Economy Soil Moisture Tester

PRODUCT MANUAL

Item # 6400, 6405

Spectrum®
Technologies, Inc.

GENERAL

Soil moisture is measured by inserting the probe into the soil at each location to be tested. The probe is sensitive only at the tip, therefore the reading obtained on the meter indicates the amount of moisture at the depth the probe is inserted. Now it is possible for you to determine the moisture condition of your plants without having to remove any mulch or soil and dig into the root area. Just insert the probe directly into the root ball, it will not harm the plant. Instantly your SOIL MOISTURE METER will give you an accurate reading of moisture available to the plant.

CALIBRATION

It is quite important that the calibration of the unit is performed in the same soil and location that it is intended to be used in. Thoroughly soak a small area under cultivation. Allow surface water an opportunity to drain off. Remove the Nickel Snap Plug on back of unit. Locate "Calibration Trimmer" adjustment slot. Insert probe one inch into test area. With small screwdriver in adjustment slot, adjust for a reading of "10".

APPLICATIONS

Basic applications of the SOIL MOISTURE METER are:

1. **Determining when a plant requires water.**
   Most agriculturists recommend that a plant never be allowed to dry out to its wilting point. To aid the user in determining if the soil moisture content is approaching this point for specific plants, the following three basic groups have been established:

GROUP I
WET SIDE PLANTS:
Wilt point between 6 and 8 on meter.

GROUP II
AVERAGE PLANTS:
Wilt point between 4 and 6 on meter.

GROUP III
DRY SIDE PLANTS:
Wilt point between 2 and 4 on meter.

2. **Determining how much water a plant should be given.**
   When watering, it is necessary to thoroughly saturate the soil down to the root level of the plant. This would be indicated by a meter reading of 10 at the full root depth.

3. **Sub-soil moisture mapping.**
This technique is used primarily for checking coverage and penetration of a sprinkler system. After a normal watering readings would be taken at different locations and at two or three different depths. A map could then be prepared plotting these readings. An ideal system would show equal readings at all locations and depths. Poor coverage would be shown by erratic readings at different locations but the same depth. Poor penetration (or insufficient application) would be indicated by unequal amounts of moisture at the same location but different depths. Additional applications of sub-soil moisture mapping would be locating leaking water lines, checking effectiveness of septic tank leach lines, locating surface water springs, locating depths of shallow water tables and checking drainage of garden areas.

BATTERY

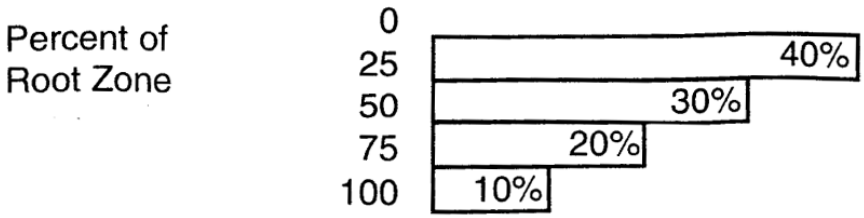
The battery is included and is already installed.
With normal usage it should last one season. When replacement becomes necessary (unable to obtain a meter reading of 10 in saturated soil even with Calibration Trimmer in maximum clockwise position, replace with a standard AA cell. Care must be taken to maintain correct polarity of battery. The plus (+) side is marked on the holder.

PLANT ROOT ZONE AND FEED DATA

As a general rule for maximum plant production one can use the following procedure to maintain optimum soil moisture and food availability.

Knowing your plant's normal maturity and applying the rule of 1 to 1-1/2 feet of root growth per month to maturity, you will be able to determine your average root zone. Then, by using the following graph, you can determine maximum efficiency of your available water and food.

RATE OF MOISTURE EXTRACTED FROM SOIL BY PLANT



CHECKING FOR FERTILIZER LEACH!

Calibrate meter to center scale setting in area where soil is saturated either by rain or irrigation. Then probe across saturated area. A high meter reading will be great (salts) fertilizer in solution. Lower reading is less (salts) fertilizer in solution.

CAUTION

It is important that the calibration of the unit be checked before relying on the following chart. Unusual conditions such as an extremely heavy clay soil would require somewhat lower meter readings than shown, while a fine, loose, sandy soil could require higher readings.

Vegetables	Wilt Point Meter Reading
Artichoke	6-8
Asparagus	3-6
Beans	4-6
Beets	6
Broccoli	4-6
Cabbage	6-8
Carrots	4-6
Cauliflower	6-8
Celery	8
Chard	6
Corn	4-6
Cucumbers	6-8
Eggplant	6
Lettuce	6-8
Melons	4-6
Onions	4-6
Peas	4-6
Peppers	4-6
Potatoes	4-6
Radishes	4-6
Spinach	6
Squash	6-8
Tomatoes	2-6
Turnips	2-6

Landscaping Plants	Wilt Point Meter Reading
Azaleas	6-8
Bamboo	6-8
Bermuda Lawns	4-6
Blue Grass Lawns	4-6
Camellias	6-8
Cannas	6
Chrysanthemums	6-8
Daffodils	6-8
Dahlias	6-8
Dichondra Lawns	6-8
Fuchsias	8
Iris	4-6
Lilies	6-8
Palms	4-6
Pines	4-6
Primroses	6-8
Rhododendrons	6-8
Roses	6
Succulents	2-4
Tuberous Begonias	6-8
Tulips	4-6

Warranty

This product is warranted to be free from defects in material or workmanship for three months from the date of purchase. During the warranty period Spectrum will, at its option, either repair or replace products that prove to be defective. This warranty does not cover damage due to improper installation or use, lightning, negligence, accident, or unauthorized modifications, or to incidental or consequential damages beyond the Spectrum product. Before returning a failed unit, you must obtain a Returned Materials Authorization (RMA) from Spectrum. Spectrum is not responsible for any package that is returned without a valid RMA number or for the loss of the package by any shipping company.

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