

NUTRIENT DEFICIENCY SYMPTOMS IN SUGARCANE



NITROGEN (N)

- Yellowing of leaves from the base upwards
- Affects older leaves first
- Stunted growth and low yields
- N is essential for photosynthesis
- Excess N leads to reduced juice purity, increased lodging and lower sucrose recovery



PHOSPHORUS (P)

- Thin, narrow shorter leaves with a bronze blue/green or purple colour, affects the older leaves first
- Die back occurs from the tip, leaves become narrow
- Stalks become thin and tillering is poor
- P promotes early root development and is used for cell division and protein formation
- Excess P may cause micronutrient deficiencies in the plant (Zn and Fe)



POTASSIUM (K)

- Yellow/brown colour on older leaves
- Scorching of the outer leaf edges
- Midrib may have a red colouration
- K regulates stomatal behaviour
- K also promotes photosynthesis and controls the translocation of sugar
- Excess K leads to increased ash and
- Reduced sucrose recovery in the factory



SULPHUR (S)

- Young leaves are light green or yellow and may develop a faint purplish tinge
- Stalks and leaves are thin
- S is essential for chlorophyll formation
- S is also required for synthesis of amino acids used in cell metabolism



CALCIUM (Ca)

- Older leaves become pale green with yellow mottling
- Younger leaves become hooked and the spindle dies off at the tip
- In severe cases the primary shoot may die completely
- Ca is in strengthening cell walls
- Excess Ca may result in induced K or Mg deficiencies



MAGNESIUM (Mg)

- Chlorotic spots on the laminae
- Older leaves develop orange/brown freckles
- Mg is used for photosynthesis
- Mg is also required for the movement of P in the plant
- Excess Mg may interfere with K uptake

