



AgroLab, Inc. Soil Analysis Report Legend

Results For: The results for is the grower/client name for which the report is generated. For each new grower/client identified a different report will be generated.

Location: The location is another way for a report to be generated after the “results for” field. If there is a grower/client that has several different locations, this data field can be used to generate a new report for that specific client for each different location.

Sample ID: The sample ID is a specific identification assigned to the sample by the customer to identify area in which the soil was sampled.

Lab No.: The lab number is an automatic identification assigned by AgroLab database to link AgroLab’s data to the customers sample ID.

Soil pH 1:1: Soil pH 1:1 represents one part de-ionized water to one part soil for testing pH. The Instrument used to measure pH is glass electrode.

Buffer pH: The buffer pH represents the soils ability to buffer pH change. The standard buffer pH is calculated from the pH, cation exchange capacity and hydrogen meq/100g. The Shoemaker, McLean, and Pratt (*SMP*) method is also used in determining refined buffer pH.

Soluble Salts 1:1 mmho/cm: Soluble Salts 1:1 represents one part de-ionized water to one part soil. Soluble salts are measured by electro conductivity and represent the inorganic ions in soil solution.

Al ppm: Al ppm represents the Mehlich 3 extraction of plant available aluminum (Al) measured by Inductively Coupled Argon Plasma (*ICAP*) instrument.

Organic Matter %: Organic Matter % represents the Loss of soil On Ignition (*LOI*) procedure used in AgroLab.

Nitrate ppm N: Nitrate analysis will be conducted by AgroLab Spring 2011.

U of D / P Sat Ratio: University of Delaware phosphorus saturation ratio (*PSI*) is an equation in the attempt to determine an environmental threshold for soluble phosphorus. The PSI is calculated from the Mehlich 3 extraction of phosphorus, aluminum, and iron. For soil pH greater than 6.8, the accuracy of the PSI declines and may be invalid.

Mehlich 3 / Phosphorus ppm P / FIV: Mehlich 3 / Phosphorus ppm represents the Mehlich 3 extraction of plant available phosphorus (P) measured by the ICAP instrument. The method of extraction is a 10:1 Mehlich to soil ratio (10 ml: 1 cm³). This method of measurement is identical to the University of Delaware Fertility Index Value (FIV). *Note:* To convert from ppm P to lbs/ac, multiple by 2; and to convert lbs P/ac to lbs P₂O₅/ac of multiply by 2.291. This conversion does not apply to a conversion of Mehlich 1, or Bray 1 extraction data. Please call AgroLab for more information about data conversion.



K ppm: K ppm represents the Mehlich 3 extraction of plant available potassium (K) measured by the ICAP instrument.

Ca ppm: Ca ppm represents the Mehlich 3 extraction of plant available calcium (Ca) measured by the ICAP instrument.

Mg ppm: Mg ppm represents the Mehlich 3 extraction of plant available magnesium (Mg) measured by the ICAP instrument.

Na ppm: Na ppm represents the Mehlich 3 extraction of plant available sodium (Na) measured by the ICAP instrument.

Sulfate ppm S: Sulfate ppm represents the Mehlich 3 extraction of plant available sulfate measured by the ICAP instrument.

Zn ppm: Zn ppm represents the Mehlich 3 extraction of plant available zinc (Zn) measured by the ICAP instrument.

Fe ppm: Fe ppm represents the Mehlich 3 extraction of plant available iron (Fe) measured by the ICAP instrument.

Mn ppm: Mn ppm represents the Mehlich 3 extraction of plant available manganese (Mn) measured by the ICAP instrument.

Cu ppm: Cu ppm represents the Mehlich 3 extraction of plant available copper (Cu) measured by the ICAP instrument.

Boron ppm B: Boron ppm represents the Mehlich 3 extraction of plant available boron (B) measured by the ICAP instrument.

Chloride ppm Cl: Chloride ppm represents the extraction of plant available chloride (Cl).

C.E.C. meq / 100 g: Standard Cation Exchange Capacity (C.E.C.) measurement is a sum of the cations between the soil solution and soil particles. The standard measurement is a calculation of the cations extracted by the ICAP and an estimate of the Hydrogen cations based on the soil pH. For a more accurate measurement of the CEC, a displacement method must be requested.

% Base Saturation: % Base Saturation is calculated from the sum of the cations measured by the ICAP, Hydrogen is calculated based on the soil pH.

H: H represents the percent of the cation exchange absorbed by hydrogen (H)

K: K represents the percent of the cation exchange absorbed by potassium (K)

Ca: Ca represents the percent of the cation exchange absorbed by calcium (Ca)

Mg: Mg represents the percent of the cation exchange absorbed by magnesium (Mg)

Na: Na represents the percent of the cation exchange absorbed by sodium (Na)