

Maximise Cereal Momentum to Achieve Yield and Quality Potential

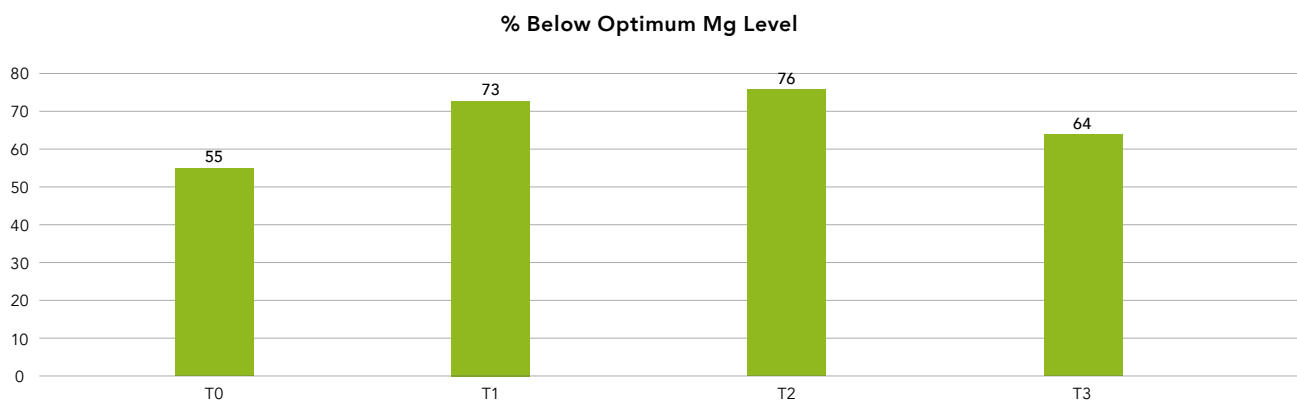
Wet and cold weather continued to be a challenge over the winter months, meaning that nutrient deficiency could pose a significant threat to the promising cereal crops this spring. As crops start to grow rapidly they will require a ready supply of key nutrients to maintain momentum. The wet winter weather may well have led to reduced soil reserves and a foliar application will ensure the crop receives a well timed boost.

MANGANESE AND MAGNESIUM - KEY CEREAL NUTRIENTS

Nutrition will have a vital role to play in the development and health of crops throughout the spring and leading up to harvest. Many growers will already consider the application of Manganese at T1 and T2 mixes which is particularly important for photosynthesis, but another element which should not be overlooked alongside this is Magnesium.

Tissue analysis carried out by FMC over the last 3 years shows an increasing trend of magnesium deficiency in cereals with 74% of samples taken last year being below the optimum level. The importance of magnesium throughout the whole crop life cycle phase should not be underestimated. As a very leachable element, soil availability may well be lower this year. Leaving magnesium applications until more traditional later timings could be costly.

When looking at our analysis results from the last 3 years throughout the season we see that Magnesium deficiency is present in a significant percentage of crops at T0 and T1 as well as the more traditional Mg application timings at T2 or T3. Although it is early days in our 2021 sampling, we are already seeing Magnesium as the most prevalent deficiency in cereals so far.



Cereal Magnesium Deficiency - In Relation to Fungicide Application Timings, 1500 samples 2018 – 2020 FMC

Cereal Plus™

Crop Nutrition

Spring 2021

MAGNESIUM

- The central atom of chlorophyll, optimum magnesium is required to keep the photosynthetic machinery of the crop working efficiently
- Also required for development of a healthy root system
- Catalyses over 300 reactions within the plant, including the release of energy from ATP and the assimilation of carbon dioxide
- Adequate magnesium is required to ensure efficient export of sugars and amino acids from the leaf. At later stages, the main destination for these molecules is the grain for building yield and quality
- Transitory shortages can have a significant effect both on yield and quality

MANGANESE

- Required for the synthesis of chlorophyll
- Vital component of proteins that receive energy harvested in the process of photosynthesis
- Efficiency of these processes is vital for strong establishment and crop health
- Significant reductions in photosynthetic capacity, root, shoot and leaf wax production can take place before any visual symptoms of deficiency are apparent

OTHER KEY NUTRIENTS FOR CEREAL CROPS

ZINC

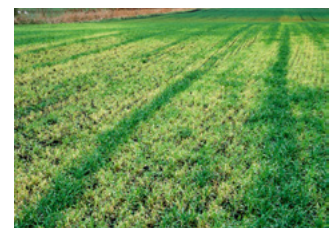
- Required for the assimilation of CO₂ during photosynthesis and the structural integrity of cell membranes
- Involved in cell division and auxin production - promoting good root development
- Required for the structural integrity of cell membranes so plays a role in cold stress resistance

COPPER

- A component of proteins and lignin formation, copper deficiency can have a dramatic effect on grain formation
- If deficiency is left untreated, ears will develop with blind grain sites and grains that do develop will be poorly formed

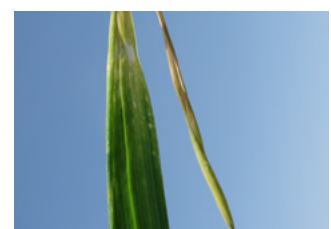


Magnesium Deficient
Wheat



Manganese Deficient
Wheat

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Copper Deficient
Wheat



Zinc Deficient
Wheat

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FOR BEST RESULTS

To promote crop development, health, yield and quality FMC recommend applications of Cereal Plus™ which contains both magnesium and manganese along with two other key nutrients for cereal crops, copper and zinc.

Cereal Plus™ contains a carefully balanced blend of nitrate and sulphate based nutrients specifically formulated to meet the nutrient needs of cereal crops.

NUTRIENT CONTENT

- Magnesium (MgO): 25g/l
- Manganese (Mn): 37g/l
- Copper (Cu): 18g/l
- Zinc (Zn): 6g/l

RATES OF USE

- Apply at 2.5 – 5 l/ha
- Apply using a minimum of 200 l/ha water

TIMING

- Applications may be made at any time after the 3 leaf stage when sufficient foliage has developed to absorb the spray



ADDITIONAL DETAILS & DISCUSSION

For additional details and discussion, or details of applications of this product in other crops you can contact the following Crop Nutrition Specialists:

Charlie Bannister

Mobile: 07774 298084

E-mail: charlie.bannister@fmc.com

Chris Bond

Mobile: 07795 492769

E-mail: chris.bond@fmc.com

For further information on FMC crop nutrition:

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