

**ENGAGE**  
The Power of Nutrition

# Innovation for Potatoes



**Fortify Cu**

**Bio-Chel Ca**

**MAS-Power**

**Sentinel**



**JF MCKENNA**  
Grow Smarter

**For optimal return on potatoes, nutrient programming and timing is the key to success, whether it be to maximise tuber number, size and weight or to support key processes such as initiation, bulking or skin set/finish.**

Timing your nutrients or ensuring there is optimal supply through key processes will ensure crops are supported through periods of peak demand and have support if stress pressure increases whether it be abiotic pressure through adverse weather conditions or lack of water, or biotic pressure from pests or pathogens.

Engage has many years of experience in the nutrition of potatoes across the world and have developed a programme of products aimed at targeting key nutrient periods to keep potato crops healthy so they produce high yielding, quality crops. The following brochure highlights key products from the programme.



### **BIO-FORTIFICATION FOR POTATO 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 that 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 and quality. 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 all plants.

Fortify Cu contains nitrogen, copper and Engage's unique halide ion technology.

The nutrients within Fortify Cu are provided in a form that is both mobile and that the 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 appearance and quality. The effective formula reinforces cellular processes to strengthen cell integrity to limit susceptibility to damage from abiotic and biotic stresses.



### **THE ULTIMATE SOURCE OF CALCIUM**

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

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

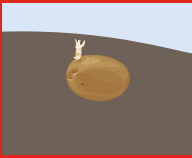
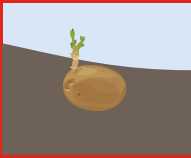

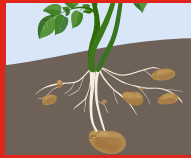
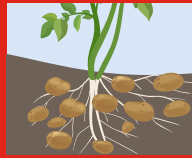
Bio-Chel Ca is the strongest liquid calcium chelate in the world with over 10% available calcium. An important distinction for Bio-Chel Ca is that it is pure calcium so its uptake by plants both by roots and leaves, is unrivalled. All other calcium nutrients are attached to another such as nitrate, sulphate, phosphate, chloride or other, which the plant must deal with.

Being fully chelated ensures Bio-Chel Ca's availability over a wide range of pH's (4-9). This compares to other calciums which are only available at 6.5-8.5pH.

Having both superb uptake values and availability mean applications are lower, allowing its continued use in all potato crop species.

Also, the chelation in Bio-Chel Ca is extremely strong which prevents the calcium from actively reacting with other elements and salts. This sets Bio-Chel Ca apart from all other calcium fertilisers as it will sit comfortably in any spray/feed tank without fear of reaction. It can be mixed with sulphate and phosphate/phosphite fertilisers and all known pesticides which maximises its flexibility in use.



Crop stage					
	Planting	Vegetative Growth	Tuber Initiation	Tuber Bulking	Maturation
<b>Fortify Cu</b>		2.0 L/ha as required			
<b>Bio-Chel Ca</b>			2.0-3.0 L/ha. 2-3 applications at 10-14 day intervals		
<b>MAS-Power Mg</b>		3.0 L/ha		3.0 L/ha	
<b>MAS-Power Mn</b>		3.0 L/ha 2-3 applications as necessary at 10-14 day intervals			
<b>MAS-Power B+Mo</b>		1.0-2.0 L/ha 1-2 applications at 10-14 day intervals			
<b>Sentinel</b>		0.5 L/ha at 7 day intervals			



### MAXIMISING FOLIAR NUTRITION

MAS-Power foliar fertilisers are designed to address specific nutrient requirements and abiotic stresses during the crops critical growth stages. MAS-Power foliar fertilisers contain Engages MAS nutrient assimilation package to ensure maximum efficacy from foliar applications. MAS technology is proven to increase the uptake and assimilation of foliar nutrients and the metabolism of the plant. Each nutrient has its own support package to ensure the highest performance.

#### MAS-Power and Potatoes

At specific growth stages nutrient demand can be higher for certain nutrients. To maximise return on investment, potato growers must maximise tuber numbers and size and optimise dry matter content and skin finish. MAS-Power foliar fertilisers provide supplementary nutrients which can be rapidly utilised to support these important processes. Key nutrients for this crop are Magnesium, Manganese and Boron.

#### MAS-Power Mg

Magnesium is essential for strong early canopy establishment and for optimum leaf quality throughout the season. It also plays a key role in tuber dry matter production as well as supporting starch translocation. MAS-Power Mg contains 15% magnesium and will correct magnesium deficiency and provide important support. In the leaf, MAS-Power Mg will boost chlorophyll formation and aid in nutrient uptake control, especially iron utilisation. The important application timing for MAS-Power Mg is during tuber bulking. If demand is not met tuber size and yield may both be restricted.

#### MAS-Power Mn

Manganese is another nutrient used in canopy development and is essential for optimising leaf expansion to power growth and carbohydrate production. MAS-Power Mn contains 15% manganese and will correct manganese deficiency and support important biochemical processes including assisting the photosynthetic process by sustaining the assimilation of carbon dioxide. Manganese is not very mobile within plants and severe manganese deficiency can seriously affect yield therefore early applications of MAS-Power Mn can be important.

#### MAS-Power B+Mo

Boron along with calcium applications are known to reduce the incidence of Internal Rust Spot and other tuber quality defects. MAS-Power B+Mo contains 10% boron and 1.2% molybdenum and is ideal for the correction of boron and molybdenum deficiency. Boron affects the absorption of Calcium, so the correct balance of these nutrients is highly important. Boron also aids the crop in the reduction of stress tolerance to improve crop development and maintain yield.

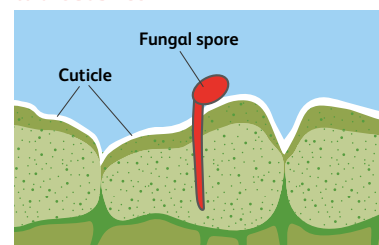
### LIMITING STRESS TO PROTECT AND AID THE RECOVERY OF POTATO CROPS

Sentinel is a combination of 10% silicon and salicylic acid, created to maximise the strength and health of crops. Silicon boosts the strength of cell walls during cellular production acting as cement in the cells walls, creating stronger plants with thicker stems and canopy, in turn increasing their yield potential and promoting stronger tubers.

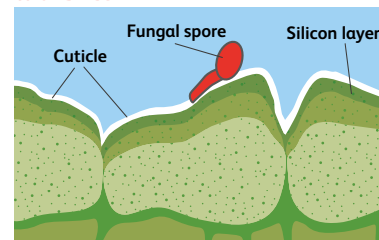
Silicon increases stress tolerance and positively affects the uptake of other nutrients such as zinc, nitrogen and phosphorus. Salicylic acid helps with the movement of silicon in the plant to aid the recovery of cells after periods of stress and any mechanical damage incurred.

The form of silicon in Sentinel is important as it can all be used by the plant. Applied foliarly has the ability to support the formation of a thicker, stronger plant cuticle. It also significantly increases leaf hair production so when used

#### without silicon



#### with silicon



regularly can limit susceptibility to damage from both fungal spore ingress and from sucking and biting pests.

**Contact us** and see why we are leading the way in future crop nutrition and enhancement.



**ENGAGE**  
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