protein deficiency will limit plant growth.

Legumes in particular need sulphur for the role it plays in the symbiotic fixation of nitrogen by Rhizobia bacteria in the root nodules.

Sulphur deficiency can occur even when soil testing has shown healthy reserves in the soil. Soil testing gives an accurate measure at the time of testing. However if sulphur has been leached between the time of sampling and spring, there is clearly an issue that needs to be resolved.

The choice and amount of sulphur fertilizer at this time of year depends on overall paddock fertility, pasture yield targets, pasture species and trafficability of paddocks in spring.

So if your pastures look pale it's time to tissue test and act before it's too late. Clover pastures on sandy soils that need sulphur commonly need potassium too.

Summit has a range of fertilizers for high rainfall leaching situations.

Our dairy range contains fast acting and sustained release sulphur which makes this range ideal for light soils and high rainfall areas.

Summit introduced this "one shot" pasture fertilizer so farmers could get N, P, K and S onto pastures with a single pass - avoiding having to traverse paddocks twice. Summit was also the first fertilizer company in WA to introduce a hay product to increase silage and hay yields.

For more information on tissue testing or the Summit range talk with Ralph Papalia or Mark Ladny.

SummitConnect

SummitConnect enables our customers to keep in touch with all their fertilizer business.

With SummitConnect, information is available 24/7 via the Summit Fertilizers website. Customers can log in and download a range of activities, transactions and reports including:

- Statments and invoices.
- Orders on hand.
- Collections.
- Weighbridge dockets
- inSITE soil and plant test reports.
- Trend maps.

Up-to-date information is available anytime from anywhere.

A wide range of payment options

Many customers are now dealing direct with Summit. Our payment options include:

- BPay before collection.
- EFT before collection.
- Cheque before collection.
- Visa or Mastercard.
- Fast Pay – direct debit four days after despatch*.
- Pay 25 – direct debit 25th of month following collection*
- Deferred Payment Terms*.

**Credit approval by Summit required*

inSITE plant analysis

Plant testing is a great way of determining whether specific nutrients are limiting growth at this time of year.

All Summit Fertilizers plant samples are analysed by our partner APAL (Australian Precision Ag Laboratory) in their new purpose built facility.

Armed with these results and local knowledge, Ralph Papalia and Mark Ladny provide impartial fertilizer recommendations for growers to achieve their target results.

With Summit, all results and reports are available to customers through our SummitConnect user platform.

Contact your Summit Great Southern or South West specialists

Mark Ladny
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Mobile: 0498 223 421
mladny@summitfertz.com.au

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
Base: Bunbury
Mobile: 0427 766 535
rpapalia@summitfertz.com.au

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