



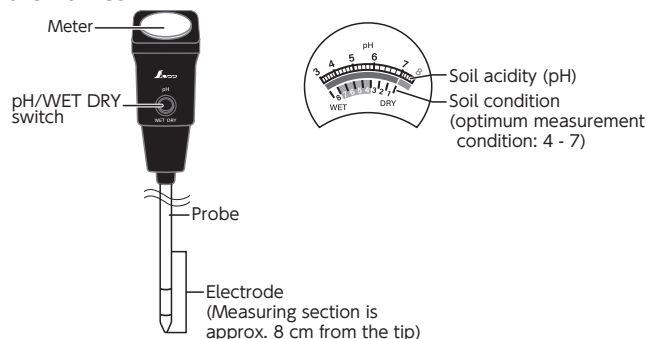
Item Code 72795

Soil pH Meter C

Long Electrode Type with
Measurement Condition Check Function

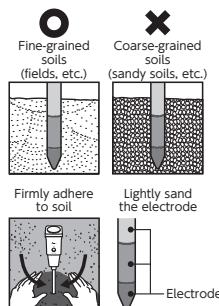
Materials that cannot
be measured
**Liquid, non-soil materials and
coarse-grained soil (leaf mold,
peat moss, akadama clay,
sand, etc.)**

Part Names



Before Use

- This product measures soil material. It cannot be used for liquids, non-soil materials and coarse-grained soil (leaf mold, peat moss, akadama clay, sand, etc.).
- Make sure that the soil is firmly adhered to the electrode section before taking measurements.
- The electrode part is made of metal and may oxidize. If measurements are made with an oxide film adhering to the electrode, accurate values will not be displayed. Before use, sand the electrode lightly with the provided sandpaper or fine sandpaper (#400 to #1000) or insert the electrode into the soil several times to remove the oxide film.
- The meter should be checked from the front.



How to Use

- Soil preparation
 1. Remove any leaves, sand, plant roots, stones, etc. contained in the soil as this will damage the electrode. If the soil is dry or the level of fertility is high, the soil acidity (pH) cannot be measured correctly. In this case, please spray water to the soil intended for measuring.
 2. After spraying the soil, please mix well and let it set for 15 to 20 minutes.
- Soil measurement conditions
 1. Switch the pH/WET DRY switch to "WET DRY".
 2. While turning the electrode clockwise, insert the electrode vertically into the soil for about 8 to 20 cm, and gather the soil around the probe so that the electrode and the soil are firmly adhered.
 3. The measurement is taken when the needle stabilizes in about 1 minute after insertion into the soil. Suitable soil conditions for measuring soil acidity (pH) are between 4 and 7; water should be applied to the soil to keep it within the range of 4 to 7.
- Soil acidity (pH) measurement
 1. Switch the pH/WET DRY switch to "pH".
 2. In about 1 minute, the measured value is where the needle stabilizes.
 3. To ensure accurate measurement, take several separate measurements and average the results.

* If the soil contains a lot of fertilizer, it may not be measured accurately. In such cases, please spray water to the soil to flush out the fertilizers contained in the soil. When splashing water, be careful not to get water on the product.
- After use
 1. Wipe off any dirt on the tip and store it.

* This product is not waterproof. Do not wash it with water.

Reference

If the result is lower than the desired value: The pH value can be increased with lime.
If the result is higher than desired: The pH value can be lowered with chemical fertilizers or organic matter.
→ In both cases, the soil must be allowed to acclimate for 1 to 2 weeks after treatment.

Use

- For simple measurement of soil acidity (pH)

Features

- The measurement condition check feature can be used to confirm the appropriate moisture condition when measuring soil acidity (pH)
- The long and thick insertion part allows measurement of deep areas in the soil
- No batteries required
- The meter is located in an easy-to-read position when inserted vertically into the soil

Optimum Soil Acidity (pH)

Each crop has its own appropriate soil acidity (pH) level. Please check the appropriate soil acidity (pH) for each crop from the information published in your residing area (as it varies depending on the environment and conditions).

Specifications

Accuracy	±pH 0.5
Measuring Range	pH 3 - 7
Smallest Value	pH 0.2
Operating Temperature	0 - 40°C
Storage Temperature	-20 - 70°C
Material	Main Body: ABS resin Meter Cover: ABS resin Meter: Aluminum Electrode: Titanium-zinc alloy, copper, aluminum, rubber
Body Size	395 x 55 x 55 mm
Weight	97 g
Accessory	Sandpaper (#1000)

- Amount of calcium carbonate required to bring the pH of soil of up to a depth of 15 cm per 10 Are to 6.5 pH (unit: kg)

Soil type Original soil pH	Sandy soil		Loam soil		Clay soil		Peat soil	
	Brown soil with low humus content	Black soil with high humus content	Brown soil with low humus content	Pitch black light soil with very high humus content	Brown soil with low humus content	Blackish brown soil with high humus content	Pitch black light soil with very high humus content	—
4.0	250	500	900	1,200	1,500	1,000	1,500	1,800
4.5	200	400	700	900	1,200	800	1,100	1,300
5.0	150	300	500	600	800	600	800	900
5.5	100	200	300	400	500	400	500	600
6.0	50	100	150	200	250	200	250	300

1. Determine the type of soil based on its appearance and texture.
 2. After measuring the pH of the soil, calculate the amount of calcium carbonate using the table above.
- *The values in the table are converted to 1/1000 to obtain the value per 1 m² (sandy soil is soil with a lot of sand, clay soil is clayey soil, and loam soil is soil in between).

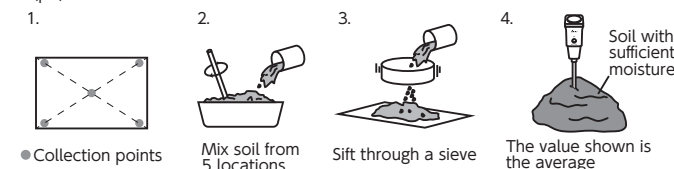
Soil-Plant Relationship

Neutralizing the soil (mixing lime into the soil) is necessary to create an ideal soil that will absorb fertilizer well. However, if too much lime is applied, the soil becomes manganese deficient, and the soil itself may lose its fertilizer effect. Therefore, when lime is applied to the soil, it is important to measure the soil acidity (pH) and apply the appropriate amount needed to neutralize it.

*Lime includes quicklime, slaked lime, calcium carbonate, and magnesium lime.

pH Measurement of Wide Area

1. If the field is large, collect soil samples from 5 locations in the four corners and the center of the field to measure the average soil acidity (pH).
2. Mix the collected soil well and let it dry.
3. Break the dried soil into small pieces and sieve to remove impurities.
4. The value displayed is the average soil acidity (pH) value for the field after measurement according to the procedure described in "How to use" ● Soil acidity (pH) measurement *.



Problems and Solutions

Problems	Solutions
Display becomes unstable. Abnormal values appear.	<ul style="list-style-type: none"> • Sand the oxide film lightly on the electrode with the provided sandpaper or fine sandpaper. • Wipe the electrode clean, and then change the measurement point. • Spray water on the soil and mix it well. • Remove leaves, sand, plant roots, stones, etc. from the soil. • The soil should be measured when the measurement condition is within a range of 4 to 7.
Lime is sprinkled but the soil does not become alkaline.	<ul style="list-style-type: none"> • Allow the lime to acclimate to the soil for approximately 1-2 weeks before measuring.
The soil becomes acidic even though lime has been sprinkled.	<ul style="list-style-type: none"> • If more lime is applied than necessary, the soil may become acidic. Spray water on the soil to flush out the lime. • There is a possibility of too much fertilizer. Spray the soil to flush out excess fertilizer. • Allow the lime to acclimate to the soil for approximately 1-2 weeks before measuring.
Soil acidity (pH) display does not change from 7.0.	<ul style="list-style-type: none"> • Ensure that the soil is sufficiently dampen and the electrode is firmly in contact with the soil. • Sand off any oxidation or dirt on the electrode (see "Before Use"). • Soil with large particles (leaf mold, peat moss, akadama clay, sand, etc.) will not adhere to the electrode and will not react, making measurement impossible.

WARNING

- Do not use other than as intended.
- Do not drop or subject to strong impact.
- Before use, sand the electrode (about 8 cm from the tip of the probe) with the sandpaper provided or fine sandpaper (#400-1000) to remove oxides.
- Before measuring, moisten the soil thoroughly and insert the probe tip about 8 cm into the soil so that it adheres firmly to the soil.
- Soil moisture is displayed as a numerical value calculated by passing an electric current through the soil in close contact with the electrode and then quantifying the resistance value. The value may be lower than the actual value depending on the degree of contact to the soil.
- This product is for soil only. Do not insert it into water or other liquids as this may cause malfunction.
- This product is not waterproof. Do not wash it in water or use it in the rain. If water should get inside the meter, dry it well in a well-ventilated place.
- It cannot be used on liquid, non-soil materials and coarse-grained soil (leaf mold, peat moss, akadama clay, sand, etc.).
- Confined environments such as small pots cannot be measured accurately.
- Alkalinity cannot be measured.
- Soil acidity (pH) should be measured within the measurement condition 4 to 7.
- When inserting into the soil, insert while turning clockwise. Do not insert it while turning it left or right. The electrode may become loose and the wiring may break, making measurement impossible.
- After sprinkling lime or other material for acidity adjustment, allow the soil to acclimate for 1 to 2 weeks before measuring. If the soil is not acclimated, it may be highly acidic.
- If soiled, wipe with a clean soft cloth.
- Do not leave the probe inserted in the soil for more than one hour. Doing so may cause corrosion.
- After use, dry the electrode part and store it in a clean environment.
- Do not allow the probe to come into contact with metal. When storing the probe, be sure to keep it away from other metal objects.
- Do not bend the probe.
- Do not use the probe to loosen clumps of soil.
- Do not touch the electrode with bare hands.
- Do not use or store the product in an environment that exceeds the operating or storage temperature range.
- Do not disassemble the product.
- We shall not be liable for any consequential, incidental, or indirect damages such as losses and lost profits to the customer as well as a third party resulting from the operation of this product, regardless of whether or not they were foreseeable or the possibility was reasonably foreseeable.

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