

TEST PROCEDURES & METHODS

For the best use of soil testing results it is important to know the following information:

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

AgSource uses recommended methods for determining soil fertility characteristics and the availability of essential nutrients required for plant growth.

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.

SOIL - All soil samples are dried and ground, except moist soil potassium samples.

Analysis	Units	Method Description
Soil pH	--	1:1 Soil/Water Slurry
Buffer pH (Buffer Index)	--	Sikora Buffer Method
Soluble Salts (EC)	mmhos/cm	1:1 Soil/Water Slurry
Potassium	ppm	Mehlich 3 Extraction
By request:		
Moist Soil K (Wet K)	ppm	Moist soil slurry, Mehlich 3 Extraction
Phosphorus	ppm	Mehlich 3 Extraction, Colorimetric
By request:		
Phosphorus, Bray 1	ppm	Bray 1 Extraction
Phosphorus, Bray 2	ppm	Bray 2 Extraction
Phosphorus, Olsen	ppm	Olsen Extraction, when soil pH >7.2
Calcium, Magnesium and Sodium	ppm	Ammonium Acetate Extraction
Sulfur	ppm	Monocalcium Phosphate Extraction
Copper, Iron, Manganese and Zinc	ppm	DTPA Extraction
Boron	ppm	Hot Water Extraction
Nitrate-Nitrogen	ppm	Cadmium Reduction
Ammonium Nitrogen	ppm	KCl Extraction
Organic Matter	%	Loss on Ignition (LOI), expressed as OM%

Soil test 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.

MANURE - Liquid and solid samples are tested as a liquid. Dry samples are dried and ground for testing. All samples are reported "As Received".

Analysis	Units	Method Description
Dry Matter/Moisture	%	Oven Drying at 70°C, 16 hours
Nitrogen (TKN)	%	Total Kjeldahl Digestion
Minerals:		
P, K, S, Ca, Mg, Na	%	Nitric Acid/Hydrogen Peroxide Digestion
Cu, Fe, Mn, Zn	ppm	Nitric Acid/Hydrogen Peroxide Digestion
Ammonium-Nitrogen	%	KCl Extraction
Nitrate-Nitrogen	%	KCl Extraction
Organic Nitrogen	%	Calculated: (TKN – Ammonium-Nitrogen)
pH	--	1:2 Manure:Water Slurry, "As Received"
Electrical Conductivity (EC)	mmhos/cm	1:2 Manure:Water Slurry, "As Received"

Manure test methods are described in:

- **Recommended Methods of Manure Analysis**. 2003, University of Wisconsin Extension Publication A3769.