

# Basic Sap Analysis Report Interpretation Guide

**NEW v OLD:** The light green bar represents new leaves, with the dark green bar representing old leaves in a pair. The result values for new (1) and old (2) align horizontally with the bars.

**Mobile Macro-nutrients: Anions -** NO<sub>3</sub>, P, S, CL **Cations +** NH<sub>4</sub>, K, Mg, Na (deficiency symptoms on old leaves).

**Anions and Cations:** Interpretation of values is based on nutrient partitioning between new (sink) vs. old (source) leaves; Percentages on the far right of the reported margin show the percent difference between new and old leaf mobile nutrients. If the percent difference exceeds +20%, this is a luxury excess (BLUE). If the percent difference exceeds -20%, this is an actionable deficiency (RED). Nutrient mobility can be muted by deficient nutrient uptake (YELLOW), so sink/source interpretation should be cautious.

<b>Blue</b>	EXCESSIVE uptake: higher value in <b>OLD</b> leaf v new, positive >20% difference.
<b>Red</b>	DEFICIENT uptake: higher value in <b>NEW</b> leaf v old, negative >20% difference.
<b>Yellow</b>	CAUTION uptake low: mobility can be affected, >30% below optimal level range.

**Non-mobile Macro-nutrient:** Ca (deficiency symptoms on new leaves) in most crops should be gauged against its OL and the K/Ca ratio (This ratio should be between 2 and 4 in most crops).

**Nitrogen Parameters:** Nitrogen is highly mobile in the plant and can be absorbed as NO<sub>3</sub> or NH<sub>4</sub>. If either of these values is too high compared to Total Nitrogen, the nitrogen conversion efficiency % (NCE%) can drop below 80%, indicating a problem with nitrogen conversion.

**Nutrient Balance:** Balance within anions (NO<sub>3</sub>, P, S, CL) and cations (NH<sub>4</sub>, Ca, K, Mg, Na) is essential; excessive levels of one or more macro-nutrients can inhibit the uptake of a competing nutrient.

**Trace Elements:** Nutrients required in minimal amounts, mainly semi or non-mobile (Manganese). Result values for these elements must be compared to OL Ranges for interpretation (deficiency symptoms on new leaves).

**Metabolic Sugars:** A combined measurement of glucose, fructose, and sucrose. The sugar level provides insight into the current photosynthetic productivity of the crop. The general target is 0.5 to over 1.5+.

**Brix:** A combined measurement of soluble solutes (nutrients, organic molecules, and sugar) in sap. Increased Brix indicates increased nutrient uptake and/or increased plant metabolic production. The general target is at least over 6+.

**Electrical Conductivity (EC):** Sap EC measures the charge-carrying particles (salts) and overall nutrient availability. High EC can indicate drought stress conditions. Low values indicate irrigation issues, excessive rainfall, and problems with nutrient availability to the plant. The general target is over 4 up to 14.

**Consult the Experts:** Contact your distributor or make an appointment with NEW AGE at [information@newagelaboratories.com](mailto:information@newagelaboratories.com) or (269) 637-5658; consulting fees apply.