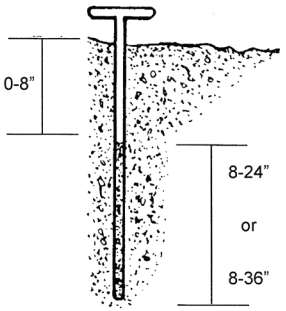
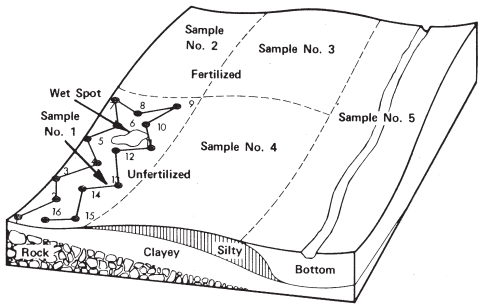
UNDERSTANDING AND INTERPRETING YOUR SOIL ANALYSIS REPORT

All analyses and recommendations are based on the sample as submitted. We assume samples are uniform and accurately represent soil and crop conditions.

Soil samples should be taken by collecting about 15 cores of uniform size and depth per sample. Surface soil samples should be taken 8 inches deep. Subsoil nitrate samples should be taken from at least 8 to 24 inches. It is often useful to take subsoil samples in 12 inch increments.



Different management or soil areas should be sampled separately. Samples should represent a maximum of 40 to 60 acres. Smaller, nonuniform areas in the field should be sampled separately.



Soil pH is a measurement of soil acidity or alkalinity. **Buffer pH** is used to estimate lime requirement for acid soils when soil pH is below 6.2.

Soil pH Rating
5.3 or less- Strongly Acid
5.4 - 5.7- Moderately Acid
5.8 - 6.4- Slightly Acid
6.5 - 7.3- Neutral
7.4 - 8.5- Alkaline
8.5 or more- Strongly Alkaline

Soluble salt levels over 1.0 mmho/cm may affect growth of field crops. Levels over 0.5 mmho/cm may affect horticultural crops. Additional tests are needed to diagnose salinity problems.

Excess Lime rating (NO, LO, or HI) indicates potential for iron chlorosis or crop injury from carryover of certain herbicides.

Organic matter percentage is used to make herbicide and sulfur recommendations.

Nitrogen (N) fertilizer recommendations depend on the individual crop, yield goal, and available soil nitrogen. Each crop has its own specific nitrogen requirement, which is multiplied by the yield goal to establish a crop nitrogen requirement.

Recommended nitrogen rates are calculated by subtracting the available soil nitrogen from the crop requirement. Nitrogen credits for manure or legume crops are also subtracted.

Soil nitrogen is calculated as follows:

Pounds N per acre	=	sample depth x 0.3 x ppm NO_3-N

Sample depth is measured by subtracting the top depth of the core from the bottom depth. For example, a 0-8 inch core has an 8 inch sample depth. A 8-24 inch sample has a 16 inch sample depth.

Nitrate (NO_3-N), the mobile form of nitrogen, is used to measure available soil nitrogen. "0.3" is a factor to convert the laboratory measurement for nitrate to pounds per acre.

Sulfur fertilizer recommendations depend on the crop, yield goal, soil test, organic matter, and soil texture. Soil sulfur is analyzed by ICP.

Phosphorus (P), **potassium** (K), **zinc** (Zn), and other immobile nutrient results are expressed as parts per million (ppm). Soil test results do not measure the available pounds of nutrient per acre, but are used as an index to estimate the soil's capacity to supply immobile nutrients throughout the growing season.

Servi-Tech's fertilizer recommendations are based on "nutrient sufficiency levels" developed from field research. The Servi-Tech laboratory philosophy is to recommend enough fertilizer to meet the current crop needs and to gradually raise the soil sufficiency to 100% of the plant requirements, then maintain that level over time.

Recommended fertilizer rates are for broadcast applications. These rates may be reduced by one-third if band applied.

Cation exchange capacity (CEC) is the capacity of the soil to hold positively charged ions like potassium (K), calcium (Ca), magnesium (Mg), and sodium (Na). The CEC depends on the amount of clay and organic matter in the soil. Excess lime may inflate the CEC value.

Sandy soils usually have a CEC of 2 to 10: loamy soils, a CEC of 5 to 20; and clay soils a CEC of 10 to 50. If sodium (% Na) is 10% or more, the soil often has water infiltration problems.

*Soil Test Rating (based on 8 inch sample)					
Nutrient	***Very Low***	***Low***	***Medium***	***Hlgh***	***Very Hlgh***
Phosphorus, ppm P Mehlich-3 Bicarbonate	 0 - 6 0 - 2	 7 - 14 3 - 5	 15 - 22 6 - 10	 23 - 45 11 - 20	 45+ 21+
Potassium, ppm K	0 - 50	51 - 100	101 - 150	151 - 250	250+
Zinc, ppm Zn	0.0 - 0.2	0.3 - 0.5	0.6 - 1.0	1.1 - 2.0	2.0+
Iron, ppm Fe	0.0 - 1.0	1.1 - 2.0	2.1 - 4.5	4.6 - 10.0	10.0+
Magnesium, ppm Mg	0 - 25	26 - 50	51 - 100	101 - 200	200+
Copper, ppm Cu	0.0 - 0.2	0.3 - 0.4	0.5 - 0.7	0.8 - 1.0	1.0+
Manganese, ppm Mn	0.0 - 0.5	0.6 - 1.0	1.1 - 2.0	2.1 - 4.0	4.0+
Boron, ppm B	0.0 - 0.1	0.2 - 0.3	0.4 - 0.5	0.5 - 1.0	1.0+

*General Guidelines (not crop specific)