



*Quality Ingredients  
Australian Made  
Family Owned*

**FERTILIZERS**

*Nutrient Solutions*

# *Cereal & Canola* **Nutritional Guide**

*Crop nutrient budgeting is critical to improve production efficiency and to reduce environmental impacts. The SLTEC® range of quality fluid fertilizers and microbial stimulants are supported by our comprehensive in-field agronomy service.*

**[www.sltec.com.au](http://www.sltec.com.au)**

# Why Choose SLTEC® Fertilizers?

SLTEC® Fertilizers is a leading manufacturer of fluid Fertilizers, based in Northern Victoria.

## Our Promise

### Quality

SLTEC® Fertilizers is committed to supplying consistently high quality products.

### Investment

SLTEC® Fertilizers will ensure that your fertilizer inputs maximise the return on your investment.

### Service

SLTEC® Fertilizers will provide professional, logistical and agronomic support to ensure a sustainable relationship.

Read our quality assurance policy online at [sltec.com.au/quality](http://sltec.com.au/quality)

### Why use Fluid Fertilizer?

- Efficient and highly plant available
- Can deliver many nutrients with a single application
- Small and frequent applications reduce leaching and runoff
- Foliar and Fertigation options allow flexible application timing unlike relying on broadcast application
- Consistency of product and uniform application across the soil
- Nutrients infiltrate to the root zone where maximum uptake is achieved
- Foliar application particularly of trace elements avoids tie up in the soil
- Can be mixed with a range of farm chemicals
- Labour savings and improved workplace safety



# SLTEC® in Cereals

## SLTEC® History in Broadacre

SLTEC® has been working with the broadacre cropping community for many years with a focus on innovation, service, return on investment and ease of use.

### This commitment has led to us;

- Developing an extensive range of liquid fertilizer solutions for application in broadacre cropping.
- Custom blending to meet our client's specific crop types, soil conditions and other environmental factors.
- Investing in our own bulk haulage freight and a range of fertilizer storage systems ranging from 10,000 L to 32,000 L.
- Providing strong infield agronomic support.
- Creating an extensive agricultural compatibility database.
- Committing to building our relationship with the broadacre community focusing on giving clients the confidence and reliance they need to ensure the best return on their investment.

## Better Crops with Fluid Fertilizer at Deniliquin

The introduction of fluid fertilizer on the irrigation property of Michael Hughes, at Deniliquin in southern New South Wales, over the past four years has led to better crops.

Mr. Hughes said they had been using products supplied by SLTEC® in bulk for in-crop nutrition and it had been working particularly well.

"I think our crops definitely look better," he said. "There is a better uniformity and consistency throughout the season. You are not getting a variation in colour."

The main fluid fertilizer used is SLTEC®'s Nitro QUAD 3™ which is a blend of nitrogen in three forms and QuadSHOT®.



Michael Hughes, of Deniliquin, NSW, is achieving better crops with regular application of liquid fertilizer on his irrigated crops.

has been a good transition for us," Mr Hughes said. "There is uniformity of application, ease of application and good service. We like the product. Economically and agronomically it stacks up well."

The fertilizer applications are often combined with other products such as herbicides and have worked well. "The compatibility is very good. We've had negligible problems with compatibility with our herbicides."

We've noticed, anecdotally, the soil health has changed fairly dramatically," he said. "I just think it is a balance, potentially a balance between the good bugs and the bad bugs. It's probably a combination of things. Smarter use of the soil, less invasive techniques, minimum or no till where possible, but our earthworm content or quantities have grown dramatically in the last two or three years."

"It is just one of the many things we are doing that is improving soil health but I definitely think the Nitro QUAD 3™ has got a fair say in what is happening in the soil. Once you use it over a significant period of time, the benefits, as a food source to the microbes in the soil, become relevant."

**For the complete testimonial please visit**  
[sltec.com.au/testimonials/](http://sltec.com.au/testimonials/)

# Fluids at Sowing

SLTEC® has a wide range of starter fertilizers and prescription blends to meet crop needs at sowing.

Features	Advantages	Benefits
<ul style="list-style-type: none"> <li>• Accurate placement</li> </ul>	<ul style="list-style-type: none"> <li>• Improves efficiency</li> </ul>	<ul style="list-style-type: none"> <li>• Increase in vigor &amp; yield potential</li> </ul>
<ul style="list-style-type: none"> <li>• Compatible with many agchem and trace element products</li> </ul>	<ul style="list-style-type: none"> <li>• One pass operation saves time</li> </ul>	<ul style="list-style-type: none"> <li>• More hectares sown per day, in optimal sowing window</li> </ul>
<ul style="list-style-type: none"> <li>• Liquid will not pull moisture away from the seed to dissolve</li> </ul>	<ul style="list-style-type: none"> <li>• More uniform emergence and quicker establishment</li> </ul>	<ul style="list-style-type: none"> <li>• Easier management, potential for higher yield</li> </ul>
<ul style="list-style-type: none"> <li>• Uniform application, particularly at low fertilizer rates</li> </ul>	<ul style="list-style-type: none"> <li>• Every seed gets the same nutrition</li> </ul>	<ul style="list-style-type: none"> <li>• Uniform emergence, higher yield potential</li> </ul>
<ul style="list-style-type: none"> <li>• Plant available nutrients</li> </ul>	<ul style="list-style-type: none"> <li>• Improve germination</li> </ul>	<ul style="list-style-type: none"> <li>• Early vigour</li> </ul>
<ul style="list-style-type: none"> <li>• Inoculants for Legumes via injection</li> </ul>	<ul style="list-style-type: none"> <li>• Quicker and simpler operation</li> </ul>	<ul style="list-style-type: none"> <li>• Better germination rates and time saving</li> </ul>

## Liquid Injection Starter Fertilizers

GRDC, SANFTA and SPAA as well as many other leading industry bodies have examined the practise of liquid injection at sowing throughout Australia with positive outcomes.

A feature of using a liquid injection system at sowing is that it allows the farmer to accurately place the fertilizers in a position to become most available to the crop. As a liquid, the application of the products are uniform, in an unbroken stream of product which is delivered evenly to each seed.

A uniform application increases the nutrient's efficiency. Nutrients are placed where the seed can absorb them rapidly, giving the seed strong vigour and the best chance to become established.

As fluid fertilizers are already dissolved in solution, they will not be competing for soil moisture with the seed. Whereas a granule fertilizer is placed in the seed bed, extracting moisture away from the seed due to the concentration gradient.

With liquid starter fertilizer, the crop has the best opportunity for uniform and even establishment, which can also reduce any potential damage in dry starts.

With uniform germination and early vigour, the crop has every chance to establish early, develop strong roots and set up for strong yields. This benefits the farmer with easier management and improved water use efficiency.

While traditional practices involve applying a straight nutrient like nitrogen as UAN, SLTEC® has a comprehensive compatibility knowledge to help with tank mix ability. Products such as Flutriafol can be combined with SLTEC UAN® (42% N) and SLTEC®'s Nitro Trace Range including zinc, copper, manganese, and magnesium.

As SLTEC® can supply bulk delivery direct to farm with prescription blends available, several nutrients can be applied in one pass saving future spray applications.

When using a correct, customised nutrient package at sowing, time can also be saved through less mixing and reducing the amount of depot pickups, all of which allows more hectare's to be sown with less risk and stress.





## Key Sowing Product Options

Name	N% (w/v)	P% (w/v)	K% (w/v)	S% (w/v)	Ca% (w/v)	Specific Gravity (kg/L)	pH Range	Typical Sowing Application Rates
<b>UAN</b> N as NO <sub>3</sub> 10.1%, N as NH <sub>4</sub> 10.1%, N as Urea 21.3%	42.5	-	-	-	-	1.31 - 1.32	6.0 - 7.0	20 to 60 L/ha
<b>Nitro QUAD 3™</b> N as NO <sub>3</sub> 10.3%, N as NH <sub>4</sub> 10.3%, N as Urea 20.6%, P as PO <sub>4</sub> 0.1%, Fe 0.001%, Si 0.003%, Fulvic Acid 0.01%, Fish Emulsion 0.2%, Humic Acid 0.2%, Kelp 0.2%, Molasses 0.2%	41.2	0.1	0.1	-	-	1.30 - 1.32	6.0 - 7.0	20 to 60 L/ha
<b>UAS™</b> N as NH <sub>4</sub> 5.7%, N as Urea 20.9%	26.6	-	-	6.7	-	1.23 - 1.25	3.0 - 7.0	20 to 60 L/ha
<b>NitrologiCAL PLUS TE™</b> N as NO <sub>3</sub> 8.8%, N as NH <sub>4</sub> 8.5%, N as Urea 17.0%, Zn 0.4%, Cu 0.25%, B 0.05%, Fish Emulsion 0.04%, Humic Acid 0.03%, Kelp 0.04%, Molasses 5.5%, Fulvic Acid 0.001%	34.3	-	0.3	0.2	0.8	1.30 - 1.31	5.0 - 6.0	20 to 60 L/ha
<b>SS 11:16:0™</b> N as NH <sub>4</sub> 11.3%, P as PO <sub>4</sub> 16.0%	11.3	16.0	-	-	-	1.29 - 1.30	6.0 - 7.0	20 to 60 L/ha
<b>SS 10:14:1 + KZ™</b> N as NH <sub>4</sub> 10.1%, P as PO <sub>4</sub> 14.0%, Zn 0.9%	10.1	14.0	1.0	-	-	1.25 - 1.26	6.0 - 7.0	20 to 60 L/ha
<b>MoBo Complex™</b> Mo 0.3%, B 14.7%	6.0	-	-	-	-	1.34 - 1.39	7.0 - 8.0	1 to 2 L/ha
<b>ZC Complex 4:1™</b> Zn 12.0%, Cu 3.0%	-	-	-	7.4	-	1.33 - 1.34	2.0 - 3.0	1 to 10 L/ha
<b>ZCM Complex 12:1:1™</b> Zn 12.2%, Cu 1.5%, Mn 1.2 %	-	-	-	7.5	-	1.38 - 1.39	2.5 - 5.0	1 to 10 L/ha
<b>BiologiCAL® PLUS</b> N as NO <sub>3</sub> 0.3%, P as PO <sub>4</sub> 0.1%, Fulvic Acid 0.01%, Fish Emulsion 0.3%, Humic Acid 0.2%, Kelp 0.3%, Molasses 41.9%	0.3	0.1	2.0	1.8	6.3	1.27 - 1.30	8.0 - 10.0	20 to 60 L/ha

Growers and advisors can contact SLTEC® and "design" their very own custom blends perfectly suited for their situation

## Improve Crop Vigour and Health with Fluid Fertilizer at Sowing

The use of fluid fertilizer at planting and in the early growth stages has helped produce more vigorous and healthier plants on the Lawless property at Burramine, west of Yarrowonga, in the north-east of Victoria.



Nathan Lawless said they predominantly grew wheat, barley and canola and had been using fluid fertilizer through the planter for at least five years. He said the key advantage to fluid fertilizer was the early crop vigour and the improved crop health in the canola and the cereals.

"We started off with throwing a bit of UAN in just with a bit of nitrogen and streaming it with this bar we built a few years ago," he said.

"We wanted to get something that was right in the furrow and readily available."

"It's chalk and cheese, the difference. It gives you confidence that what you are doing is working. We definitely know it works."

The addition of the fluid fertilizer to the crop, at sowing, helps the emerging plants with whatever seasonal conditions occur in the early stages.

"It means we can get the crop in, get all our early spraying done and we are not panicking that the crops are going to be wanting a bit of nitrogen," Mr Lawless said.

For the complete testimonial please visit [sltec.com.au/testimonials/](http://sltec.com.au/testimonials/)

# Foliar Applications

Foliar application of fertilizer can be undertaken in cereal and oil seed crops as soon as the crop is visible from sowing. However, in general, applications do not start until ground cover is over 50%.

Foliar fertilizers can be used as strategic or as unanticipated applications. Some farmers will plan to apply fertilizer as a tank mix while others may schedule an application after seeing a visual deficiency.

Features	Advantages	Benefits
<ul style="list-style-type: none"> <li>• Accurate distribution</li> </ul>	<ul style="list-style-type: none"> <li>• Improved Efficiency</li> </ul>	<ul style="list-style-type: none"> <li>• Less nutrient loss to the environment</li> </ul>
<ul style="list-style-type: none"> <li>• Foliar application</li> </ul>	<ul style="list-style-type: none"> <li>• Improved Efficiency</li> </ul>	<ul style="list-style-type: none"> <li>• Faster growth response</li> </ul>
<ul style="list-style-type: none"> <li>• Dual use of sprayer boom</li> </ul>	<ul style="list-style-type: none"> <li>• Same wheel tracks</li> </ul>	<ul style="list-style-type: none"> <li>• Reduce crop damage</li> </ul>
<ul style="list-style-type: none"> <li>• Apply insecticide while applying fluid fertilizer</li> </ul>	<ul style="list-style-type: none"> <li>• Less tractor applications over the paddock</li> </ul>	<ul style="list-style-type: none"> <li>• Saves time and money</li> </ul>
<ul style="list-style-type: none"> <li>• Foliar application</li> </ul>	<ul style="list-style-type: none"> <li>• Rain not needed for incorporation</li> </ul>	<ul style="list-style-type: none"> <li>• Can match application to crop needs.</li> </ul>

## Nitrogen as a Foliar

By uptake, nitrogen is the most important nutrient for cereal crops. To achieve a 4 tonne crop, 83 units of nitrogen are needed. Nitrogen comes in three forms with the most plant available via foliar application being the urea molecule.

Cereal plants are highly efficient at utilising the nitrogen available through liquid foliar application. This process can take as little as 24 hours. Alternatively, the process for spreading urea can take weeks given that it must be soil applied, washed in, broken down in the soil (via enzymes and converted via nitrification), taken up by the root, delivered to the leaf and then the reaction with the urea's enzyme can take place.

Hence, the foliar nitrogen in the urea form is much more efficient than traditional soil applied urea.

Foliar applications of fertilizer do not need rainfall to incorporate them. As the fertilizer is taken up by the leaf, no rain or irrigation is needed. Therefore, application of fertilizer

to a paddock is not dependent on rainfall events and the plants are able to be fed using the most appropriate timing to optimise yield and profit.

A general rule of thumb is that only 20 units of foliar nitrogen can safely be applied to an actively growing crop and that some climatic conditions must be avoided when applying to prevent phytotoxicity (leaf burn).

Research has shown that late application of urea solution on cereals can increase quality. As a general rule, before pollination, the application of nitrogen will influence the yield, while after pollination, the application of nitrogen will influence quality.

Tank mixing of other farm chemicals and trace elements is common practice with foliar application of fertilizer. SLTEC® continually conducts compatibility research and a compatibility table can be found on page 15.



# Streaming Applications

Typically, streaming jets can apply between 60 and 600 L/ha of product.

Streaming jets have the potential to significantly improve the operations and profit of a farm.

Features	Advantages	Benefits
<ul style="list-style-type: none"><li>• Accurate distribution</li></ul>	<ul style="list-style-type: none"><li>• Improved efficiency</li></ul>	<ul style="list-style-type: none"><li>• More uptake by the crop, less losses to the environment</li></ul>
<ul style="list-style-type: none"><li>• Applied via the boom</li></ul>	<ul style="list-style-type: none"><li>• Same Wheel tracks</li></ul>	<ul style="list-style-type: none"><li>• Reduced crop damage</li></ul>
<ul style="list-style-type: none"><li>• Offers a wide range of application rates</li></ul>	<ul style="list-style-type: none"><li>• Precision agriculture</li></ul>	<ul style="list-style-type: none"><li>• Efficient fertiliser use.</li></ul>

## In Crop Fertilizer Application with Streaming Jets

Streaming jets allow for uniform application, with evenly spaced nozzles and accurate application from each nozzle. Thus, every hectare over the paddock will receive the same amount of applied nutrient. The uniformity of using streaming jets is as accurate as the calibration of each boom spray.

In contrast to this, the spreading of granular fertilizer can be inherently variable. Fertilizer Australia and Accu-Spread have documented that “uneven Urea spreading on wheat can easily result in a \$25 - \$40/ha reduction in return”. Therefore the uneven application of granular urea can result in reduced crop growth, along with nutrient losses, with too much or not enough urea being applied.

An industry accredited granular area operator is allowed a 15% coefficient variation in applied fertilizer.

Other benefits of applying fertilizer via streaming jets include utilising the same machinery for multiple jobs, and reusing the same wheel tracks as the spray boom, therefore reducing the impact on crops. A DPI study from 2007 showed that extra wheel tracks can cause as much as 15 - 30% damage to a crop of wheat where no till was in practise.

If a new wheel track was used in a paddock with a spreader of 30 meters, an additional 3% of the crop would be damaged. If the spreader was only 15 meters as much as 6% of the crop could be damaged.

For a farmer practising controlled traffic, the streaming jets covering the “tracks” can also be turned off to eliminate applying fertilizer to tracks where no crop is present therefore reducing costs and wastage. This is not possible with granular spreaders.

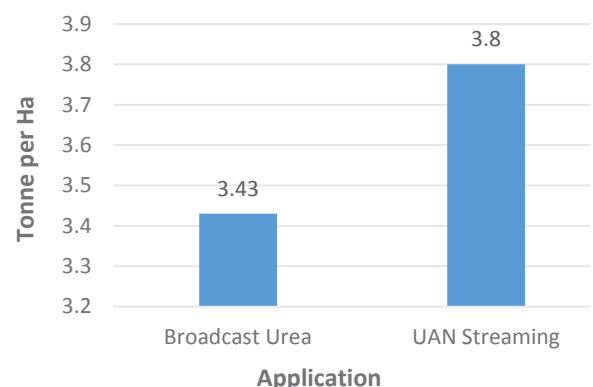
## Increased Yield with Streaming Nitrogen

A 2008 Kansas State University research trial showed a 0.6 t/ha yield increase when liquid Nitrogen was applied with stream bars, compared to broadcasting the same Nitrogen rate (67 kg/ha ) with spray nozzles. Assuming a \$220/t wheat price, that represents a \$132.00 per hectare difference in profit with identical nitrogen costs.

Information adapted from:

[http://needhamag.com/innovative\\_product\\_sales/stream\\_bars\\_for\\_uniform\\_liquid\\_fertilizer\\_application.php](http://needhamag.com/innovative_product_sales/stream_bars_for_uniform_liquid_fertilizer_application.php)

All treatments had 67 units of applied N



## Products for Streaming Jets & Foliar

Like granules, the primary target application for fertilizer via streaming jets is the soil. Common nitrogen products used via streaming jets are High NS™, UAN or UAS, with liquid urea traditionally used for topdressing.

The benefit of High NS™ or UAN over urea is that they are made up of three types of nitrogen. Each of the three is available to the plant at a different rate, meaning the crop will be 'fed' immediately, short term and medium term. Whereas urea only has one type of nitrogen that needs time to break down in a process that can take weeks.

## Key Foliar & Streaming Product Options

Name	N% (w/v)	P% (w/v)	K% (w/v)	S% (w/v)	Ca% (w/v)	Specific Gravity (kg/L)	pH Range	Typical Foliar Application Rates	Typical Streaming Application Rates
<b>UAN</b> N as NO <sub>3</sub> 10.1%, N as NH <sub>4</sub> 10.1%, N as Urea 21.3%	42.5	-	-	-	-	1.31 - 1.32	6.0 - 7.0	20 to 60 L/ha	80 to 200 L/ha
<b>Nitro QUAD 3™ - UAN + 3% QuadSHOT®</b>	41.2	0.1	0.1	-	-	1.30 - 1.32	6.0 - 7.0	20 to 60 L/ha	80 to 200 L/ha
<i>Also available with 1 - 20% QuadSHOT®</i>									
<b>UAS™</b> N as NH <sub>4</sub> 5.7%, N as Urea 20.9%	26.6	-	-	6.7	-	1.23 - 1.25	3.0 - 7.0	20 to 70 L/ha	80 to 200 L/ha
<i>Also available with 1 - 20% QuadSHOT®</i>									
<b>High NS™</b> N as NO <sub>3</sub> 7.5% , N as NH <sub>4</sub> 9.2%, N as Urea 21.2%	38.0	-	-	2.0	-	1.28 - 1.30	3.0 - 7.0	20 to 60 L/ha	80 to 200 L/ha
<b>Urea 24™</b> N as Urea 24.0%	24.0	-	-	-	-	1.12 - 1.14	4.0 - 5.5	40 to 100 L/ha	80 to 200 L/ha
<b>NitrologICAL PLUS TE™</b> N as NO <sub>3</sub> 8.8%, N as NH <sub>4</sub> 8.5%, N as Urea 17.0%, Zn 0.4%, Cu 0.25%, B 0.05%, Fish Emulsion 0.04%, Humic Acid 0.03%, Kelp 0.04%, Molasses 5.5%, Fulvic Acid 0.001%	34.3	-	0.3	0.2	0.8	1.30 - 1.31	5.0 - 6.0	20 to 60 L/ha	80 to 200 L/ha

**All High Nitrogen products are compatible with our range of Nitrate based trace element blends**

Refer to page 11 for more information

*Application rates will vary depending on crop growth stage, climate and yield expectations.  
For further information please contact your SLTEC® representative.*

**SLTEC® recommends the use of Streaming Jets**

### TeeJet StreamJet SJ3 Fertilizer Nozzles

#### Typical Application:

Excellent for application of higher rates of liquid fertilizer on bare ground or in standing crop

#### Features:

- Solid stream pattern minimizes leaf burn and virtually eliminates drift
- 3-stream pattern is ideal for directed application
- Fit most nozzle bodies at standard boom nozzle spacing and spray height (50cm)
- Excellent spray distribution quality





**NEW**

# Boost Your Crop with a Fully Loaded Product



# Winter Boost

Product Code: GG0179

A 50 L/ha application of Winter Boost will apply 100g of zinc, 50g of manganese, and 25g of copper, as well as 1.1kg of calcium and over 19kg of nitrogen.

## Benefits of Winter Boost

- Foliar applications are highly efficient, taken in by foliage, eliminates the need to wait for rainfall.
- Nitrogen is essential in the normal functioning of a plant. Vigor, yield and quality are all affected by the nitrogen supply.
- Calcium is used in cell division and formation. Calcium has interaction with nitrogen metabolism and aids in normal photosynthesis.
- Zinc is needed to encourage root growth and reduce crop losses in water stress environments. Zinc is required in carbohydrate formulation. Crops with zinc applications have shown lower incidents of root rot and leaf disease.
- Manganese aids in chlorophyll synthesis.
- Copper plays a major function in photosynthesis and plant reproduction stages.

## Guaranteed Analysis

Nitrogen (N)	38.5%
Calcium (Ca)	2.2%
Manganese (Mn)	0.1%
Zinc (Zn)	0.2%
Copper (Cu)	0.05%
Specific Gravity	1.34 - 1.35 kg/L
pH	4.0 - 6.0

## Typical Application Rates

### Foliar:

40 - 50 L/ha

with water to a total of 80 L/ha

## Contact:

T: 1800 768 224

E: [enquiries@sltec.com.au](mailto:enquiries@sltec.com.au)

[www.sltec.com.au](http://www.sltec.com.au)

# Tissue Testing

## Why Tissue Test?

Plant tissue analysis acts as an early warning system to highlight any nutrients that may become either deficient, toxic, or which may affect crop yield and quality before the plant displays any visible symptoms. Monitoring plants' uptake of nutrients and understanding soil nutrition provides growers with management tools that are likely to improve profitability and the long-term viability of their enterprise.

## The Increasing Need

Modern agriculture demands both high volume and quality yields. Additionally, you demand profitable yields. In satisfying these demands, plant tissue analysis has become a valuable crop production tool.

One of the more important factors affecting crop yields is the nutrient status of the plant or the flow of nutrients to plant tissues during the growing season. Nutrient status is an 'unseen' factor in plant growth, except when deficiencies become so acute that visual deficiency symptoms appear on the plant.

## How Can a Tissue Test Help?

A plant tissue analysis will show the nutrient status of the plants during the growing season and detect unseen hidden deficiencies. Plant tissue analysis can also supply information to confirm visual deficiency symptoms.

Though usually used as a diagnostic tool for future correction of nutrient problems, a plant tissue analysis from young plants will allow for a corrective fertilizer application that same season. Combined with data from a soil analysis, a tissue analysis is an important tool in determining proper fertilizer applications to balance the nutrient availability in the soil and the nutrient requirements of the crop.

## Collection and Preparation of the Sample

When gathering the tissue sample in the field, be sure to use a clean container. A plastic pail or a paper bag works best. Never use a metal container to gather the sample as the metal may contaminate the sample.

If the plant samples have soil, fertilizer, dust or spray residues on them, they will need to be cleaned. A dry brush works well. For stubborn residues, wipe the samples with a damp cloth or wash the samples with distilled or deionised water. However, do not prolong washing.

## Tissue Sample Criteria for Specific Crops

Crop	Growth Stage to Sample	Plant Part	Number Required
Wheat Oats Barley Triticale	Early tillering to 1st node (GS21 - 31)	Youngest mature leaf	40
Canola	6 leaf rosette	Whole top	25
	Prior to flowering	Youngest mature leaf	40
Faba Beans	Vegetative pre flowering	Whole tops	20
	Early flowering	Recently mature leaf	75 - 100
Lupins	Pre flowering	Recently mature leaf	50 - 75
Chick Peas	Pre flowering	Whole tops	25 - 40
Peas (Field Peas)	Pre flowering	Youngest mature compound of leaf (leaves from 3rd to 5th nodes from top)	60 - 80

# Trace Elements

SLTEC® has a diverse range of trace element blends designed to give farmers the flexibility they require.

Name	N% (w/v)	P% (w/v)	K% (w/v)	S% (w/v)	Ca% (w/v)	Specific Gravity (kg/L)	pH Range	Typical Foliar Application Rates	Typical Sowing Application Rates
<b>Nitrate Trace Elements</b>									
<ul style="list-style-type: none"> <li>• A unique high loaded nutrient, with the ability to mix with UAN without the presence of water.</li> <li>• Cost effective &amp; high performance compared to other products on the market</li> <li>• High analysis allowing for low application rates</li> </ul>									
<b>Nitro Cop™</b> N as NO <sub>3</sub> 10.0%, Cu 22.7%	10.0	-	-	-	-	1.50 - 1.51	1.0 - 2.0	100 to 300 mL/ha	1 to 5 L/ha
<b>Nitro Mag™</b> N as NO <sub>3</sub> 9.8%, Mg 8.8%	9.8	-	-	-	-	1.35 - 1.36	2.0 - 4.0	2 to 3 L/ha	1 to 10 L/ha
<b>Nitro Mang™</b> N as NO <sub>3</sub> 12.2%, Mn 23.9%	12.2	-	-	-	-	1.55 - 1.56	2.0 - 3.5	0.5 to 2 L/ha	1 to 5 L/ha
<b>Nitro Z™</b> N as NO <sub>3</sub> 8.3%, Zn 19.3%	8.3	-	-	-	-	1.45 - 1.46	2.0 - 3.5	0.5 to 1 L/ha	1 to 5 L/ha
<b>Nitro ZC™ 4:1</b> N as NO <sub>3</sub> 8.6%, Zn 15.9%, Cu 4.0%	8.6	-	-	-	-	1.46 - 1.47	< 2.0	0.5 to 1 L/ha	1 to 5 L/ha
<b>EDTA Chelate Trace Elements</b>									
<ul style="list-style-type: none"> <li>• A premium range of EDTA chelated trace elements</li> <li>• Highly compatible with a broad range of liquid fertilizers and agricultural chemicals as a tank mix</li> </ul>									
<b>Copper Chel™</b> Cu 6.0%	-	-	-	-	-	1.19 - 1.20	6.5 - 7.5	0.5 to 1 L/ha	1 to 10 L/ha
<b>Mang Chel™</b> Mn 6.1%	-	-	-	-	-	1.23 - 1.25	6.0 - 8.0	0.5 to 1 L/ha	1 to 10 L/ha
<b>Z Chel™</b> Zn 6.5%	3.0	-	-	-	-	1.17 - 1.18	7.0 - 8.0	0.4 to 1.5 L/ha	1 to 10 L/ha
<b>Sulphate Trace Elements</b>									
<ul style="list-style-type: none"> <li>• A high analysis, cost effective range of trace elements</li> <li>• Rapid plant uptake due to high plant availability</li> </ul>									
<b>Copper Complex™</b> Cu 6.7%	-	-	-	3.4	-	1.16 - 1.17	2.0 - 3.0	0.5 to 1.5 L/ha	1 to 10 L/ha
<b>Mag Complex™</b> Mg 5.0%	-	-	-	6.6	-	1.22 - 1.23	3.0 - 7.0	2 to 15 L/ha	1 to 10 L/ha
<b>Manganese Complex™</b> Mn 17.7%	-	-	-	10.6	-	1.43 - 1.45	6.0 - 7.0	1 to 7 L/ha	1 to 10 L/ha
<b>Zinc Complex™</b> Zn 16.4%	-	-	-	8.1	-	1.37 - 1.38	2.5 - 5.0	1 to 3 L/ha	1 to 10 L/ha
<b>ZC Complex 4:1™</b> Zn 12.0%, Cu 3.0%	-	-	-	7.4	-	1.33 - 1.34	2.0 - 3.0	1 to 3 L/ha	1 to 10 L/ha
<b>ZCM Complex™ 12:1:1</b> Zn 12.2%, Cu 1.5%, Mn 1.2%	-	-	-	7.5	-	1.38 - 1.39	2.5 - 5.0	1 to 3 L/ha	1 to 10 L/ha
<b>Other Trace Elements</b>									
<b>Boron Complex™</b> N 6.0%, B 14.7%	-	-	-	-	-	1.37 - 1.38	7.5 - 8.5	1 to 3 L/ha	1 to 2 L/ha
<b>Mo 250P™</b> P as PO <sub>4</sub> 11.0%, Mo 25.0%	-	11.0	-	-	-	1.57 - 1.58	3.5 - 4.5	50 to 250 mL/ha	0.5 to 2 L/ha
<b>MoBo Complex™</b> Mo 0.3%, B 14.7%	6.0	-	-	-	-	1.34 - 1.39	7.0 - 8.0	1 to 3 L/ha	1 to 2 L/ha

# Wheat Nutrient Uptake

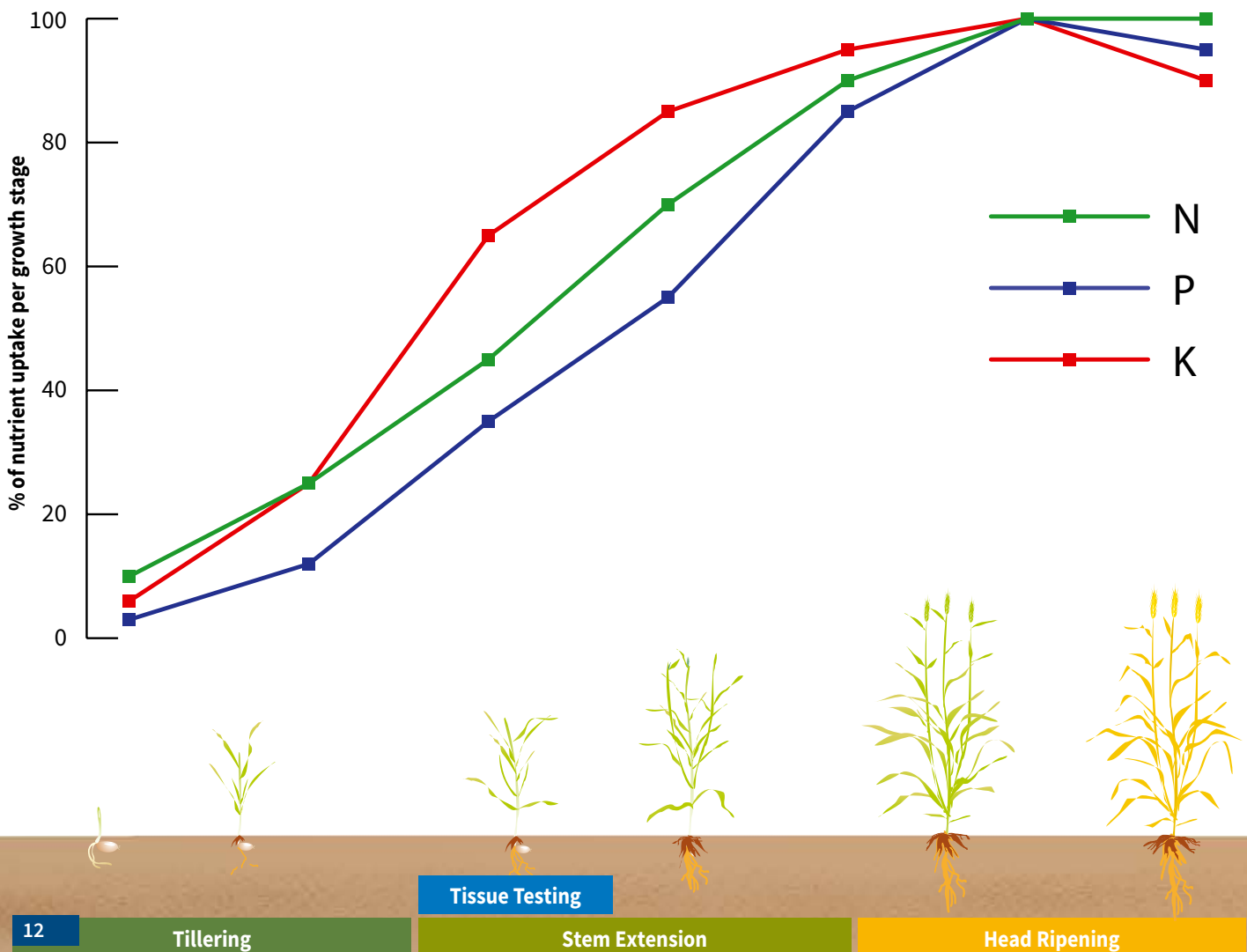
The illustration below indicates the trends of nutrient uptake for wheat.

One particular point to consider is that approximately 50% of the crop's nitrogen is taken up in the growth periods from tillering till to boot stage. Thus it is important to match the nitrogen application to the growth stage of the crop.

During this stage cereal roots will be at their most active, and therefore is the most efficient stage to apply plant available nitrate nitrogen. Any additional nitrogen required after this stage will need to be taken up from soil mineralization or as an application of another nitrogen source which would need to be applied well before this boot stage to allow time for urea to become available in the soil.

SLTEC® Nitro QUAD 3™ or UAS can be applied via foliar or streaming jet at this stage or earlier to ensure the crop never dips into a nitrogen deficiency. SLTEC® Nitro QUAD 3™ and UAS also contain other nutrients and can be mixed with SLTEC®'s range of Nitro Trace Elements with or without extra water.

Wheat Nutrient Budgeting	Macro Element Nutrient Removal (kg/t)						Trace Element Nutrient Removal (kg/t)					
	Description	N	P	K	S	Ca	Mg	Mn	Zn	Cu	Mo	B
Nutrient Removal (kg nutrient / t grain)	21	4	6	1.4	0.5	2.0	0.05	0.04	0.007	0.0007	0.006	0.03
Typical removal from 4 t/ha crop	83	16	24	5.6	2.0	8.0	0.2	0.2	0.03	0.003	0.02	0.12



# Canola Nutrient Uptake

As indicated in the uptake graph below, more than half of a Canola crop's requirement of NPKS is taken up prior to stem elongation. In particular, the sulphur requirement is over 80% prior to stem elongation, therefore it is critical to ensure the crop has adequate source of sulphur early in the crop.

Sulphur is crucial for synthesis of oil and protein as well as for the plant's vegetative development. Sulphur in canola is needed in the formation of chlorophyll in leaves, and therefore growth.

By understanding the nutritional needs of the crop and the likely removal of nutrients, the crop has the best opportunity of achieving desired yields and expectations.

## Common sulphur deficiency's may include:

Pale and mottled leaves, leaves may be cupped with purple margins, towards maturity the crop may have poor pod set and pod abortions and low sulphur levels will cause yield loss, even if deficiency symptoms are not obvious.

Consider one of SLTEC®'s highly loaded liquid nitrogen and sulphur products via streaming or foliar before the cabbaging stage to give the crop the best chance to succeed.

Canola Nutrient Budgeting	Macro Element Nutrient Removal (kg/t)						Trace Element Nutrient Removal (kg/t)					
	Description	N	P	K	S	Ca	Mg	Mn	Zn	Cu	Mo	B
Nutrient Removal (kg nutrient / t grain)	40	7	10	10	4	4	0.04	0.04	0.004	0.0007	0.055	0.03
Typical removal from 4 t/ha crop	100	17.5	25	25	12.5	10	0.1	0.1	0.01	0.002	0.14	0.05



Tissue Testing

Seedling

Stem Elongation

Head Ripening

# Fluid Fertilizer Storage Systems

The team at SLTEC® have conducted extensive research into storage and handling systems and can assist you designing and implement your liquid nutritional program.

Well designed fluid fertilizer storage and injection systems are essential to ensuring your fluid inputs are effectively utilized, to maintain your workforce safety and to minimize environmental impacts.

## SLTEC Fluid Fertilizer Tanks

*(Rental Plans available)*

### Free Standing 32,000 L Tank

Poly Tank complete with:

- Manhole & safety lid
- Banjo fertilizer resistant fittings
- 3" camlock inflill / outlet and air vent assemblies
- Stainless steel sight gauge assembly
- Bottom sump & 1" drain valve enabling 100% drainage
- Strong poly base to support and fittings



### Free Standing 10,000 L Tank

Poly Tank complete with:

- Manhole & safety lid
- Banjo fertilizer resistant fittings
- Sight gauge 3/4"
- Tank height is designed to fit under Centre Pivot centre

**This tank is available for purchase.**



### Header Tanks for Liquid Run Fertilizer

- Poly tank and lid
- Stainless steel float assembly with poly ball float
- 1" fertilizer resistant camlock fittings with hose supplied



### Fertilizer Injection Pumps

- Triangle Multifertic Electric Fertilizer Injection Pumps
- Standard pump 60MF-200 (200 ltr/hr single piston head)
- Standard motor 3 Phase
- Flow Rate adjusted manually from 0-100% via thumb wheel







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