AGRONOMY

VAS Laboratories Testing Methods Ellsworth, Iowa

Soil Testing Methodologies and Procedures used at VAS Laboratories Ellsworth, Iowa lab location

When comparing results from one laboratory to the next it is important to determine the following:

1. Laboratory method used for each analysis
2. Units reported for each analysis
3. Any conversion or calculation used for specific tests

VAS Laboratories uses recommended methods* for determining soil fertility characteristics and the availability of essential nutrients required for plant growth. For your reference, it is important to know our methodologies used. All soil samples are dried before analysis, except Wet K.

Actual nutrient availability in the soil is determined by changing factors including: soil moisture, temperature, pH, clay content, internal drainage, organic content, and physical barriers. As any of these factors change, the availability will also change.

Analysis	Unit	Method of Analysis
Organic Matter	%	Loss on Ignition (LOI) Expressed as OM%
Soil pH	-	1:1 Soil/Water Slurry
Buffer pH (Buffer Index)	-	Sikora Buffer Method
Soluble Salt	mmhos/cm	1:1 Soil/Water Slurry
Calcium, Magnesium ans Sodium	ppm	Ammonium Acetate Extractable
Potassium Moist Soil K (Wet K), *Upon request*	ppm	Mehlich 3 Extraction read on ICP Moist soil (slurry) and Mehlich 3 Extraction, read on ICP
Phosphorus	ppm	Mehlich 3 Extraction
Expressed as Colorimetric P		
Bray 1 P, *Upon request*	ppm	Bray I Extraction
Bray 2 P, *Upon request*	ppm	Bray II Extraction
Olsen P, *Upon request*	ppm	Olsen Extraction, when soil pH > 7.2
Sulfur	ppm	Monocalcium Phosphate Extractable
Copper, Iron, Manganese and Zinc	ppm	DTPA Extractable
Boron	ppm	Hot Water Extractable
Nitrate Nitrogen	ppm	Cadmium Reduction, Potassium Chloride Extraction
Ammonium Nitrogen	ppm	Potassium Chloride Extraction

*Methods are described in **Recommended Chemical Soil Test Procedures for the North Central Region**, North Central Research Publication No. 221 (Revised), 2015, Missouri Agricultural Experiment Station SB 1001.

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