Sugar Research Australia

ANALYSES REQUIRED TO INTERPRET A SOIL TEST USING THE SIX EASY STEPS

ANALYTE/ASSAY	UNITS	COMMENTS
Soil pH (1:5 water)		Used for acid soils. A measure of acidity and alkalinity. Soil pH can affect nutrient uptake.
Soil pH (1:5 $CaCl_2$)		Used for alkaline soils (mostly in the Burdekin). A measure of acidity and alkalinity. Soil pH can affect nutrient uptake.
Cation Exchange Capacity (CEC)		An indication of the soil's nutrient-holding ability.
CALCIUM		
Calcium (Amm-acet.)	cmol+/kg or meq/100g	A measure of the soil's available calcium.
MAGNESIUM		
Magnesium (Amm-acet.)	cmol+/kg or meq/100g	A measure of the soil's available magnesium.
SODIUM		
ESP	%	The amount of sodium as a proportion of all cations in the soil.
SILICON		
Silicon ($CaCl_2$)	mg/kg	A measure of the soil's available silicon.
Silicon (BSES)	mg/kg	A measure of the soil's reserve silicon.
NITROGEN**		
Organic carbon (Walkley Black)	%	Used to assess the organic matter level of a soil. **Required under legislation.**
PHOSPHORUS**		
Phosphorus Buffer Index (PBI)		A measure of the soil's ability to tie up or "hold onto" phosphorus. **Required under legislation.**
P (BSES)	mg/kg	Combined with PBI, used to assess the phosphorus requirement of a crop. **Required under legislation.**
P (Colwell)	mg/kg	Combined with PBI, may be able to be used in the future to assess the phosphorus requirement of a crop for high pH soils.
POTASSIUM		
Potassium (Nitric K)	cmol+/kg or meq/100g	A measure of the soil's reserve potassium.
Potassium (Amm-acet.)	cmol+/kg or meq/100g	A measure of the soil's available potassium.
SULFUR		
Sulfate-S (MCP)	mg/kg	A measure of the sulfur availability in the soil.
COPPER		
Copper (DTPA)	mg/kg	A measure of plant-available copper. An unreliable test.
ZINC		
Zinc (BSES or HCl)	mg/kg	A measure of plant-available zinc (acid soils less than pH 6.5).
Zinc (DTPA)	mg/kg	A measure of plant-available zinc (alkaline soils greater than pH 6.5).