



# Understanding the Soil Test Report

[www.ncagr.gov/agronomi/uyrst.htm](http://www.ncagr.gov/agronomi/uyrst.htm)

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This cover sheet briefly explains the measurements, abbreviations and units found on NCDA&CS soil test reports. For more details, visit [www.ncagr.gov/agronomi/uyrst.htm](http://www.ncagr.gov/agronomi/uyrst.htm). In addition, your electronic report probably contains hyperlink(s) to one or more *Notes* that address nutrient issues relevant to the crop(s) specified on your sample information form(s).

The "Test Results" section of the report lists values for *up to* 21 factors. The first seven [soil class, HM%, W/V, CEC, BS%, Ac and pH] describe the soil and its degree of acidity. The other 14 [P-I, K-I, Ca%, Mg%, Mn-I, Mn-AI (1), Mn-AI (2), Zn-I, Zn-AI, Cu-I, S-I, SS-I, NO<sub>3</sub>-N, Na] indicate levels of plant nutrients or other fertility measurements.

If testing indicates that soil pH is too low for the crop(s) you indicated, there will be a *lime recommendation* on your report. The recommendation is given in units of either M (lb/1000 ft<sup>2</sup>) or T (ton/acre). For best results, mix the lime into the top 6 to 8 inches of soil several months before planting. For no-till or established plantings where this is not possible, apply no more than 50M (or 1 to 1.5T) at one time, even if your report recommends more. You can apply the rest in similar increments every six months until the full rate is applied.

*Fertilizer recommendations for small areas, such as home lawns/gardens*, appear in parentheses after the lime recommendation and are listed in units of lb/1000 ft<sup>2</sup>. If you cannot find the exact fertilizer recommended, visit [www.ncagr.gov/agronomi/obpart4.htm#fs](http://www.ncagr.gov/agronomi/obpart4.htm#fs) to find information that may help you choose an alternate grade. Refer also to *A Homeowner's Guide to Fertilizer*, available at [www.ncagr.gov/agronomi/pdffiles/sfn8.pdf](http://www.ncagr.gov/agronomi/pdffiles/sfn8.pdf).

*Fertilizer recommendations for field crops or other large areas* are listed separately for each nutrient to be added (in units of lb/acre unless otherwise specified). NCDA&CS soil reports provide a recommendation for N (and sometimes for B) that is based on research/field studies for the crop being grown, not on soil test results. K-I and P-I values are based on test results and should be ≥ 50. If they are not, follow the fertilizer recommendations given. NO<sub>3</sub>-N is analyzed by request only. SS-I levels appear only on reports for greenhouse soil or problem samples.

Farmers and other commercial producers should pay special attention to *micronutrient levels*. If \$, pH\$, \$pH, C or Z notations appear on the soil report, refer to \$Note: Secondary Nutrients and Micronutrients available online at [www.ncagr.gov/agronomi/pdffiles/st\\$note.pdf](http://www.ncagr.gov/agronomi/pdffiles/st$note.pdf). In general, homeowners do not need to be concerned about micronutrients.

## Report Abbreviations

Ac	exchangeable acidity
B	boron
BS%	% CEC occupied by basic cations
Ca%	% CEC occupied by calcium
CEC	cation exchange capacity
Cu-I	copper index
HM%	percent humic matter
K-I	potassium index
K <sub>2</sub> O	potash
M	pounds per 1000 square feet
Mg%	% CEC occupied by magnesium
MIN	mineral soil class
Mn-AI	manganese availability index
Mn-I	manganese index
M-O	mineral-organic soil class
N	nitrogen
Na	sodium
NO <sub>3</sub> -N	nitrate nitrogen
ORG	organic soil class
pH	current soil pH
P-I	phosphorus index
P <sub>2</sub> O <sub>5</sub>	phosphate
ppm	parts per million
S-I	sulfur index
SS-I	soluble salt index
T	tons per acre
W/V	weight per volume (g/cm <sup>3</sup> )
Zn-AI	zinc availability index
Zn-I	zinc index