

Fertilizer News

As fertilizer is a substantial and annual farming business investment it should be straightforward, uncomplicated and risk free. Dealing with Summit is easy and if you haven't done business with us before, the most commonly asked questions are answered below.

What fertilizer do I need?

The starting point in this decision should be the agronomic requirements of the planned crops and pastures, based on objective measures such as soil and plant analysis, fuel gauges and biomass imagery. These requirements are then modified in light of the practicalities of on-farm storage capacity, labour availability and type of fertilizer handling and seeding equipment available.

Summit has the widest range of quality fertilizers in WA and

experienced Area Managers to make this decision easy.

How do I order?

Variably priced or fixed priced ordering is available through Summit's Fertilizer Supply Offer. Orders can be combinations of fixed and variable pricing or customers can take out a variable price contract and then fix the price of portions of their order over time as market conditions change.

Collection of my product?

Fast efficient despatch is a hallmark of Summit depot operations. Well designed truck movement and flexibility in loading hours means trouble-free and efficient fertilizer collection for customers.

What about risk?

Summit has been operating in the

WA fertilizer market for more than 25 years and is backed by a substantial and financially strong shareholder with a long term view of the WA fertilizer market.

Administration?

Order summaries, despatch summaries, tax invoices and statements are all available via the SummitConnect service on Summit's website. Paper copies of statements and tax invoices are also posted to customers monthly.

What to do next?

Contact your local Summit Area Manager or Summit Agent and organise your Fertilizer Supply Offer order before 30 November to gain security of supply and Summit's Productivity Package benefits.

Inside this issue!

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SUMMITQ

QUALITY TECHNICAL SERVICES

SummitQ represents the technical services offered by Summit Fertilizers and is designed to boost productivity on your farm. SummitQ services are delivered by our Area Managers using their local knowledge and experience to make practical fertilizer recommendations.

Under the umbrella of SummitQ, is a comprehensive range of high quality technical services.

SUMMITQ FIELD RESEARCH

Field research is central to the information that Summit Area Managers use every day to help farmers keep up-to-date.

The data from trials is analysed and used to improve products, keep farmers abreast of the latest in nutrition research and to continually improve our SummitQ services, so that we provide the best in-field advice.

Our field research includes long term phosphorus trials, looks at the interaction between the newest canola varieties and their nitrogen responses, takes a fresh look at nitrogen and potassium interactions and covers all aspects of plant nutrition.



Dr Mark Gherardi - Field Research Manager

Today at Summit Fertilizers, there is a wealth of industry knowledge and agronomic expertise which forms a part of our SummitQ service to customers.

Most of our trials are driven by consultation with farmers and we also work closely with grower groups and other research organisations.

The expansion of Summit Fertilizers field research program has meant an increase in dedicated resources, backed by the full team of Area Managers and the experience and expertise of a qualified agronomy team.

Farmers need to be informed by a robust, quality research program that focuses on the issues relevant to their operation.

SUMMITQ SNAPSHOT

Snapshot is Summit's soil and plant analysis service offering a snapshot of your farm's nutrient status.

Delivering analysis and interpretation, Summit Snapshot has fast turn around times and the backup of your local Area Manager.

Snapshot is based on years of field research and is continually developed to make sure that our models and information are as current as they can be.

Data from field research trials is tested against the model and adjustments made to calibrations and output as needed.

Soil analysis provides an insight into major nutrients as well as soil conditions such as pH (acidity), salt levels and organic carbon. Carried out in the drier summer months, soil analysis is the best tool for planning your fertilizer strategies for the coming season.



SUMMIT FUEL GAUGES

The benefits of continuous, in-season nutrient monitoring are evident as more farmers connect with the Summit Fuel Gauge program.

A Fuel Gauge on your farm allows your Summit Area Manager to measure responses against your practice, using a Green Seeker® to measure NDVI.

Fine tuning soil analysis recommendations and allowing for adjustments to planned nutrient applications as the season develops is the next step in production. Our customers have been making decisions based on the results of Fuel Gauges on their properties.

Using the Summit NCalc software Summit Area Managers can analyse the Green Seeker data and use it to assess the responses of cereals and canola to nitrogen and predict the rate of nitrogen required to maximise yield.

Plant analysis can be used to assess other nutrient responses and to measure the reaction of other nutrients to the higher nitrogen applications.



Jarrad Martin, Summit Area Manager, Williams, sees Fuel Gauges as a good check on farmer practices.

"We often see less disease where the increased nutrient has been applied. This is not new but for many farmers it's the first time they see this response to extra nutrition on their own farms. The Fuel Gauge always stimulates a discussion about nitrogen timing. They let farmers see a result in their own paddocks."

Fertilizer quality

What does quality of fertilizer actually mean and what are the advantages of good quality?

Granule size

For a fertilizer to be able to flow and be poured, augured or conveyed it needs to be granulated. Granulation size for good flow characteristics is in the 2 to 4mm range.

Granule size distribution

The tighter the range in granule size the better. Fertilizers with a wide spread in granule size are at risk of segregation during handling, which can mean altered application rates in equipment, decreased blend accuracy or 'hanging up' in bins.

Granule shape

Granules should be as close to spherical as possible. This ensures good flow ability and greater resistance to abrasion and fine particle or dust generation.

Granule hardness

Hardness of granules determines how well they stand up to handling. Some softer granule fertilizers are only suitable for topdressing as the product would degrade into finer and dusty particles if repeatedly handled, as in a seeding operation, particularly where a product is augured.

Moisture absorption

A fertilizer's ability to absorb moisture at various temperatures and relative humidities is termed its hygroscopicity. Phosphate fertilizers are generally less hygroscopic than nitrogen fertilizers with MAP based fertilizers absorbing less moisture than DAP based fertilizers. The hygroscopicity of a fertilizer is affected by its granule size. A fertilizer with a high proportion of fine granules or dust will absorb significantly more moisture than a well granulated product. The relative humidity in the air at which a fertilizer begins to absorb moisture is termed the Critical Relative Humidity (CRH). The CRH of blends is almost always lower than for individual components that make up a blend. A range of CRH's for some common fertilizers and blends is shown in the table right.

Granule durability

Longevity in storage is often not a problem in WA as usage on-farm is within 5 to 10 months of manufacture. However products do differ in their breakdown. High quality products last in storage until the next season. Low quality products will break down and generate significant dust over time, even in as little as a few months.

Compound formulation

Compound formulation refers to the combining of two or more nutrients in an even mix or slurry, before granulation, so that each granule produced contains the same nutrients in the same proportion. For example, ammonium phosphate in DAP or MAP is a compound as it combines nitrogen and phosphorus. In WA, compounding trace elements into fertilizers is a particularly important feature as it allows even distribution of trace elements in the drill row and this ensures full availability to the plants.

Summary

Quality fertilizers such as Summit's premium cropping compounds DAPSZC and MAPSZC ensure there are no hold ups in farm operations, in particular where the timing of the operation is of critical importance to yield, such as in cropping. For wheat the accepted penalty for delayed seeding beyond the optimum, say mid-May, is 20 to 30 kg grain/ha per day. Delays at seeding can put yield losses into the tens of thousands of dollars and dwarf any cost advantage of using a lesser quality fertilizer.

For advice on quality, speak with your local Summit Area Manager.

CRH of fertilizers and blends at 30°C

Urea		Sulphate of Ammonia		Muriate of Potash		Sulphate of Potash		MAP		DAP		TSP		Superphosphate	
75															
56.4	79.2														
60.3	71.3	84													
71.5	81.4	-	96.3												
65.2	75.8	72.8	79	91.6											
62	72	70	77	78	75										
N.R.	87.7	-	-	88.8	76	93.6									
N.R.	N.R.	-	-	-	-	-	-	-	-	-	-	-	-	-	85

N.R. = not recommended

With the extensive Summit Fertilizers no matter what your needs, we've got

At Summit Fertilizers we have the widest range of products for use in cropping or pasture programs in Western Australia, and we continue to add products that will provide benefits for growers.

Cropping

Unique products like DAPSCZ®, MAPSCZ® and Gusto have been developed specifically for Western Australian farmers and have a reputation of being very high quality compound fertilizers. These products are high analysis, easy to use and provide advantages in freight, storage and handling.

Summit was the first company to introduce a MOP based NPK fertilizer into the Western Australian market and this year will have available a new and reformulated Vigour. Vigour is a high quality compound fertilizer with all nutrients in every granule. It is made exclusively for Summit Fertilizers and complements Gusto in the Summit product range.

K use in cropping programs will continue to increase as production is increased. Therefore, having a choice of NPK products is important to supply all these nutrients at seeding.

The NPK range comprises fully granulated products which cover all cropping situations where K is required.

Gusto products are sulphate of potash based, whereas Vigour products are muriate of potash based.

If K is not required then most growers look to apply NPS at seeding. The ratio of these nutrients will depend on location, soil type and the logistics of the operations. The NPS range at Summit provides many options to deliver these essential macro nutrients, as well as having the option to provide trace elements at seeding.

If a crop operation requires more N in a compound at seeding then a product like AllRich, providing 8.7% P and 16% N is ideal. There are another three products in the range that provide the same level of nutrients, with or without trace elements.

If a more balanced NPS fertilizer providing 14% P and 14% N is best, compound formulations like AllMAP and AllStar are ideal. Again there are other products with different price points that provide the same level of nutrients, with or without trace elements.

MAPRite and Cereal are NPS products that provide high P and lower

N at seeding.

These products and others providing the same level of nutrients are ideal where a grower is applying N from another source like urea or UAN at seeding.

Liquids

Summit UAN is a concentrated nitrogen source suitable for injection at seeding. It can also be applied by spraying either before sowing, or post-emergent to the crop.

If a high analysis NP compound is used at seeding and S is required along with additional N, MAXamFLO provides an ideal source of N and S. It can also be used at seeding or as a top-up during the season.

Pastures

Phosphorus, sulphur and potassium are important nutrients for pasture growth, especially sub-clover based pastures. With grass based pastures N is required in addition to the other major nutrients. Pastures, like crops, require good nutrition in autumn to ensure early growth and also benefit from additional fertilizer applications in spring. Summit has an extensive pasture fertilizer range with products that can be matched to all these situations.

For autumn application we have a high quality superphosphate with 9.1% P and 11% S, right through to the high analysis Pasture with 18.2% P and 10% S. High analysis Pasture provides savings on freight and handling. SuperPasture, 13.7% P and 10.5% S is growing in popularity as it provides a mix of sulphate and elemental sulphur, and has benefits in freight and handling.

All these pasture fertilizers can be blended with potassium at any ratio as required.

For spring applications there is a wide range of fertilizers that provide NPK or S at ratios required for getting the best production out of a clover or grass pasture.

The Summit NPK Range comprises fully granulated products which cover all cropping situations where potassium is required.

Product	Analysis (%)						
	N	P	K	S	Cu	Zn	Mn
GUSTO	10.0	12.0	14.0	7.5	0.05	0.10	
GustoGold	10.2	13.1	12.0	7.2	0.09	0.13	0.01
GustoRich	11.2	11.3	11.2	8.5	0.04	0.08	
GustoStar	10.4	14.5	10.0	6.6	0.10	0.13	0.02
GustoRite	10.6	15.9	8.0	6.0	0.10	0.13	0.03

GUSTO products are sulphate of potash based.

Vigour	10.0	12.0	12.0	5.0	0.1	0.2	
Vigour Rich	10.3	13.5	10.0	4.9	0.12	0.20	0.01
Vigour Star	10.5	14.9	8.0	4.7	0.13	0.20	0.02
Vigour Rite	10.7	16.5	6.0	4.6	0.15	0.20	0.03
Vigour Boost	8.6	11.2	16.4	4.4	0.11	0.18	0.01

New and reformulated, Vigour products are MOP based.

product range... you covered

Custom formulations

If there is not a product that delivers a growers required mix of nutrients, Summit has the capacity at all depots to blend a range of fertilizer products to provide these nutrients. One common custom formulation is a mix of MAPSZC and MOP. This allows growers to use a rate of K that differs from what Summit can provide in a compound, and also continues to provide N, P, S and trace elements

Fungicide coating

Many growers want to treat fertilizer with fungicides such as Impact® to provide control of foliar and root diseases. Because of the disease issues faced by many growers in 2015, demand may be higher for fungicide coating next year. Summit can treat most fertilizers at despatch with Impact® and Endure, and Syngenta's Uniform (to combat *rhizoctonia*) at rates to match a growers requirements.

For more information on which product from the Summit product range that best suits your fertilizer requirement, speak with your local Summit Area Manager or agent.

Some of the extensive range of Summit Fertilizer products

Product	Analysis (%)								
	N	P	K	S	Cu	Zn	Mo (ppm)	Mn	Ca

NPS examples

AllRich	16.0	8.7		12.5					
AllMAP	14.1	14.1		8.4					
AllStar	13.9	14.1		9.1	0.14	0.14		0.05	
Cereal	12.5	17.7		6.9	0.24	0.24		0.08	
ZincStar	11.7	21.1		3.0		0.20			

Liquids

MAXamFLO	22.0			6.2					
UAN	32								

Pasture range

Super Pasture		13.7		10.5					17.0
Super Pasture Potash 3:2		6.8	25.0	5.6					8.5
Super Pasture Potash 2:1		7.9	21.0	6.4					17.0
Super Pasture Potash 3:1		8.7	18.0	7.0					10.9
Super Pasture Potash 4:1		10.0	13.5	7.9					12.4
Super Pasture Potash 5:1		10.4	12.0	8.1					12.9
Supreme	5.2	13.6		13.5					10.5
Supreme Potash	3.6	9.1	16.5	9.3					7.0
Pasture CZM		18.7		5.1	0.60	0.30	400		13.6



New and reformulated!



With a new analysis and very high quality, Summit VIGOUR offers growers a well granulated compound fertilizer for all cropping situations that require potash.

A MOP based product, VIGOUR will complement GUSTO in the Summit range.

Vigour will give outstanding results in the field with superior crop safety and handling characteristics.

Summit VIGOUR is a high quality compound fertilizer with all the nutrients in every granule. It is made exclusively for Summit Fertilizers and is available in 2016 to all Summit customers.

For more details about the VIGOUR range of products talk with your local Summit Area Manager.

Stay connected!

SummitConnect is a convenient online option for farmers to:

- check orders,
- download tax invoices,
- view and print statements.

It's a fast, simple way of keeping on top of your fertilizer business.

Meet some of our people



Throughout the State, Summit's fertilizer operations and depots deliver a high level of service to our customers and their contracted transport companies. Our operations personnel demonstrate a high level of professionalism and flexibility to ensure the needs of our customers are met. This includes extended operating hours during periods of high demand and flexible booking times to align with customer expectation.

Customers have a choice of five Summit Fertilizer depots strategically located in Kwinana, Geraldton, Bunbury, Albany and Esperance. The depots in Kwinana, Geraldton and Esperance manufacture and despatch both Summit UAN and MaxamFLO.

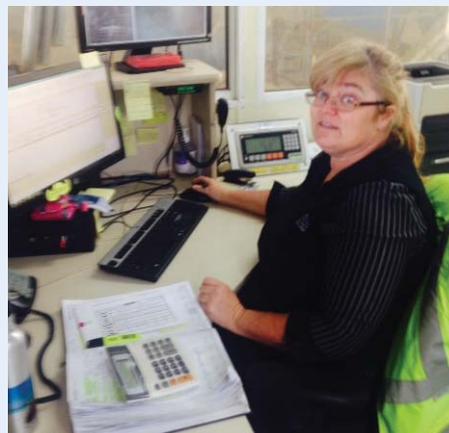
Our depots are extremely well maintained and offer customers great flexibility via custom formulations and coating of fungicides including Impact®, Endure and Uniform. Operation staff form a close link to the Summit Fertilizers accounts department resulting in our customers receiving the same high level of service with their statements, tax invoices and despatch documentation.

With the introduction of Summit Connect in 2011, Summit customers can access their documentation via the Summit Fertilizers web site.



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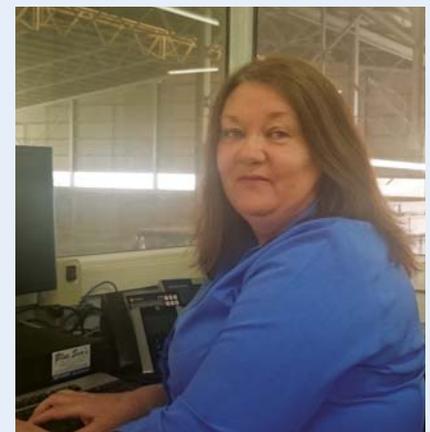
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Customised fertilizers meet unique soil and plant needs

Summit has an extensive range of ready made fertilizer solutions suited for use in cropping and pasture programs. But knowing that every situation can be different, it introduced custom blending and coating facilities a long time ago.

Such a wide array of fertilizers and options means that farmers like Myalup vegetable grower, Larry Maiolo, can have a fertilizer designed and delivered that suits his individual crop requirements.

Larry farms vegetables and cattle on 1000ha of land between Mandurah and Bunbury. All up he grows about 55ha of potatoes, 200ha of carrots and 95ha of onions. It's an intense operation and the fertilizer requirements have to be high to support yields of up to 100t/ha on his lighter textured Tuart sand soils.

Larry's alkaline soils with pH of mostly between 7 and 8 (but sometimes up to 10) create some issues according to Bunbury based Summit Area Manager, Ralph Papalia. Higher pH influences nutrient availability, in particular for phosphorus and the trace elements copper, zinc and manganese.

"Larry started off with the product Pasture copper, zinc, moly," said Ralph. "This is an excellent Summit product and with high 18.2% phosphorus (P), it has about double the P of normal super, with elemental sulphur and the trace elements compounded into every granule.

"Summit tissue analysis though, revealed Larry's vegetables are getting plenty of molybdenum. Moly can interact with iron and other trace elements which are important for chlorophyll production. Too much moly can actually be a problem, so we've looked to another mix based on Summit Pasture with coated copper and zinc and added manganese.

"These soils are traditionally very high manganese fixing because of the carbonate in the soil, so we've put 2% manganese into Larry's fertilizer.

"Summit Pasture is an ideal base

for Larry's situation because it contains elemental sulphur. Elemental sulphur is sustained release, which reduces the risk of leaching with heavy rains. It needs to be oxidised in the soil into sulphate, which is then taken up by the plant. That process is ongoing and also releases hydrogen ions which causes localised acidity in the soil around the granule.

"Because calcium in the soil ties up phosphorus and the carbonate ties up a lot of the other positively charged trace elements, localised acidifying theoretically increases the uptake of P and certain trace elements.

"In Larry's case, Summit Pasture with added copper, zinc and manganese made sense and it's working very well," Ralph said.

Zinc, copper and manganese deficiencies can happen on high pH soils. To correct deficiencies in the right amounts, customised Summit fertilizers are sometimes the best way to go. Summit Fertilizers Bunbury based Area Manager, Ralph Papalia (below left) has been working with Larry Maiolo of Myalup to improve crop yield and quality.



The Summit Pasture range used on these crops contains sustained release elemental sulphur, which makes it ideal for lighter textured soils in higher rainfall areas.



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