



Fortify™ XD













New to the Fortify range is unique polymer chelate of selected micronutrients designed to maximise nutrient transport and efficiency to support stronger crop physiology.

Fortify XD marks a new era in Biofortification technology being a new polymeric chelate which uses selected trace elements and specific amino acids to reinforce cellular processes to strengthen cell integrity and to 'limit susceptibility' to damage from biotic stresses.

Within the processes supported by the addition of Fortify XD, the trace elements are chelated in such a way that they are made available to create compounds which the cells of plants can use for maintaining strong cellular health to reduce the production of damaging compounds normally created by cells in response to periods of stress.

The compounds created support strong cellular function and allow the applied crops to maintain vigour and growth which in turn results in the maintenance of yield and quality

CROPS

 Brassicas	 Top Fruit
 Leafy Salads	 Stone Fruit
 Potatoes	 Vines
 Carrots/ Parsnips	 Citrus Fruit
 Legumes	 Soft Fruit
 Fruiting Vegetables	 Ornamentals

Analysis

Copper	2%	Silicon	1%
Zinc	4%	+ selected amino acids	

The role of Copper

- › Copper is a trace element which is involved in several enzyme systems and also in photosynthesis. It is not normally very mobile within the plant.
- › It plays a major function as a catalyst in photosynthesis and health restoration within the plant.
- › It is a constituent of several enzyme systems involved in building and converting amino acids to proteins. It is important to the formation of lignin in plant cells which contributes to the structural strength of the cell and the plant.
- › Copper plays an important role of reducing oxidative stress. It has the potential to act as a catalyst in the formation of free radicals but it also plays a role in reducing reactive oxygen species compounds in cells.
- › Copper affects the flavour, the storage ability and the sugar content of fruits.

The role of Zinc

- › Zinc is essential for the production of auxins, an essential growth hormone.
- › Zinc activates enzymes in protein synthesis, plus it is involved in the regulation and consumption of sugars. It is also necessary for the formation of chlorophyll and carbohydrates.

- › Zinc influences the rate of seed and stalk maturation and aids starch formation and root development.
- › The presence of adequate amounts of zinc in the tissue enables plants to withstand lower air temperatures.
- › Zinc also is linked to increased membrane protection against oxidative damage through the detoxification of superoxide radicals.

The role of Silicon

- › **Improved Plant Cell Development** – once a plant absorbs silicon, it is permanently deposited into cell walls within a matter of hours. The deposits form a silica-cellulose framework that is stronger and cells are created more quickly so the plant develops faster and can grow quicker when it has access to greater levels of silicon.
- › **Maintain Cell Integrity and Plant Strength** – one of the more obvious effects of adding silicon to crops is the visible response from the applications. Plants become stronger with thicker stems and branches. This in turn increases the yielding potential of crops as they can support more leaf, flower and fruit.
- › **Reduced susceptibility stress** – silicon is a bioactive element associated with beneficial effects on mechanical and physiological properties of plants. Silicon can alleviate abiotic and biotic stresses, and reduce the susceptibility of plants to pathogenic pressure. Studies have suggested that silicon plays an active part of plant defence mechanisms, yet the exact nature of the interaction between the element and biochemical pathways leading to resistance remains unclear.

Benefits of Fortify XD

- › Aids the initiation and formation of roots to aid establishment in all crops.
- › Increases physiological strength of crops to support the plant's ability to withstand abiotic and biotic stresses.
- › Energizes the plant through improving photosynthesis, chlorophyll production and sugar formation.
- › Aids the regulation of water movement.
- › Aids the production of enzymes to improve protein synthesis and strengthens plant tissue and thus supports stronger growth and crop recovery.
- › Enhances uptake of other products that are tank mixed with Fortify XD.

Crop Timings and Application Rates

Crop	No of applications	Timings	Rate litres/ha
Cereals	As required	As necessary from 2-6 leaf stage to GS32	2.0-4.0
Sugar beet	2	1st 4-6 leaf stage 2nd 8-12 leaf stage	2.0-4.0
Brassicas	1-2	Apply only where known deficiency exists	2.0-3.0
Leafy salads	As required	As required from tissue analysis. Repeat at 10-14 day intervals	1.0-2.0
Potatoes	As required	As required from tissue analysis. Repeat at 10-14 day intervals	2.0-3.0
Root Crops	As required	As required from tissue analysis. Repeat at 10-14 day intervals	2.0-3.0
Legumes	As required	Repeat as necessary at 14 day spray intervals	2.0-3.0
Top fruit	As required	Apply in 400-800 litres of water depending upon tree size Apply after petal fall repeat at 10-14 day intervals	2.0-3.0
Citrus	3-6	Apply in 400-800 litres of water depending upon tree size Repeat in line with growth flushes every 3 months	2.0-4.0
Soft fruit	2-4	As required from tissue analysis. Repeat at 10-14 day intervals	2.0-3.0
Ornamentals	As required	As required from tissue analysis. Repeat at 10-14 day intervals	1.0-3.0

*Rates of foliar application may be halved if used in conjunction with a pesticide.

Compatibility

Fortify XD is compatible with most known fertilisers and pesticides but it is advisable to conduct a jar test with new mixes or products. Never mix in a concentrated form with other fertilisers and pesticides such as a pre-mix tank etc. Apply in 400-800 litres of water for optimum coverage and in a minimum of 200 litres. Avoid spraying in sunlight hours if air temperature is above 30°C. **Fortify XD** contains 2.0% copper and 4% Zinc, so should only be used as recommended. It can prove harmful if not used correctly.

For more detailed application rates per crop, please visit engagecropsolutions.com or speak to a JF McKenna advisor. Always read the label before use.



Exclusive distributor in Ireland.

66 Cathedral Road | Armagh | BT61 8AE

t: +44(0)28 3752 4800 e: stephen@jfmckenna.com
www.jfmckenna.com