IRON PHLOEM[™]

ORGANICALLY COMPLEXED LIQUID IRON

DESCRIPTION

IRON PHLOEM[™] contains iron (Fe) and various organic complexing agents, formulated for improved uptake and assimilation.

KEY BENEFITS

- Promotes the processes of photosynthesis and respiration
- Fe is a component of several vital enzymes, such as the cytochromes of the electron transport chain
- Vital for the formation of chlorophyll
- Suitable for use on a wide variety of crops
- Can be used as a foliar or fertigation application
- Suitable for use in combination with other micronutrients

CONTAINS





7.08 %W/V



POSITIONING AND FUNCTIONS

IRON PHLOEM[™] is a single-element product, ideal to target Fe-deficiency during specific growth stages. Organic complexing agents in IRON PHLOEM[™] not only ensure rapid and effective uptake of iron, but also directly supports plant metabolism. Iron functions as a cofactor for a large variety of enzymes that are essential for respiration, DNA biosynthesis, and nitrogen metabolism because of its capacity to accept and donate electrons. Iron is, therefore, necessary for the formation of chlorophyll and photosynthesis in plants.

Iron may be used by hosts to boost local oxidative stress during pathogen defence reactions. Therefore, iron plays a complex role in interactions between plants and pathogens. Plant responses to iron deficiency and defences against pathogens have several characteristics, including the release of phenolic chemicals and the usage of similar hormone signalling pathways. During infection genes involving coding iron transport and iron storage proteins, have been shown to contribute to disease resistance.

In response to iron deficiency, plants induce either reduction-based or chelation-based mechanisms to enhance iron uptake from the soil. Most plant deficiencies are caused by insufficient uptake attributed to the fact that most iron is not available for plant uptake at a neutral soil pH. In addition to the low solubility, the properties of iron require plant cells to place limitations on its accumulation. Superoxide and hydrogen peroxide, which are produced in the cells during the reduction of molecular oxygen, are catalyzed by Fe²⁺ and Fe³⁺ to form highly reactive hydroxyl radicals. The hydroxyl radical can damage most cellular components such as DNA, proteins, lipids, and sugars. Therefore, iron uptake in plants is highly regulated to prevent excess accumulation. Once iron has entered the symplast, iron is bound to various organic molecules, so that it remains in the solution and prevents it from participating in the generation of hydroxyl radicals.

IRON PHLOEM[™] can be applied early in the season when sufficient leaf area is available for foliar absorption.



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Product information provided in this document is only valid for New Zealand. \mid 001 ${\odot}$ Agri Technovation

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