# KELWAY® SOIL pHD

***Designed to measure soil acidity • Ideal for use around Home, Lawn and Garden***

## DESCRIPTION

The KELWAY SOIL pHD creates its own very tiny flow of electrical current (completely safe and cannot ever be felt). The flow is caused by the use of two different metals - the two silver rings on the lower part of the tester's housing. In order to obtain a reading some small amount of moisture must be present in the soil and the metal rings must be absolutely clean and free of deposits.

Your tester is completely SAFE to use. It *does not need a battery or any external power source.*

## WHY TEST FOR ACIDITY

pH is the measure of the degree of acidity or alkalinity (often called "sweetness") of the soil. The lower numbers are acid and the higher numbers are alkaline while a pH of 7.0 is called neutral. The nutrients that support growth usually cannot dissolve in soil moisture that is very acid or very alkaline. If they can't dissolve, they can't help a plant grow. Also normal beneficial soil bacteria which promote soil enrichment are unable to live in very acid or alkaline soil. Further, the whole process of pH is ever changing and almost always drifts to the acid side. Therefore it needs regular testing so that maximum soil productivity can be attained, meaning faster growth and *bigger, healthier plants, flowers, lawns, etc. Because your Soil pHD has metal rings (instead of a "glass electrode") it gives the advantages of portability, ease and speed of testing plus the eliminations of buffer solutions. Thus you don't have to be a scientist to make a reading! However the use of metal rings can cause you to get erroneous readings if you test highly saline alkaline soil (not common). The Soil pHD is not designed to do this. Since most soils are acidic you should have no trouble. If you are in an area of known saline, alkaline soil you must correct the problem prior to using this tester.*

**NOTE:** Avoid making pH readings after fertilizers or any other lawn chemicals have been applied as these can lead to false readings. Take your pH readings before adding fertilizers or wait until they are well washed into the soil.

## DIRECTIONS FOR TESTING SOIL ACIDITY

Use when the soil is damp. No current can flow in soil that is very dry. To add moisture pour a little water on the soil and wait about 1 or 2 hours before testing. Ideally the soil should be soft and free of pebbles or debris so that you will be able to get very close contact between the soil and the metal rings of the tester. It reads 7 pH at rest.

**Step 1:** Rub the metal rings to clean them by placing one of the green KELWAY Conditioning Pads (KCP) which came with your tester against the rings and gently rubbing the rings. Then simply wipe the rings with a paper towel, tissue or other convenient clean wiper.

**Step 2:** Insert the tester into th soil to a depth which will cover the metal rings. *Press the soil tightly around the tester* to insure very close contact of the soil against the metal rings.

**Step 3:** Read the pH. Generally the needle on the tester's meter will begin by swinging all the way to the right immediately after insertion into soil. This is particularly true if you have used a Kelway Conditioning Pad ("K.C.P.") to clean the rings. Then the needle will move left towards the lower numbers and will stabilize. This may occur in 30 seconds or less, but we recommend that you wait 3 minutes to assure complete stability, and then make your reading.

**Step 4:** Remove the tester and wipe it clean before storing it. Keep the "KCP" clean to extend its life. It is good for 20 or more uses or as long as it causes the needle to deflect to the right when the tester is inserted into the soil. You can order a working supply from Kel Instruments Co. at modest cost or use other *very mild* abrasives. Use of "KCP" helps assure quicker and duplicable results.

**COMMENTS:**

Take a few readings in different spots if you are working in a large area. Then average the readings since the pH can vary in different parts of your planting area. In a pot one reading would do.

Do soften the soil prior to inserting the tester. Forcing it into hard earth could damage the tester needlessly.

## HOW TO RAISE SOIL pH

If the soil is too acid, add lime. We recommend "ground dolomitic limestone", which is less likely to burn roots than other types. It is easily available at garden supply shops at low cost.

To raise pH 1 unit (example: 5.0 to 6.0) an average amount of limestone to add is about 3 to 4 lbs. per 100 square feet. The kind of soil you have determines this. Very sandy soil will respond to lower additions of limestone while soil rich in organic matter will need more and clay soil still more limestone to alkalize it.

## *GUARANTEE*

This product is guaranteed to be free from defects due to materials or workmanship. If such defect does exist upon delivery and if in the opinion of Kel Instruments Co. the defect is due to the aforenamed factors, the tester will be replaced free of charge provided that the tester be returned to Kel Instruments Co. at purchaser's cost and that it be accompanied by "Proof of Purchase" including date plus $3.00 to cover shipping and handling costs.

This guarantee does not apply to any damage or defect cause by abuse or accident.

**NOTE:** Do not use this tester in liquids. It is not designed for use in liquids!

***FOLLOW THE SIMPLE DIRECTIONS FOR BEST RESULTS.***



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