

**USE THE METER ONLY IN SOIL. DO NOT PLACE THE PROBE INTO LIQUIDS OF ANY KIND.**

**BASIC OPERATING INSTRUCTIONS**

- Press the Power Button to turn the unit on and off
- The meter automatically re-calibrates each time it is turned on.
- To preserve the batteries, the meter will turn itself off after about 10 minutes of inactivity
- If the meter has turned itself off, press the Power Button to re-start
- The toggle switch on the side of the meter moves the highlighted row up and down
- The select button advances the display to the highlighted row
- The back button reverts to the previously viewed screen

**HOW TO USE YOUR DIGITAL PLUS SOIL pH METER**

1. Remove the top 2" of the surface soil. Break up and crumble the soil underneath to a depth of 5". Remove any stones or organic debris such as leaves and twigs because they can affect the final result. Thoroughly wet the soil with water (ideally rainwater) to a mud consistency.  
**In order to obtain an even more accurate result with your meter, take the sample of soil to be tested from the ground and remove stones and organic debris. Prepare the sample by crumbling the soil into small particles. Measure 2 cups of soil from the prepared sample. Fill a clean glass or plastic container with 2 cups of water (preferably rain or distilled water) and add the measured soil sample. Ensure the soil and water is thoroughly mixed and compact the sample firmly. Drain off excess water.**
2. Using the supplied pad, lightly shine 4" - 5" (10-12cm) of the probe, carefully avoiding the bullet shaped tip, to remove any oxides that may have formed on the surface of the metal. Wipe the probe clean, using a cotton ball or paper tissue; always wipe away from the tip, towards the probe handle.
3. Take the initial reading. Push the probe vertically into the moistened soil to a depth of 4" - 5". If it does not slip into the ground fairly easily select a new position. Never force the probe. Twist the probe clockwise and counter-clockwise between your fingers several times to ensure that damp soil is well distributed over the surface of the probe.
4. Wait for 60 seconds to acclimatize the probe and note the LCD reading. Remove the probe from the soil.
5. Based on the results of the initial reading, take the final reading:

If the initial reading is pH7 or higher: Wipe any soil particles from the surface of the probe. Re-shine the probe and insert back into the soil at a different point avoiding the first hole made by the probe. Twist the probe two or three times between the fingers, as before, and wait 30 seconds before taking the final reading.

If the initial reading is below pH7: Wipe any soil particles from the surface of the probe. Do not re-shine the probe. Insert the probe back into the soil at a different point avoiding the first hole made by the probe. Twist the probe two or three times between the fingers, as before, and wait 60 seconds before taking the final reading.

**TIPS ON TESTING**

- Don't leave the probe in the soil longer than necessary because the metal electrodes may pit, with the possibility of damage to the meter mechanism.
- Insure that the probe is wiped clean and well dried before storing in order to minimize the oxidation of the metal electrodes.
- Be sure to keep the probe away from metal objects.

**TROUBLESHOOTING**

**Erratic readings may be caused by the following:**

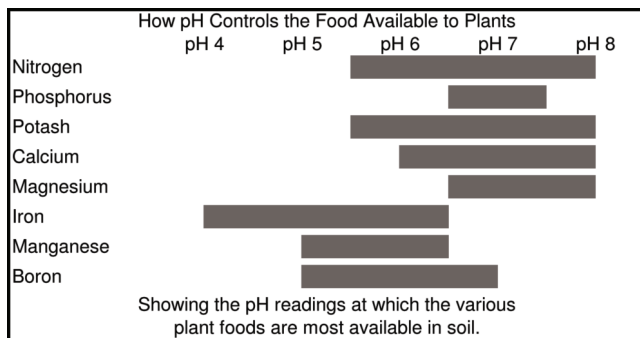
- Stones, organic matter touching the electrode.
- Sample area not sufficiently compacted (light soils and potting soils)
- Metal particles adhering to electrode after cleaning.
- Soil not adhered to the probe sufficiently.
- Probe too close to side and/or bottom of the pot.
- Soil or potting soil being tested too soon after re-potting.
- A houseplant fertilizer stick or tablet near the probe.

**If the meter is acting sluggish or giving no response, check for the following:**

- Probe requires cleaning.
- Sample area is too dry.
- The probe is damaged or pitted.

**If the meter indicates an extreme pH condition (potted plants only):**

- Nutrient build-up caused by overfeeding.
- A houseplant fertilizer stick or tablet near the probe.



**SOIL ADVICE**

Raising and lowering pH is not an exact science and most plants have a reasonably wide pH tolerance, certainly to within 1 pH point. The long list of pH preferences built into the meter indicates that while a majority of plants can survive on a pH around 6.5, some need a particularly acid or alkaline soil. Altering soil pH takes time. Do not expect rapid changes; work steadily towards giving a plant its ideal conditions.

**SOIL TYPES**

- Sandy Soils** - A light, coarse soil comprised of crumbling and alluvial debris.
- Loam Soils** - A medium friable (crumbly) soil, consisting of a blend of coarse (sand) alluvium and fine (clay) particles mixed within fairly broad limits with a little lime and humus.
- Clay Soils** - A heavy, clinging, impermeable soil, comprised of very fine particles with little lime and humus and tending to be waterlogged in winter and very dry in summer.

**ADDING CHEMICALS AND ORGANICS TO REDUCE PH**

The best way to reduce pH is to use the compost heap to regularly introduce decaying humus. This not only reduces pH gradually but helps hold plant foods and moisture. Ammonia sulfate and flowers of sulfur are chemical treatments and ammonia sulfate also adds nitrogen.

**ADDING LIME TO INCREASE pH**

Lime can be added at any time of year but it does need time to take effect - which is why the autumn, winter and early spring are the preferred times. Hydrated lime may take effect in two or three months but ground chalk or limestone may take up to six months. Avoid adding lime at the same time as ammonia sulfate, superphosphate, basic slag or animal manures. Lime may be used in combination with sulfate of potash or muriate of potash.

**This table gives approximate amounts to alter soil pH by up to 1 point up or down the pH scale, depending on soil type. Amounts listed are pounds per 100 square feet. \*Do not add more than 5 lbs. of lime or 1/2 lb. of sulfur in one application**

Material	pH Change	Sandy	Loamy	Clay
Dolomitic or Calcic Limestone	+1/2 unit (0.5 pH)	2.5	5	5.5
	+1 unit (1.0 pH)	5	8.5	11
Hydrated Lime	+1/2 unit (0.5 pH)	1.5 - 2	3 - 4	4 - 4.5
	+1 unit (1.0 pH)	3.5 - 4	6 - 6.5	8 - 8.5
Iron Sulfate	-1/2 unit (0.5 pH)	.75	1.5	2
	-1 unit (1.0 pH)	1.5	3	4
Ammonia Sulfate	-1/2 unit (0.5 pH)	.5 - .75	1 - 1.25	1.5
	-1 unit (1.0 pH)	1 - 1.25	2.25	3

**SPECIAL CLEANING PAD**

The cleaning pad supplied with this meter has been specially selected for its compatibility with the meter probe metals. Other type of cleaners may cut or otherwise damage probe surfaces and/or adversely affect meter readings. Additional pads are available at a cost of \$2.00 for 3 pads, plus \$1.00 for postage and handling. Please send a check or money order, payable to:

**Luster Leaf Products, Inc. to: 2220 Techcourt, Woodstock, IL 60098.**

No COD or phone orders please.

**LIMITED WARRANTY**

This meter is warranted free from defects for one year (90 days for commercial/professional use) from the date of purchase. During this period the meter may be returned to Luster Leaf Products, Inc. with the original sales receipt and \$5.00 to cover shipping and handling. The meter will be repaired or replaced. During the initial 90 days of this warranty the dealer is also authorized to replace a defective meter. This warranty gives you certain specific legal rights that vary from state to state. This warranty does not cover abuse, accidental damage, repair by anyone other than Luster Leaf, or by consequential loss or inconvenience resulting from use of the meter.

**SERVICE**

If service or repair becomes necessary after the warranty expires, return the meter to Luster Leaf with \$10.00 to cover service work, shipping and handling. Service will include all parts and labor as required.

This meter will operate for approximately 1,000 - 1,200 tests per battery set.  
 Battery set = Three (3) #357 silver oxide, 1.55 volt.