ENGAGE

The Power of Nutrition

Innovation
for Fruit

Fortify Cu

Bio-Chel Ca

Sion

Brix-Builder

JF McKENNA®

Grow Smarter

For optimal quality in fruit crops, nutrient programming and timing is the key to success. Whether it is to maximise fruit number, size and weight or to support key processes such as flowering, fruit expansion or fruit initiation.

- Timing your nutrients and ensuring there is optimal supply through key processes will ensure crops are supported through periods of peak demand and have the support if stress pressure increases whether it be abiotic pressure through adverse growing conditions or biotic pressure from pests or pathogens.
- Engage Crop Solutions has many years of experience in the nutrition of fruit across the world and has developed a programme of products aimed at targeting key nutrient periods to keep crops healthy so they produce high yielding, quality fruit.
- The following products highlight key technologies from the programme.

Fortify™ Cu

BIO-FORTIFICATION FOR FRUIT CROPS

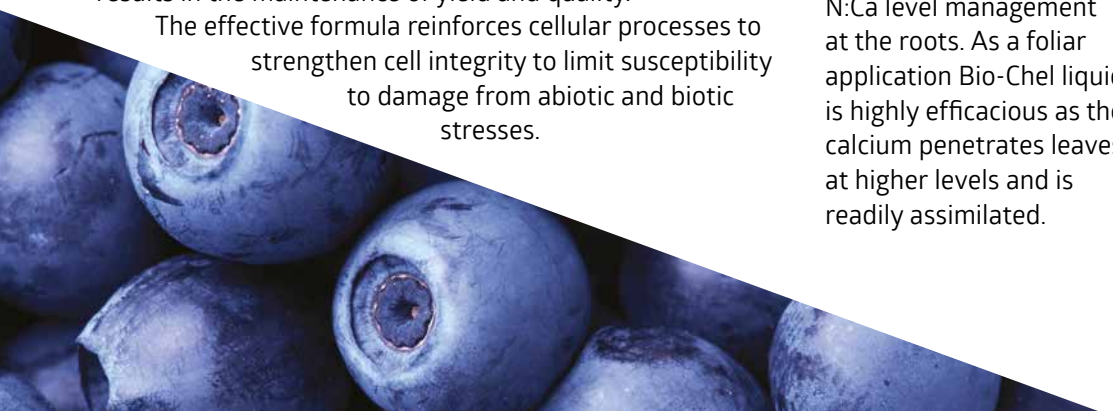
Fortify Cu is a unique formulation of proprietary halide ion technology and copper which complement each other to support plant bio-fortification, correct deficiency and aid vascular mobility within the plant with the aim of preventing yield loss associated with biotic and abiotic stress.

Copper is a trace element which is involved in several enzyme systems and also in photosynthesis. It has poor mobility within the plant particularly in deficient crops and deficiency can have a serious effect on crop growth, quality and yield.

Copper is held strongly by soil organic matter and this can determine whether adequate copper is available for crop growth, therefore foliar copper in an active form can have a positive effect on growth for both plant and fruit.

Fortify Cu contains nitrogen, copper and our unique halide ion technology. The nutrients within Fortify Cu are provided in a form which is both mobile and that fruit crops can utilise quickly. This robust formula stimulates vascular flow and root activity to mobilise the copper in crops to maintain vigour and growth which in turn results in the maintenance of yield and quality.

The effective formula reinforces cellular processes to strengthen cell integrity to limit susceptibility to damage from abiotic and biotic stresses.



Bio-Chel Ca

THE ULTIMATE SOURCE OF CALCIUM

Calcium has long been known as the essential element for fruit on both the production of increased numbers of strong and healthy fruit and for maximising dry matter to ensure optimal shelf life/storage.

Base calcium for fruit is always difficult to maintain at a healthy level with strong availability.

The mobility of calcium is always an issue and many supplementary calcium fertiliser products contain nutrients which make them difficult to use when calcium demand is at its highest. Bio-Chel allows maximum flexibility in application and timing to ensure fruit plants get maximum effect whenever it is required.

Bio-Chel Ca is available as a water soluble calcium chelate, containing 22% CaO, or a 10% liquid, the highest levels in their class. Bio-Chel Ca uses a natural soluble lignin chelate which delivers a source of bio-available calcium without nitrate or chloride, is non-phytotoxic and can be taken up by the plant in higher quantity.

Bio-Chel Ca will correct deficiency, minimise calcium related disorders and optimise cell division during early establishment of fruit through to harvest. In powder form Bio-Chel is a perfect partner to calcium nitrate in the calcium tank as it is almost the same level Ca Kg/Kg. Used to replace a percentage of the base calcium level, it can aid the N:Ca level management at the roots. As a foliar application Bio-Chel liquid is highly efficacious as the calcium penetrates leaves at higher levels and is readily assimilated.

Sion

Brix-Builder™

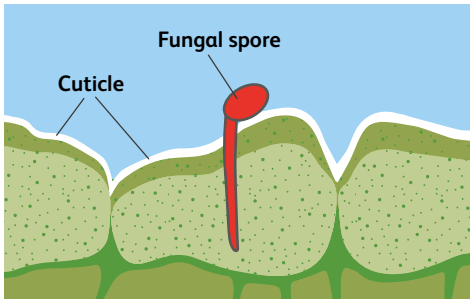
FIGHTING BIOTIC STRESSES TO PROTECT AND STRENGTHEN YOUR CROPS

Sion is a unique silicon nutrient for foliar and irrigated application to increase the strength, growth and health of crops. This fertiliser contains a 100% available form of silicon which provides a proven and balanced source of silicon for use in all fruit crops.

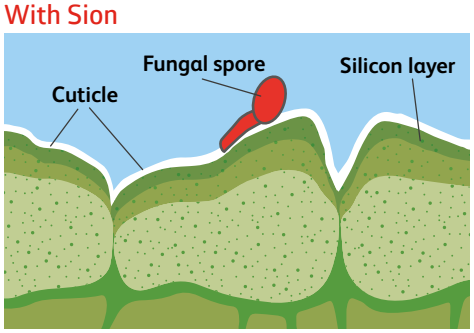
Silicon increases stress tolerance and positively affects the uptake of other nutrients such as nitrogen, phosphorus and zinc.

The form of silicon in Sion is important as it can all be used by the plant which allows for low levels of application (0.25L/Ha) and applied foliarly has the ability to support the formation of a double cuticle layer (illustrated below). It also significantly increases leaf hair production so when used regularly can limit susceptibility to damage from both fungal spore ingress and from sucking pests. In a two year study with Hertfordshire University, Sion has proven to be effective at strengthening strawberry crops applied via irrigation and by foliar application.

Normal



With Sion



Brix-Builder is a combination of naturally occurring biostimulant materials which are rich in alginates, organic chelating agents, plant sugars, amino acids, polypeptides, vitamins and naturally occurring cytokinins.

The biostimulant package within Brix-Builder enhances the developmental processes of the plant and its subsequent growth. It is ideal for increasing fruit and flower number when applied during fruit initiation and flowering and will increase brix levels when used during later fruit development.

In extensive trials across Europe Brix-Builder has demonstrated the ability to improve the production of carbohydrates, particularly in relation to sugar production in fruit. It does this by a combination of providing intermediates for growth and supporting enzymatic processes with a function towards sugar production.

Just two applications in berry crops have proven to lift sugar levels in fruit by 3-4^{0} brix.

Typical analysis: w/v w/v			
Nitrate Nitrogen	0.7%	Phosphorus P^2O^5	0.1%
Potassium K^2O	0.5%	Trace Elements	1.1%
Alginates	2.0%	Mannitol	1.5%
Amino Acids	1.8%	Plant sugars	5.3%
Cytokinins	110ppm	Polypeptides	1.35%
Humates	0.6%	Fulvic acid	0.2%
Flucoidan	1.4%	Vitamins A, B1, C & E	50ppm

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