



Understanding the Soil Test Report

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.com/agronomi/uyrst.htm. Along with the report and this cover sheet, you probably also received one or more trifold *Notes* that address nutrient issues relevant to the crop(s) specified on your information sheet(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, NO₃-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 ft²) 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 ft². If you cannot find the exact fertilizer recommended, visit 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.

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. NO₃-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* (enclosed with your report) or visit [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 ₂ 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 ₃ -N	nitrate nitrogen
ORG	organic soil class
pH	current soil pH
P-I	phosphorus index
P ₂ O ₅	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 ³)
Zn-AI	zinc availability index
Zn-I	zinc index