Crop nutrient budgeting is critical to improve production efficiency and to reduce environmental impacts. SLTEC®’s range of quality fluid fertilizers and soil and plant stimulants are supported by our comprehensive field agronomy service to help you achieve your production goals.
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.

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

Read our quality assurance policy online at sltec.com.au/quality
Can your fertilizer supplier give you this sort of quality assurance?

SLTEC\textsuperscript{®} is committed to delivering quality products and services. We continue to put a tremendous effort into ensuring that our products meet the tightest quality parameters.

- We carefully select the ingredients we use in our formulations from suppliers all over the globe.
- We routinely seek independent laboratory testing to confirm the levels of all nutrients listed on our product labels. We also regularly test for heavy metals or other contamination.
- Our blends are developed by our formulation chemist, who has now developed over 400 different blends, some of which have been servicing very sensitive crops in hygienically clean glass house environments.
- We invest annually in formulation research and advanced chemistries for the fluid fertilizer and industrial water treatment sectors.
- Our team has specialized formulation software that aids the development of each blend, from basic chemistry building blocks into complex and sophisticated formulations for applications such as hydroponics, foliar fertilizer, fertigation, water treatment etc.
- Our batching and mixing systems are calibrated every 6 months by an external certifying body.
- Each batch must meet a variety of tests and quality specifications before being released for dispatch.
- Our labels state accurately the nutrient content of each blend and comply fully with state and federal legislation and the Fertilizer Australia Labelling Code of Practice.
- We retain samples of each and every blend made with a unique batch number, enabling traceability of batches.
- Our staff are qualified and thoroughly trained to ensure our products and services remain at the highest standards of excellence.

In summary, quality is an absolutely essential component of the culture and processes at SLTEC\textsuperscript{®} and we pride ourselves on it. Development, manufacture, storage, labelling and transport of our products is carried out in a manner that aims to provide our customers with the assurance that the products they receive are of the highest quality, ready to use and will deliver the outcomes desired.
# Almond Fluid Fertilizer Options

## Legend

<table>
<thead>
<tr>
<th>Fertigation</th>
<th>Foliar</th>
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<tbody>
<tr>
<td><img src="image1.png" alt="Fertigation Icon" /></td>
<td><img src="image2.png" alt="Foliar Icon" /></td>
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## Growth Stage

<table>
<thead>
<tr>
<th>Growth Stage</th>
<th>Dormancy</th>
<th>Budswell</th>
<th>Blossom</th>
<th>Stage 1</th>
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<tr>
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<tr>
<td>Physiological Process</td>
<td>Root Growth</td>
<td>Pollination</td>
<td>Cell Division</td>
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## Physiological Process

- Root Growth
- Pollination
- Cell Division

## Product Code

<table>
<thead>
<tr>
<th>Code</th>
<th>Name</th>
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<tbody>
<tr>
<td>SG0003</td>
<td>Liquid Lime 38</td>
</tr>
<tr>
<td>SS10:14:0 + Zn</td>
<td></td>
</tr>
<tr>
<td>GG0066</td>
<td>Nitro QUAD 3</td>
</tr>
<tr>
<td>GG0034</td>
<td>Cal Mag &amp; Boron</td>
</tr>
<tr>
<td>GG0030</td>
<td>Baseline Plus</td>
</tr>
<tr>
<td>SNPK0061</td>
<td>Nitro Combi TE</td>
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<tr>
<td>GG0072</td>
<td>Carbo K</td>
</tr>
<tr>
<td>GG0017</td>
<td>BiologiCAL® PLUS</td>
</tr>
<tr>
<td>GG0039</td>
<td>QuadSHOT®</td>
</tr>
<tr>
<td>SNPK0036</td>
<td>Super Z Foliar</td>
</tr>
<tr>
<td>SNPK0040</td>
<td>Boron Complex</td>
</tr>
<tr>
<td>SNPK0046</td>
<td>TE 8 PLUS</td>
</tr>
<tr>
<td>SNPK0031</td>
<td>Fe PLUS</td>
</tr>
<tr>
<td>SNPK0035</td>
<td>Z PLUS</td>
</tr>
</tbody>
</table>

## Below is a list of some key products in the SLTEC range suitable for almond production

- SG0007 Liquid Lime 38
- SG0003 SS 10:14:0 + Zn
- GG0066 Nitro QUAD 3
- GG0034 Cal Mag & Boron
- GG0030 Baseline Plus
- SNPK0061 Nitro Combi TE
- GG0072 Carbo K
- GG0017 BiologiCAL® PLUS
- GG0039 QuadSHOT®
- SNPK0036 Super Z Foliar
- SNPK0040 Boron Complex
- SNPK0046 TE 8 PLUS
- SNPK0031 Fe PLUS
- SNPK0035 Z PLUS

## Our aim is to take away the hassle of mixing fertiliser and to make fertigation easier for you.
## Product Technical Information

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Name</th>
<th>N% (w/v)</th>
<th>P% (w/v)</th>
<th>K% (w/v)</th>
<th>S% (w/v)</th>
<th>Ca% (w/v)</th>
<th>Bio Stimulant</th>
<th>Chelating Agent</th>
<th>Specific Gravity (kg/L)</th>
<th>pH Range</th>
<th>Typical Application Rates</th>
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<tbody>
<tr>
<td>SS9003</td>
<td>Liquid Lime 38</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>38.0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1.60 - 1.61</td>
<td>9.0 - 10.0</td>
<td>Speak to your SLTEC® representative for specific application rates</td>
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<tr>
<td>SS9003</td>
<td>SS 10:14:0 + Zn</td>
<td>10.1</td>
<td>14.0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Y</td>
<td>-</td>
<td>1.29 - 1.30</td>
<td>6.0 - 7.0</td>
<td>20 - 100 L/ha</td>
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<tr>
<td>GG0064</td>
<td>Nitro QUAD 3</td>
<td>41.1</td>
<td>0.1</td>
<td>0.1</td>
<td>-</td>
<td>-</td>
<td>Y</td>
<td>Y</td>
<td>1.30 - 1.32</td>
<td>6.0 - 7.0</td>
<td>10 - 80 L/ha</td>
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<tr>
<td>GG0024</td>
<td>Cal Mag &amp; Boron</td>
<td>12.4</td>
<td>-</td>
<td>-</td>
<td>12.1</td>
<td>-</td>
<td>Y</td>
<td>-</td>
<td>1.47 - 1.50</td>
<td>2.0 - 3.0</td>
<td>10 - 100 L/ha</td>
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<tr>
<td>GG0009</td>
<td>Baseline Plus</td>
<td>11.7</td>
<td>4.9</td>
<td>13.6</td>
<td>2.0</td>
<td>0.01</td>
<td>Y</td>
<td>Y</td>
<td>1.29 - 1.32</td>
<td>7.5 - 8.5</td>
<td>10 - 80 L/ha</td>
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<tr>
<td>SNP0061</td>
<td>Nitro Combi TE</td>
<td>2.7</td>
<td>-</td>
<td>-</td>
<td>1.3</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1.24 - 1.26</td>
<td>2.0 - 3.0</td>
<td>2 - 15 L/ha</td>
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<tr>
<td>GG0072</td>
<td>Carbo K</td>
<td>-</td>
<td>-</td>
<td>43.9</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1.54 - 1.55</td>
<td>13.0 - 14.0</td>
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<tr>
<td>GG0007</td>
<td>BiologCAL® PLUS</td>
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<td>0.1</td>
<td>2.0</td>
<td>1.8</td>
<td>6.3</td>
<td>Y</td>
<td>Y</td>
<td>1.27 - 1.30</td>
<td>8.0 - 10.0</td>
<td>20 - 60 L/ha</td>
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<tr>
<td>GG0039</td>
<td>QuadSHOT®</td>
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<td>0.2</td>
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<td>Y</td>
<td>1.15 - 1.16</td>
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<td>SNP0036</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1.33 - 1.34</td>
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<td>5 - 10 L/ha</td>
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<td>SNP0050</td>
<td>Boron Complex</td>
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<td>-</td>
<td>-</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>1.34 - 1.38</td>
<td>7.5 - 8.5</td>
<td>2 - 5 L/ha</td>
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<tr>
<td>SNP0046</td>
<td>TE 8 PLUS</td>
<td>2.6</td>
<td>-</td>
<td>0.1</td>
<td>4.2</td>
<td>-</td>
<td>Y</td>
<td>Y</td>
<td>1.28 - 1.29</td>
<td>1.0 - 2.0</td>
<td>10 - 25 L/ha</td>
</tr>
<tr>
<td>SNP0031</td>
<td>Fe PLUS</td>
<td>-</td>
<td>-</td>
<td>0.1</td>
<td>4.7</td>
<td>-</td>
<td>Y</td>
<td>Y</td>
<td>1.22 - 1.23</td>
<td>2.0 - 3.0</td>
<td>5 - 10 L/ha</td>
</tr>
<tr>
<td>SNP0026</td>
<td>Z PLUS</td>
<td>-</td>
<td>-</td>
<td>0.1</td>
<td>7.8</td>
<td>-</td>
<td>-</td>
<td>Y</td>
<td>1.36 - 1.38</td>
<td>2.0 - 3.0</td>
<td>5 - 10 L/ha</td>
</tr>
</tbody>
</table>
Baseline Plus™

Baseline Plus has a complete and balanced NPK analysis suitable for fertigation and foliar application across a wide range of crops. The analysis is perfect for plant establishment and maintained growth where a N : K ratio near 1 : 1 or a mid-season nutrient boost is required.

Benefits of Baseline Plus
- Chelated trace elements for rapid plant uptake and to drive the NPK metabolism.
- Contains SL TEC’s QuadSHOT® - The ingredients stimulate soil biological activity; improving the cycling and availability of plant nutrients, plant uptake efficiencies and soil fertility and health.
- Baseline Plus has a high analysis compared to other liquid products and provides economic and efficient supply of nutrients and the capacity to reduce rates compared to common prilled complete fertilizers on the market.
- Efficiencies can be made with Baseline Plus in fertigation applications by placing the nutrients at the root mass where they will be taken up by the plant; reducing loss or waste of nutrients.

Guaranteed Analysis
- Nitrogen (N): 11.8%
- Phosphorus (P): 4.8%
- Potassium (K): 13.6%
- Sulfur (S): 2.0%
- Magnesium (Mg): 0.2%
- Manganese (Mn): 0.01%
- Zinc (Zn): 0.01%
- Copper (Cu): 0.005%
- Boron (B): 0.02%
- Iron (Fe): 0.01%
- Molybdenum (Mo): 0.005%
- Fulvic Acid: 0.01%
- Fish Emulsion: 0.42%
- Humic Acid: 0.34%
- Kelp: 0.42%
- Molasses: 0.42%
- Specific Gravity: 1.29 - 1.32 kg/L
- pH Range: 7.5 - 8.5

Typical Application Rates
- **Foliar:** 2 to 15 L/ha
  Horticulture use 200 to 2,000 L/ha water
  Broadacre use at least 100 L/ha water
- **Fertigation:** 10 to 80 L/ha

Contact:
- T: 1800 768 224
- E: enquiries@sltec.com.au
- www.sltec.com.au
Crop Nutritional Information

To assist in developing a greater understanding of the nutrients required to grow healthy, profitable and sustainable crops, we have put together a summary of some of the functions and interactions that occur.

To maximise yield and profit, we are constantly reminded of Liebig’s Law, which states, “Growth is not controlled by the total amount of resources available to a plant, but rather, the most limiting resource required, at any one time”. The nutrients that you invest in to maximise yield, quality and profit, do not work in isolation, but in many complex chemical interactions, that together, convert light energy into a valuable food and fibre source.

Almonds result from a vegetative and reproductive cycle extending over two years. To maximise crop potential, a fertilizer program needs to stimulate current season growth, and at the same time target bud development for the following season.

A balanced fertilizer program needs to aim to increase the uptake and storage of nutrients to support and sustain growth, bud development and crop production. The bulk of the program is best delivered by regular fertigation, however complimentary foliar applications are necessary during peak nutrient demands throughout the season.

SLTEC® Fertilizers range of innovative fluid fertilizers offer growers concentrated fully dissolved solutions, readily available to Almond crops in a convenient ready to use form.

### Fertilizer Information

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SLTEC® Fertilizers range of innovative fluid fertilizers offer growers concentrated fully dissolved solutions, readily available to Almond crops in a convenient ready to use form.
**Nitrogen**

Nitrogen is the major nutrient for shoot and fruit development and as a key component of chlorophyll is necessary for photosynthesis. Also an essential component of structural proteins, the demand for nitrogen is high throughout the early half of the growing season to produce quality wood for next year’s crop. Later, post-harvest applications of up to 20-30 percent of yearly nitrogen requirements are necessary to facilitate carbohydrate storage in roots and branches in preparation for dormancy.

Nitrogen is integral to bud building, initiation and differentiation. Foliar application of nitrogen at pit hardening increases the nitrogen content of buds, promoting stronger buds and uniform flower development for the following season.

**Potassium**

Potassium is an essential nutrient for photosynthesis, aiding the functioning of chlorophyll and the activation of enzymes. Potassium is involved in the formation of proteins and is especially important in the translocation of carbohydrates, sugars and fats. Potassium is the ‘plant preferred’ ion for maintaining water content within cells.

Potassium is critical to the health of almond trees. Adequate potassium inputs can increase almond yields, whilst a deficiency can result in poor filling and low oil content in kernels. Foliar applications of potassium nitrate have been shown to improve the flowering coincidence across all varieties.

**Phosphorus**

Phosphorus is necessary for new cell formation, cell division and enlargement; photosynthetic processes and carbohydrate transport. Phosphorus encourages the early development of shoots and especially roots, stimulates flower and fruit production and hastens maturity. Phosphorus needs to be available for crop 3 to 4 weeks prior to bud burst and through the flowering and fruit development.

**Calcium**

Calcium is necessary for the growth and function of shoot and especially root tips, strengthens cell walls, aids in cell division, cell elongation and the permeability of cell membranes.

It is also important to maintain adequate calcium levels in the soil to promote healthy soil structure, improve cation exchange balance and encourage beneficial soil flora.

**Magnesium**

Magnesium is an essential mineral component of the chlorophyll molecule and is therefore critical to photosynthesis. Magnesium aids in enzyme function, protein synthesis and the formation of sugars and starches. Magnesium uptake is reduced when competing with high potassium and ammonium levels in irrigated sandy soils; deficiency (interveinal chlorosis of older leaves) will become a problem as these soils acidify over time.

---

**Macro Nutrients**

**Nitro QUAD 3™**

41% nitrogen in three forms with added biological stimulants for maximum uptake and soil retention.

**Carbo K™**

High analysis (43.8% potassium) for maximum nut fill.

**SS 10:14:0 + Zn™**

Ammoniated phosphorus with zinc, perfect to promote growth in early spring.

**BiologiCAL® PLUS**

Plant available calcium with a balanced mix of biostimulants.

**Cal Mag & Boron™**

Maintains plant calcium:magnesium ratios with boron to assist calcium mobility.
Zinc plays an essential role in protein, carbohydrate and hormone synthesis and is involved in enzyme activity and plasma membrane integrity. In almond trees zinc deficiency may be evidenced in reduced leaf size (little leaf disease) and inhibited shoot formation. Zinc deficiency is the most commonly encountered nutrient deficiency in Australian agriculture, particularly on the irrigated calcareous soils of the Murray – Mallee.

Iron is necessary for chlorophyll formation and photosynthesis, aids respiration, protein formation and the release of energy from starches. Iron availability is limited in calcareous soils with a high subsoil pH, especially those prone to water logging or following significant rainfall; leaf yellowing or chlorosis is common in almonds grown on these soils.

Boron is involved in cell division, protein and hormone synthesis, carbohydrate metabolism and calcium translocation. It is critical for pollen tube elongation and therefore flowering and fruit set; Boron deficiency at flowering will reduce fruit set and yields. As boron accumulates in almond hulls, significant quantities are removed at harvest and must be replaced via the nutrient program. Boron availability to the tree is reduced in high pH soils, overlimed soils, soils with high levels of nitrogen and/or calcium, sandy soils and soils with low organic content. Cold wet weather, especially after a long dry spell can also inhibit boron availability.

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Copper is involved in chlorophyll production, photosynthesis, enzyme systems, water movement and seed production. Copper is critical for disease resistance and lignification (wood development). Deficiency causes twig die back and weakens limbs resulting in breakage under heavy crop loads or during windy weather. High soil nitrate levels reduce copper uptake and sandy alkaline soils with little organic matter contain only low levels of available copper.

References
Applying lime to a soil reduces its acidity by raising the pH. It also supplies calcium. Increasing soil acidity affects plant nutrient availability, reduces the activity of beneficial bacteria that decompose organic matter and heavy metals such as aluminium and iron become more soluble, tying up phosphorus into forms unavailable to plants, and may build up to toxic levels.

Soil should always be sampled before establishing a new planting. If lime and/or gypsum are required, incorporate it during soil preparation. It is often useful to dig a pit and to sample the subsoil to understand any potential limitations to tree growth further down the profile.

A soil sample every 3 years taken from the same locations within a block is recommended to monitor nutrient levels and to check that the pH remains satisfactory. This allows time for program changes to take effect. If lime is required apply in the Autumn.

The preferred pH before establishing a new vineyard is generally 5.5 to 6.8 depending on the soil type. Sandy or lighter soils tend to require pH toward the higher end. As a rule of thumb - apply lime to established vineyards when the pH falls below 5.5.

Use dolomitic lime (high in magnesium) on soils that are low in magnesium.

Gypsum is usually recommended on sodic and magnesic soils when pH is high and exchangeable calcium is low. High magnesium soils are often massive and hard setting (when exchangeable magnesium is greater than 15%). High sodium soils tend to be dispersive when wet and form a crust when dry (when exchangeable Sodium is greater than 5%).

Desirable Soil Exchangeable Cation Balance

<table>
<thead>
<tr>
<th>Element</th>
<th>Balance (%)</th>
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<tbody>
<tr>
<td>Calcium</td>
<td>60 - 70</td>
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<tr>
<td>Magnesium</td>
<td>12 - 15</td>
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<tr>
<td>Potassium</td>
<td>3 - 5</td>
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<tr>
<td>ESP</td>
<td>&lt; 5</td>
</tr>
<tr>
<td>Hydrogen</td>
<td>&lt; 20</td>
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<tr>
<td>Ca : Mg ratio</td>
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Typical Cation Exchange Values for Various Soil Textures

<table>
<thead>
<tr>
<th>Texture</th>
<th>Typical CEC</th>
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<tbody>
<tr>
<td>Sand</td>
<td>&lt; 5 meq / 100g</td>
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<tr>
<td>Sandy Loam</td>
<td>5 - 10 meq / 100g</td>
</tr>
<tr>
<td>Clay Loam</td>
<td>10 - 25 meq / 100g</td>
</tr>
<tr>
<td>Light Clay</td>
<td>25 - 30 meq / 100g</td>
</tr>
<tr>
<td>Medium Clay</td>
<td>30 - 35 meq / 100g</td>
</tr>
<tr>
<td>Heavy Clay</td>
<td>&gt; 35 meq / 100g</td>
</tr>
</tbody>
</table>

(Based on Clay content only - eg: a high organic matter clay may have a CEC over 50 meq/100g)

Recommended Soil pH Level for Almonds

<table>
<thead>
<tr>
<th>Optimum pH Range</th>
<th>Almond</th>
<th>Optimum</th>
<th>Lower</th>
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<tbody>
<tr>
<td>Optimum</td>
<td>6.0 - 7.5</td>
<td>6.0 to 6.5</td>
<td>5.5 to 5.8</td>
</tr>
</tbody>
</table>

Adapted from: http://www.terragis.bees.unsw.edu.au/terraGIS_soil/sp_soil_reaction_ph.html
Maximise Your Crop’s Yield Potential

Nitro Combi TE™

High analysis trace element blend activated with fulvic acid to maximise uptake, ideal for foliar and fertigation applications to aid flowering, drive vegetative growth and fruit or nut fill.

Benefits of Nitro Combi TE™

• A focus on zinc, copper, magnesium, manganese and iron - key trace elements associated with photosynthesis, enzyme activity and metabolism.

• Boron and zinc have been shown to have a synergistic effect when combined and applied together; promoting strong reproductive and vegetative growth.

• High boron to aid pollen tube elongation during pollination and fruit set.

• Fully soluble nutrients in plant available forms.

• Fulvic acid provides an efficient complexing agent with only very small amounts required to improve plant tissue permeability for a range of nutrients.

Nitro Combi TE™ is versatile across a range of horticultural crops. Use pre-bloom to improve bud nutrient levels, during the season to drive vegetative growth or post harvest to ensure adequate nutrition in storage tissues ready for the following season.

Guaranteed Analysis

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>Amount</th>
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</thead>
<tbody>
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<td>Nitrogen (N):</td>
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<tr>
<td>N as nitrate</td>
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<tr>
<td>Potassium (K):</td>
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<tr>
<td>Sulphur (S):</td>
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<tr>
<td>Magnesium (Mg):</td>
<td>0.7%</td>
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<td>Manganese (Mn):</td>
<td>1.6%</td>
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<tr>
<td>Zinc (Zn):</td>
<td>2.2%</td>
</tr>
<tr>
<td>Copper (Cu):</td>
<td>2.7%</td>
</tr>
<tr>
<td>Molybdenum (Mo):</td>
<td>0.03%</td>
</tr>
<tr>
<td>Boron (B):</td>
<td>0.8%</td>
</tr>
<tr>
<td>Iron (Fe):</td>
<td>2.2%</td>
</tr>
<tr>
<td>Fulvic Acid:</td>
<td>0.5%</td>
</tr>
<tr>
<td>Specific Gravity:</td>
<td>1.25 kg/L</td>
</tr>
<tr>
<td>pH:</td>
<td>2.0 to 3.0</td>
</tr>
</tbody>
</table>

Typical Application Rates

Foliar

1 to 2 L/ha

Horticulture use 200 to 2,000 L/ha water

Broadacre use at least 100 L/ha water

Fertigation

2 to 15 L/ha

Contact:

T: 1800 768 224

E: enquiries@sltec.com.au

www.sltec.com.au
Delivering Quality Produce

Cal Mag & Boron

The N : Ca ratio of 1 : 1 is perfect for plant establishment and during rapid cell division phases or periods of stress where both growth and cell strength needs to be maintained.

Magnesium maintains plant colour as it is a key component of chlorophyll production.

Both Magnesium and Boron aid in the translocation of Calcium to growing points. Boron is essential for the germination and viability of pollen.

Benefits of Cal Mag & Boron

- Soluble nutrients provide hassle free injection (no insoluble blockages) and rapid plant uptake
- High analysis provides for economic and efficient supply of nutrients and the capacity to reduce rates
- Maintains plant Ca : Mg ratios
- Boron to assist Calcium mobility
- Improves plant cell wall strength and fruit firmness
- Chloride free

Guaranteed Analysis

- Nitrogen (N): 12.4%
- Calcium (Ca): 12.3%
- Magnesium (Mg): 3.4%
- Boron (B): 0.2%
- Specific Gravity: 1.47 - 1.50 Kg/L
- pH Range: 2.0 - 3.0

Typical Application Rates

- General Foliar:
  - 5 to 10 L/ha
  - Horticulture use 200 to 2,000 L/ha water
  - Broadacre use at least 100 L/ha water
- Fertigation:
  - 10 to 100 L/ha

“SLTEC® Cal Mag and Boron is a perfect fit for our premium lettuce programs.”
John Frisina - Landmark VIC

“Cal Mag & Boron driving quality strawberry production.”
Peter Morrison - Roberts Ruralco, TAS

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Inputs that Stimulate Soil Biology

Kelp
Bio Kelp (22% Kelp)
Kelp extracts contain amino acids such as glycine and plant hormones including auxins, betaines and cytokinins which in combination stimulate plant growth. They should not be regarded as fertilizers as the nutrient levels are typically too low to have any direct value. Kelp extracts do have strong effects on soil microbes and in particular stimulate the activity of photosynthetic bacteria and actinomycetes which can help provide protection against soil-borne pathogens.

Fish Emulsion
Fish Emulsion (100% Fish Emulsion)
Fish Emulsions are a source of readily available organic nitrogen and can be especially useful when this is needed to improve the C : N ratio in the soil. They are also beneficial in stimulating growth and activity of many micro-organisms. The net effect is an increase in the potential for nitrogen cycling and also a somewhat reduced requirement for nitrogen inputs to some crops and pasture. Lower application rates (2 L/ha) appear to stimulate fungi and cellulose utilisers that do not respond well to high Nitrogen. Higher rates (10 L/ha) appear to promote photosynthetic bacteria and actinomycetes and suppress lactic acid bacteria.

Humate
Humic K 26 (25% Humic Acid)
Humates are soil conditioners with high carbon content. They are useful materials where adjustment of the C : N ratio is required. Humates are also important in releasing bound nutrients into plant available forms and helping to improve soil structure at relatively low application rates. These materials produce significant biological effects with a strong suppression of lactic acid bacteria and stimulation of fungi, especially cellulose utilisers, which as the name suggests are important in the breakdown of cellulose and certain other resistant materials, thus increasing the formation of humus and helping to improve soil structure.

Molasses
Molasses (100% Molasses)
Molasses provides a readily metabolisable carbon and energy source that can be utilised by most organisms. Low rates (2 L/ha) can be effective in stimulating fungi and cellulose utilisers that do not respond well to high Nitrogen. Higher rates (10 L/ha) appear to promote photosynthetic bacteria and actinomycetes and suppress lactic acid bacteria.
Plants require calcium in relatively large amounts for many functions including cell division & strength, root system and leaf development. Calcium is also an essential element required for healthy soils, influencing both the physical, chemical and biological aspects.

Benefits of BiologiCAL® PLUS
- Aids in maintaining a high pH to control club root
- Improves nitrogen efficiency; compatible with a wide range of nitrogen based products.
- Helps to displace sodium and magnesium in difficult soils
- Improves soil structure and friability
- Improving moisture penetration/infiltration
- A unique form of activated calcium that stimulates plant uptake
- Built in soil and plant stimulants to enhance soil fertility and plant health
- Assists in reduction of soil nematodes that inhibit root growth and plant productivity.
- Provides plant available calcium without extra nitrogen
- Improves plant resistance to disease and overall resilience
- Improves cell wall strength, plant durability and stress tolerance.

Guaranteed Analysis
- Calcium (Ca) 6.3%
- Nitrogen (N) 0.3%
- Phosphorus (P) 0.1%
- Potassium (K) 2.0%
- Sulphur (S) 1.8%
- Molasses 41.9%
- Carbon (C) 20.0%
- Fish Emulsion 0.3%
- Kelp 0.3%
- Humic Acid 0.2%
- Specific Gravity 1.27 to 1.30 kg/L
- pH Range 8.0 to 10.0

BiologiCAL® PLUS TE
All the Benefits of BiologiCAL® PLUS with an additional 5 trace Elements;
- Zn 0.6%, Mn 0.3%, Cu 0.15%, Mo 0.005% & B 0.05%

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- www.sltec.com.au
Liquid Lime 38™ is a highly flowable calcium carbonate suspension designed to deliver high purity, micronized particles to the soil to raise pH and improve soil structure. Through foliar application, it provides an extremely efficient source of calcium to crops.

Liquid Lime 38™ utilizes a highly advanced industrial process to hold the micronized particles in suspension, thereby improving the dispersion of the product when applied to the soil or foliage.

Liquid Lime 38™ is an extremely concentrated and reactive form of calcium carbonate (or “lime”). It is produced by a specialised milling process where the high purity raw material is ground to 1 micron in size. The product’s extreme fineness delivers an impressive surface area of 13 m²/g, significantly enhancing its reactivity within the soil compared to all other forms of calcium carbonate.

Liquid Lime 38™ has a superior Neutralising Value (NV) of 99 (pure calcium carbonate at NV 100 is the benchmark) compared to other fluid lime sources on the Australian market. However, this is only part of the story - because of the fineness of Liquid Lime 38, its effective Neutralising Value is considered to be 99 because every particle is 100% reactive in the soil.

Also, it is far more effective in higher pH soils. A coarse aglime will struggle to lift soil pH above 6 because the logarithmic response of the pH scale means the soil environment isn’t acidic enough to react and dissolve coarser lime particles. Liquid Lime 38™ can further assist in pH adjustment.

“The high-grade material in Liquid Lime 38™ means responses are extremely fast in the drip zone – in Thailand on red tropical soil, for example, the pH increased from 4.6 to 5.7 in three weeks after an application of 32 L/ha!”

Why Use Liquid Lime 38™?
- Highly uniform - extremely fine particle size (1 micron)
- Highly reactive - high purity calcium carbonate
- Neutralizing Value of 99
- Flowable for easy pumping
- Can be applied to soil as a broadcast or banded application or via irrigation systems
- Can be applied to crops as a foliar calcium treatment

Chemical Analysis;
- Calcium (Ca): 38% w/v
- Carbonate (CO₃): 57.7% w/v
- Carbon (C): 11.6 % w/v
- pH: 9 - 10
- Specific Gravity: 1.60 kg/L
- Neutralising Value: 99
Liquid Lime 38™ is a highly flowable calcium carbonate suspension designed to deliver high purity, micronized particles to the soil to raise pH and improve soil structure. Through foliar application, it provides an extremely efficient source of calcium to crops.

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Liquid Lime 38™ means responses are extremely fast in the drip zone – in Thailand on red tropical soil, for example, the pH increased from 4.6 to 5.7 in three weeks after an application of 32 L/ha!

**Product Code:** SG0037

**sltec.com.au | 1800 768 224 | enquiries@sltec.com.au**

### Soil Type/Textural Class

<table>
<thead>
<tr>
<th>Soil Type/Textural Class</th>
<th>L per ha Liquid Lime 38™ (per 0.1 pH improvement)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sands / Loamy Sands</td>
<td>30 - 40</td>
</tr>
<tr>
<td>Sandy / Silty Loams</td>
<td>50 - 70</td>
</tr>
<tr>
<td>Sandy Clay Loams</td>
<td>70 - 85</td>
</tr>
<tr>
<td>Light to Medium Clays</td>
<td>85 - 90</td>
</tr>
<tr>
<td>Heavy Clays</td>
<td>90 +</td>
</tr>
</tbody>
</table>

### Application Rates (Foliar)

#### Crop Type

<table>
<thead>
<tr>
<th>Foliar Applications</th>
<th>Growth Stage</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Apples</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pink Bud</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Flowering</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fruit Set</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fruit Development</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ripening</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Post Harvest</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>5 – 10 L/ha with &gt;1500 L/ha Water</td>
<td>No application during this period</td>
<td></td>
</tr>
<tr>
<td>5 – 10 L/ha with &gt;1500 L/ha Water</td>
<td>5 – 10 L/ha with &gt;1500 L/ha Water</td>
<td></td>
</tr>
<tr>
<td>5 – 10 L/ha with &gt;1500 L/ha Water</td>
<td>5 – 10 L/ha with &gt;1500 L/ha Water</td>
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<td>5 – 10 L/ha with &gt;1500 L/ha Water</td>
<td></td>
</tr>
<tr>
<td>5 – 10 L/ha with &gt;1500 L/ha Water</td>
<td>5 – 10 L/ha with &gt;1500 L/ha Water</td>
<td></td>
</tr>
<tr>
<td>25 - 50 L/ha</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cherry</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pre-Flowering</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fruit Development</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ripening</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Post Harvest</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
</tr>
<tr>
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<td></td>
</tr>
<tr>
<td>5 – 10 L/ha with &gt;1500 L/ha Water</td>
<td>5 – 10 L/ha with &gt;1500 L/ha Water</td>
<td></td>
</tr>
<tr>
<td>20 - 40 L/ha</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Tomatoes</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vegetative</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Flowering</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fruit Set</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fruit Development</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ripening</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Harvest</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>5 – 10 L/ha with &gt;1000 L/ha Water</td>
<td>No application during this period</td>
<td></td>
</tr>
<tr>
<td>5 – 10 L/ha with &gt;1000 L/ha Water</td>
<td>Or fertigate with irrigation system at the same rate</td>
<td></td>
</tr>
<tr>
<td>5 – 10 L/ha with &gt;1000 L/ha Water</td>
<td>Or fertigate with irrigation system at the same rate</td>
<td></td>
</tr>
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<td>5 – 10 L/ha with &gt;1000 L/ha Water</td>
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</tr>
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<td>5 – 10 L/ha with &gt;1000 L/ha Water</td>
<td>Or fertigate with irrigation system at the same rate</td>
<td></td>
</tr>
<tr>
<td>20 - 40 L/ha</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Soil Banded or Broadcast Applications</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crop Type</td>
<td>Growth Stage</td>
<td></td>
</tr>
<tr>
<td><strong>Potato</strong></td>
<td>Tuber Initiation to Canopy Closure</td>
<td></td>
</tr>
<tr>
<td></td>
<td>200 – 500 L/ha with 400 to 800 L/ha Water</td>
<td></td>
</tr>
<tr>
<td><strong>Carrot</strong></td>
<td>3-4 Leaf Stage</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7-8 Leaf Stage</td>
<td></td>
</tr>
<tr>
<td></td>
<td>100-200 L/ha with 400 to 800 L/ha Water</td>
<td></td>
</tr>
<tr>
<td></td>
<td>100-200 L/ha with 400 to 800 L/ha Water</td>
<td></td>
</tr>
</tbody>
</table>

### Nutrient Efficiency versus Soil pH

<table>
<thead>
<tr>
<th>Element</th>
<th>pH 4.5</th>
<th>pH 5.0</th>
<th>pH 5.5</th>
<th>pH 6.0</th>
<th>pH 6.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen (N)</td>
<td>30%</td>
<td>43%</td>
<td>77%</td>
<td>89%</td>
<td>100%</td>
</tr>
<tr>
<td>Phosphorus (P)</td>
<td>23%</td>
<td>31%</td>
<td>48%</td>
<td>52%</td>
<td>100%</td>
</tr>
<tr>
<td>Potassium (K)</td>
<td>33%</td>
<td>52%</td>
<td>77%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>
QuadSHOT® Trials – 14/15

As a part of SL TEC’s commitment to R&D, we have initiated a range of bio efficiency trials in major Almond growing areas. Our aim is to ensure that we are not only delivering cost effective liquid fertilizer options; but also inputs and advice that assist you to improve and maintain the productivity and sustainability of your soil.

QuadSHOT® is a unique organic soil conditioner made from Kelp, Fish Emulsion, Molasses, and Humic acids. The ingredients of QuadSHOT® are combined with the aim of stimulating soil biology, improving soil health, nutrient cycling and the subsequent uptake of applied nutrients. Generally, organic/biological inputs will help to stimulate long term changes in nutrient uptake efficiency and subsequent plant health and product quality, rather than simply providing immediate increases in crop yield. Therefore it is often a challenge to prove short term results arising from applications of these types of organic inputs.

During SL TEC’s recent trials (Robinvale VIC), QuadSHOT® fertigated at 30 L/ha has stimulated an increase in soil microbial activity in the Almond tree root zone. We were able to measure this as a function of emissions of soil CO2 from the beginning of the growing season and importantly a consistently warmer soil in the QuadSHOT® treatments. This was an average of 0.7°C higher than the control over the 56 day testing period.

Tissue analysis of Almond leaves from the trial sites has also indicated improvement in many nutrient levels where QuadSHOT® has been applied.

*Reference: Mikhail, E - SWEP Pty Ltd Analytical Laboratories
QuadSHOT® contains a carefully selected range of organic additives and biological stimulants. These ingredients stimulate soil biological activity, thereby improving the cycling and availability of plant nutrients and soil fertility and health. Together with management practices that enhance organic matter and soil structure development, this product assists in mobilizing available nutrients and improving plant uptake efficiencies.

Humic acid – increases nutrient holding capacity of the soil
Kelp – enhances plant and root growth development
Fish Emulsion – stimulates nitrogen cycling
Molasses - promotes beneficial soil biology
Each of these stimulants are also available as individual products

Benefits of QuadSHOT®
• Improves saline and sodic soils
• Improves the moisture holding capacity of soils
• Enhances nutrient cycling and availability
• QuadSHOT® can be used to soften a range of foliar fertilizers, allowing higher use rates without the potential for phytotoxic burn* - e.g. Nitro QUAD 3™ and UAS QUAD 3™
• QuadSHOT® is designed to aid in the soils mineralisation and nutrient availability. It also increases the plants uptake efficiency of essential minerals.
• Improves overall soil health and vitality.

Guaranteed Analysis
- Fish Emulsion 8.0%
- Kelp 8.0%
- Molasses 8.0%
- Humic Acid 6.6%
- Fulvic Acid 0.3%
- Nitrogen (N) 0.3%
- Phosphorus (P) 0.1%
- Potassium (K) 3.4%
- Sulphur (S) 0.2%
- Carbon (C) 5.2%
- Calcium (Ca) 0.2%
- Iron (Fe) 0.006%
- Specific Gravity (Kg/L) 1.1 to 1.2
- pH Range 10.0 - 11.0

Typical Application Rates
Foliar
1 to 5 L/ha
Broadacre use at least 100 L/ha water
Horticulture use 200 to 2,000 L/ha water

Fertigation
20 to 60 L/ha through sprinkler, traveller or drip systems

Pop-Up, At Planting, Directed Soil Spray
Banded with Seed: 4 to 7 L/ha
Banded to the Side: 5 to 15 L/ha - with 10 to 100 L/ha of water
20 to 60 L/ha as a directed soil spray, prior to planting or banded under canopy, with 200 to 800 L/ha water

Dipping Rates
Tree Age Young Established
Fertilization 40 L/ha 80 L/ha
Pre-Plant Dip 10 - 30 L/ha (Per 100L Water)

Contact:
T: 1800 768 224
E: enquiries@sltec.com.au
www.sltec.com.au