

pH METER/SOIL:

OVERVIEW:

Soil acidity (low pH) is common in the eastern United States. Soil alkalinity (high pH) is more common in low rainfall areas of the West. Low soil pH causes aluminum and manganese toxicity in plants and reduces the availability of soil phosphorus. High soil pH also reduces soil phosphorus availability and reduces micronutrients such as zinc and boron to plants.

The pH of a solution can extend from a value of 0 to 14. A pH of 7 is considered neutral. A value below 7 is considered acidic and a value above 7 is considered basic (alkaline). A change in 1 pH unit represents a profound change in the state of the fluid under measure. A solution that has a pH value of 5 is 10 times more acidic than a solution with a pH value of 6. Thus even small changes in pH values can have a profound affect on biological processes. In other words, a pH of 6.1 is a relatively major change from a pH of 6.2.

INSTRUMENTATION:

The rapidtest pH meter consists of a metal electrode probe and a meter that display the pH of soils. When inserted into soil, the electrode interacts with H^+ ions to generate a voltage that is converted to a soil pH reading on the meter. The probe consists of a metal tip that is separated from the main probe body by a Teflon ring. [The probe actually consists of 2 metal electrodes separated by the Teflon ring.]

INSTRUCTIONS:



To use the pH meter:

1. Remove the top 2" of the surface soil. Soil must be wet-will not work well in dry soil.
2. Use the supplied pad to **GENTLY** clean the metal body of the electrode probe (metal #1). Do not touch the end bullet shaped metal electrode (metal #2). Shine the body of the probe by wiping away from the tip-do not shine the probe below the Teflon ring.
3. Push the probe vertically into the soil to a depth of 4-5".
4. Twist the probe clockwise and counterclockwise to insure good contact with the soil and probe surface.
5. Leave in the soil for 60 sec and read the meter.

