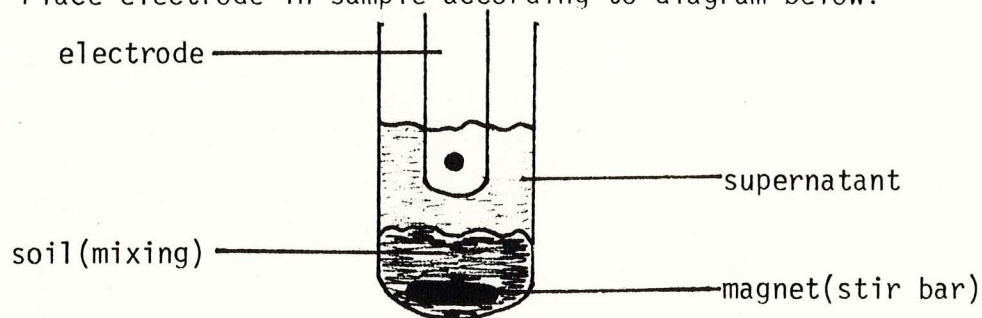


pH Testing Procedure:

1. Weigh 5.00 grams of soil directly from sampling container and place in testing vial: remove foreign material such as pebbles, roots, etc.
2. Add 15 ml of glass distilled water
3. Place magnet in vial and stir with glass rod until thoroughly mixed
4. Stir for 5 minutes (300 seconds) on stir plate
5. Place electrode in sample according to diagram below:



6. Stir for additional 90 seconds with electrode still in sample
7. Record pH during the last 15 seconds (if fluctuating, average readings during this time)
8. Dispose of sample and wash vial with detergent
Rinse thoroughly and use glass distilled for final rinse

Suggestions:

1. Weigh samples in "batch" lots (approximately 20) but do not add water until just prior to pH measurement
2. Maintain a constant position for electrode placement; a shift in level may alter measurement
3. Use same water source and check pH occasionally
4. If samples cannot be tested for an extended period (over 1 hr) cover with Parafilm
Do not use samples which have water added and have not been tested within 1 hr.
5. Calibrate pH machine according to manual
Use two buffers
Check calibration after approximately 20 samples and adjust if necessary

Organic Matter Analysis Procedures

1. Weigh empty crucible and label with appropriate sample number.
2. Place 5.00 grams of soil in crucible-remove larger pebbles, roots, and any foreign material.
3. Place in drying oven at 100 degrees Celsius for 2 hours.
4. Reweigh sample
5. Place in furnace at 600 degrees Celsius for an additional 2 hours.
6. Reweigh sample

Suggestions:

1. Weigh out samples in batches of 16 (this is the capacity of the furnace).
2. After samples are removed from each oven, allow a constant time period for cooling (ie. remove samples from oven, cool for 3 minutes and then weigh).
3. Use a pencil for identifying sample numbers (write on bottom of crucible).
4. Dispose of samples after data records have been checked. Wash with detergent and dry thoroughly before next use.

Formulas:

1. Soil Moisture

$$\frac{5.00 - B}{5.00} \times 100$$

B=weight of sample after
drying at 100 degrees C

2. Organic Matter

$$\frac{B - C}{B} \times 100$$

C=weight of sample after
drying at 600 degrees C