FERTI–TECH
Australia Pty Ltd

Z.30

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.

Yield = Grain = Spikelet Number + 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 ½ 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.**

Ferti-Tech Z.14 and Z.30 Strategic Foliar helps maximise Spikelet Formation, Yield Potential, Flowering, Pollination and Nutrition to Head.

Zadoks 14
Fourth Leaf Half Visible
Yield Strategic Foliar

Zadoks 30
Prior to Stem Elongation
Fertility Strategic Foliar

CARBON SYSTEMS AGRONOMY

Ferti-Tech
Phloem Effective Foliar ™

- Spectrum 12 T2 -Z.14
- BroadAcre T2 - Z.14
- PHOSTraK T2 - Z.14
- Liquid UAN (Nitrogen)
- CalTraK Z.30
- MagnaCal Z.30
- ManCuZn Z14 - Z.30
- ALLTrace Z14 - Z.30

Gratefully Acknowledge
Author HM Rawson

Yield = Grain = Spikelet Number + Source & Sink Nutrition

- Phloem Effective Nutrition is critically essential for grain nutrient supply.
- Grain Yield over the entire life of the Cereal is determined by the ready supply of nutrient and the capacity to store nutrient – the source flow and the sink reserves.
- Nutrient supply for grain filling is a function of photosynthesis combined with stem and leaf sink reserves held in the form of water soluble carbohydrates. Key nutrients like Calcium, Potassium and Traces are critical.
- Leaf area and a high leaf photosynthetic rate assist in sending more nutrition to spikelet formation prior to Anthesis via the increase in photosynthetic supply to the sink reserves with nutrient uptake maximised during stem elongation. 70-90% of total Nitrogen is accumulated prior to Anthesis and is the key period for sink accumulation. Cereals need all their nutrition early and have specific supply needs at Z.14 and Z.30.
- After achieving maximum Spikelet Number (beginning at Z.14) and supporting maximum Floret Fertility (beginning at Z.30) there is one more hurdle to meet – the level of Sink Nutrition reserves for head fill.
- Strategic Foliar at Z.30 provides nutrients that are required to bolster Fertility and Sink Nutrition.
- You can take chance, nutrient fluctuations, soil constraints and missing nutrition out of the Yield Equation at these critical times by using a Strategic Z.14 and Z.30 Foliar for a better Yield Outcome.

At Z.30+ we focus on the NUTRIENT RATIOS in a Tissue Test just as much as the Totals for each Nutrient or Trace Element.

BALANCE always outperforms high numbers in NPKS measures and ALL Foliar Applications need to be carefully assessed to ensure their Addition is AIDING BALANCE, not throwing it out more. KEEPING BALANCE IS ALWAYS BETTER.

At Z.30 our Fertility Farming System is a focus on the right Foliar to get a better Flowering, Pollination and Nutritional Reserve in the Stem rather than Nitrogen Driven Green Mass. Ferti-Tech Cereals always display strong, dense stems.

CalTraK$_{tm}$

Z30 Optimal Flowering & Pollination Foliar

CalTraK$_{tm}$

Optimal Flowering and Pollination is always a Key determinant of final Yield. Nutritional changes occur at different stages of crop development and for cereals the growth stage for a chemical nutrition transfer to flowering and pollen formation begins at Zadoks 30. CalTrak$_{tm}$ is specially formulated to ensure the most useful forms of Calcium and Potassium are quickly absorbed to ensure Stem and Grain development are not depleted in favour of more green mass. Designed for all Flowering Crops, CalTraK$_{tm}$ is a multi-action foliar offering essential Trace Nutrition including the significant use of Boron and Nickel (and Organic Amino Acids) to ensure your Plant Chemistry Focus remains firmly on Grain or Fruiting Yield and not accumulating more leafy green mass. CalTrak$_{tm}$ aids the strengthening of stems and the consolidation of sink nutrition for the final stages of grain fill. For best results apply after assessing Leaf Tissue Test Nutrient Ratios.

CalTraK$_{tm}$ also promotes Increased Yield Potential Delivering the Optimal Balance of Potassium and Calcium into foliage. Manganese, Copper, Zinc, Nickel and Boron all combine for a key fertility response to properly pollinate and fertilise more tillers and seed sets.

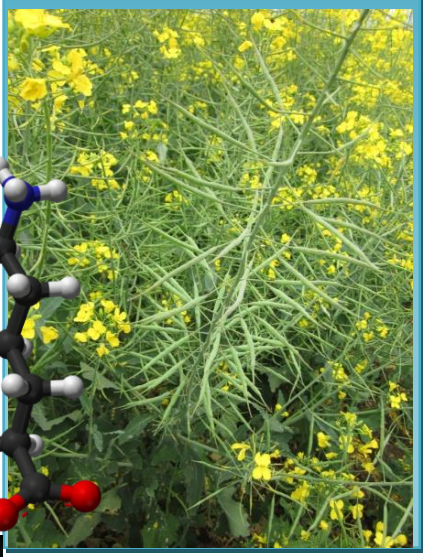
CalTraK$_{tm}$	% w/v
Potassium	6%
Calcium	6%
Nitrogen	6%
Manganese	0.065%
Copper	0.05%
Zinc	0.05%
Boron	0.14%
Molybdenum	0.010%
Amino Acids	0.25
Nickel	0.005%

Recommended Dosage Rate

- Apply 2-5 litres per Hectare.
- pH 2.3 SG 1.28 g/cm3. Always ensure a dilution with water of at least 50:1

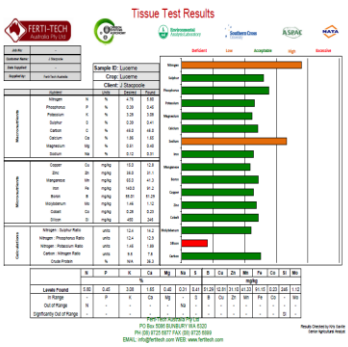
Nitrogen (UAN) & Other Additions

- Only Apply Extra Nitrogen where Indicated by Tissue Test Ratio Analysis
- Do not Mix Neat, Add to Cart
- Suitable for use with other Ferti Tech Supplemental Trace Nutrition



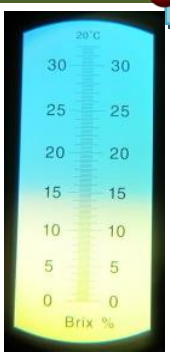
CalTraK$_{tm}$ offers Key Flowering and Pollination Trace Support

- Cereals all rely on Optimal Ca and K Trace Nutrition at Z.30 Stage
- Amino Acids are critical to the proper functioning of life and nutritional synthesis, especially Calcium and Nitrogen.
- Highly complexed Potassium (with Micronutrient Support) plays a major role ensuring an optimal pollen production event.
- Boron aids Calcium Mobility and a better pollen preparation
- Nickel stimulates required Enzymes and co-factors Zinc and Iron



CalTraK$_{tm}$ is a Strategic Z.30 Cereal Flowering and Pollination Foliar. Its complex Fruiting formulation is also directly applicable to a stronger flowering and pollination event in Oilseeds, Legumes, Pasture Seeds, Tree Crops, Horticulture and Vines.

Always Based on a Leaf Tissue Test



CalTraK$_{tm}$ is not a Growth Formula. The focus is Stronger Stems, Grain Fill and Less Green Mass

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