



Knowledge grows



Yara Analytical Services
Technical Bulletin

Maize Nutrient Status August 2020

Since early June this year we have seen a fair number of maize leaf samples arrive at the laboratory. Bearing in mind the significant challenges that the weather of Spring 2020 brought to us, we thought it would be interesting to look back at the data.

When targeting maximum yields of high quality forage maize there are certain key nutrients to consider, all of which can be monitored through a Broad Spectrum Leaf test.

Phosphorus – Phosphorus is particularly important for the development of root systems, therefore the subsequent uptake of all other nutrients. Although only required in small quantities, availability is easily impaired by unsuitable growing conditions such as sub-optimal pH, compaction, cold soils and during drought conditions.

Potassium – An adequate supply of potassium is essential during rapid vegetative growth. As a large biomass crop, forage maize requires significant quantities of potassium and should soil supply be compromised, such as during dry spells and because of low soil index, growth will slow and yields will be limited.

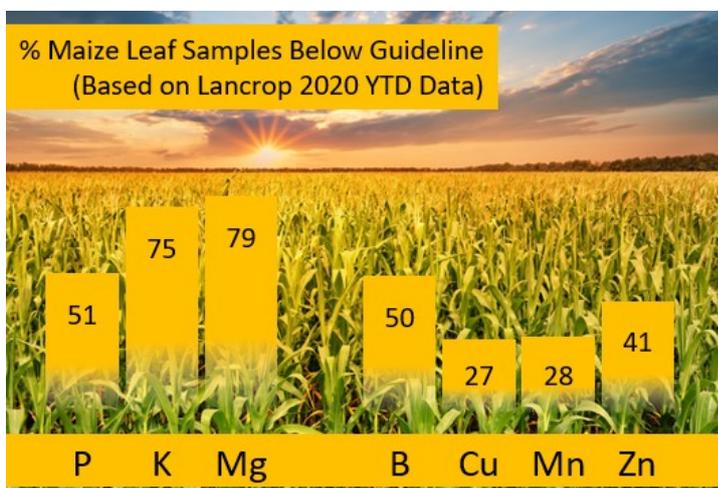
Magnesium – Found at the centre of every molecule of chlorophyll, a continuous supply of magnesium is critical for sustaining crop canopy and maintaining photosynthesis processes.

Boron – Involved in cell extension and root elongation, boron supply has a direct impact on root and shoot development. It is also critical for grain set and deficiency can lead to missing kernels on the cob. There is also evidence that boron increases the starch content of forage maize.

Copper – Important for lignin formation, maize is sensitive to copper deficiency and growth responses have been recorded where deficiencies occur.

Manganese – Involved in chlorophyll production and photosynthesis, manganese supply has a direct influence on crop development and growth. The risk of deficiency is compounded by increasing soil pH and where soils are light and fluffy.

Zinc – An essential component of enzymes involved in carbohydrate metabolism and protein production, an adequate supply of zinc plays a key role in forage maize quality. Zinc also regulates plant growth rates and is required for the formation of key plant auxins. Significant quantities of zinc are accumulated in the grain and removed at harvest.



The deficiency rates observed in the samples processed so far this season can be seen in the chart above.

Use Broad Spectrum Leaf testing to assess whether your crops could benefit from additional nutrient inputs