

Role of Micronutrients in plant growth and health.

- Boron plays a major role in regulating water intake into the cells, it also plays an important role in foliage development and translocation of sugars around the plant.
- Copper is important for the production of lignin in the plant and creating strength. Copper is part of the Sod² enzyme which helps plant defence against disease.
- Manganese helps produce enzymes that are important for health and growth of the plant. An enzyme is a catalyst which promotes growth and translocates other essential nutrients to improve photosynthetic activity.
- Sulphur is important for producing Amino acids which are fundamental to protein synthesis which has a structural function metabolic function and a transport function within the plant.
- Zinc is a part of the Sod enzyme which helps against disease, it is also important for the production of Auxins which promote stem elongation roots and shoots.
- Calcium plays an essential role in cell strength and helping water regulation in stressful times. It has a very important role in reducing stress which may be caused by heat, water or drought and can allow the plant to better withstand the stress until more normal conditions persist.
- Potassium (K) Important in the later stages of crop development for water flow and regulation in the plant. It is also important for the activation of enzymes which assist translocation of carbohydrates from leaves into seeds, grain or tubers.
- Molybdenum is required for N fixation in the nitrogen fixing bacteria in the nodules of legumes .By increasing Mo it can increase the performance of the Nitrogen fixing bacteria.Mo will help the Nitrate reductase enzyme in the plant convert Nitrate into a form that can build protein in the plant, Deficiency will cause a reduction in nitrate reductase activity in the plant,and stunting of the plant.
- Cobalt required in the plant for cell division so that the plant can grow efficiently,it also aids nitrogen fixation by the nodules.Deficiency in

legumes can create stunting, pale green leaves and small nodules on the roots.

- It is important to understand the role that micro and macro nutrients perform in the plant to know where best to position them in the growing season to help the plant perform to its optimum.

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