



a 'Round The Traps'

Importance of Potassium & Finishing Strong
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August 2024



19

Potassium

39.098

Don't Ignore the obvious

As many farmers start to direct their attention towards the final fertiliser applications this season, it is important that we don't overlook the plants demand for nutrients such as Potassium, which can all too often be neglected by farmers opting for cheaper standalone N nutrient boosts to finish crops.

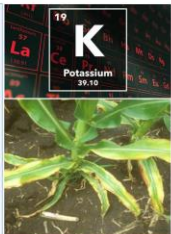
Potassium is vital for late plant growth, grain head development, facilitates the movement of sugars, cell electrolyte balance and regulates excessive Sodium uptake. Potassium plays a major role in photosynthesis, protein development, stomata control, as well as the metabolism of carbohydrates. Plants deficient in Potassium can suffer major yield losses. Signs of Potassium deficiency can include dead or yellowing leaf tips, pale/ weaker looking plants, death of older leaves. Do any of these signs sound familiar? Then perhaps you have a Potassium deficiency in your paddocks.

FERTI-TECH SUPER-K33

Super-K33sm
Is a High Quality Potassium Source, critical for Flowering, Fruiting and Pollination Focus. Super-K33 is an essential component in the development of over 40 Fertility based Enzymes. Potassium deficiency causes plants to grow slowly, with weaker stems that will allow the plant to lodge much easier. Fruit is often small and bad in taste. Leaves are often scorched around the leaf tips.

Benefits
Translocation of Sugars in the Plant in addition to strengthening Plant Tissue and Improving Fruit Size.

- Improves Enzyme Functions and Activates Enzymes.
- Increases Protein Synthesis.
- Helps minimise Frost & Disease.
- Controls Stomata Function.
- Facilitates the movement of Sugars
- Sizing up Fruit and Grain, cell Electrolyte Balance
- Regulates Excessive Sodium uptake
- Associated with the movement of Water, Nutrients and Carbohydrates in plant tissue.



Super-K33 sm	% w/v
Potassium (K)	33.0
Potassium Fulvate	6.7

TECH-GRADE POTASSIUM

Examples of Potassium (K) deficiency in the leaf of the plant.

Application Rates:

- Foliar Treatment**
- Broad Acro apply 1-3 litres per Hectare
 - Orchards apply 2-5 litres per Hectare
 - Horticulture apply 3-10 litres per Hectare
 - Viticulture apply 2-5 litres per Hectare
- Furrow and Injection**
- Cereals, Maize, Cotton, Sorghum, Canola 5-10 litres per Hectare
- Fertigation**
- Horticulture, Orchards & Vines 5-10 litres per Hectare

Symptoms of Deficiencies:

- Marginal "scorch" of leaves and tips.
- Plants grow slowly.
- Stems are weak and lodge easily.
- Fruit is often small and bad in taste.
- Disease resistance is reduced. (See photos for examples)

Ferti-Tech - Carbon Systems Agronomy
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Z.30

FERTI-TECH
Austrolite Pty Ltd

Fertility Strategic Foliar

Maximum Flowering, Pollination and Nutrient Reserves
You can't control the Daylight, or the Temperature or Rain but you can control the Cultivar and the Z.30 Nutrition it will get.

$$\text{Yield} = \text{Grain} = \text{Spikelet Number} + \text{Fertile Florets}$$

- Zadoks Growth Stage 14 (Z.14 Fourth leaf emerging with tillering underway) is the stage where cereals start determining Spikelet Length and Spikelet Number. More Spikelets = More Potential Yield.
- Optimal Phosphorus, Nitrogen and Trace Nutrition at this stage are Key determinants for Spikelet Length and Number.
- Several Weeks Later at Zadoks Growth Stage 30 (Z.30 Multiple leaf, multiple tillers, just prior to Stem Elongation and just when the first Node begins) the critical need for optimal levels of Calcium, Potassium and Trace Elements occurs.
- Spikelet and Stem are now competing for nutrition and nutrient availability can fluctuate significantly further compromising the process that turns Spikelets into Grain - Actively Fertile Florets.
- Actively fertile florets are well supported by the appropriate Z.30 Strategic Fertility Foliar. Tissue Test Prior is Highly Recommended.
- Each spikelet consists of an axis with the rachillas (bearing two glumes and florets). Each spikelet normally has 2 to 4 fertile florets.
- Florets develop and mature from the base up, with the top florets potentially stunted or infertile due to various physical, biological and nutritional factors.
- Anthesis (end of flowering) occurs 3 to 10 days after the ear emerges from the flag leaf sheath, the pollen event occurring within 5 minutes of onset. Often higher order florets (3 to 5) progress to Anthesis and become pollinated but were not well formed to begin with (back at Z.14-Z.16) and do not produce grain (lack of nutrition at Z.30 onwards).
- Pollen has a lifespan of 5 hours and when settled on a stigma germinates in 1 1/2 hours to produce a pollen tube.
- With little time, maximised Receptive Fertility is Critical.
- During these phases where spike and stem compete for nutrition Yield will also be affected by the number of Fertile Florets per Spike - therefore increasing strategic nutrition at Z.30 should further increase the number of Fertile Florets and potential Grain Yield.
- A High Phosphorus complex Foliar with added UAN at Z.14, followed by a support Fertility Foliar at Z.30 (subject to leaf test) will improve Floret Efficiency and promote a better Pollination Fertility.

Ferti-Tech provide a focused outcome at each Cereal Growth Stage
Soil Chemical Analysis and COST EFFECTIVE Strategies
Maximum Early Root Mass, Balanced Green Mass
Microbe Friendly and Buffered Nutrient Efficiency
Crop Tissue Chemical Analysis for BALANCED Nutrition
Z.14 and Z.30 Strategic Foliar Support
Dry Survivor Performance with Stem Nutrient Reserves

- Soil Test Analysis
- Seed Coating Fertiliser
- Buffered Solid Fertiliser
- Z14 Yield Strategic Foliar
- Z30 Fertility Strategic Foliar (subject to Tissue Test)
- Stem Nutrition Reserves for a 10+ per Spikelet Grain Head Fill.



Setting Up for a Strong Finish

The business end when setting up crops for the best possible finish is fast approaching, our best decisions are always made after Tissue Testing, in the field SAP Testing at least and revising Soil Tests before a second foliar application is made. Flowering and pollination events are critical to get right, nutrient ratios to compare and so on, so this is when all the fine tuning comes in.

Always better to have the crops setup with a balanced and measured approach, to be in a position when unexpected rain events occur and being able to capitalise on it, if this is not done, the expected yield will be determined much earlier, regardless of when it rains, as most of the good rains and floods come with no warning at all from most weather forecasters, hence critical thinking and planning is required more than ever.