

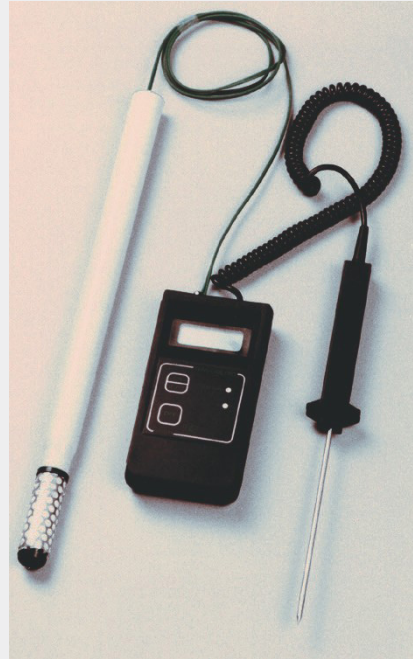
Soil Moisture Meter

for the measuring of soil moisture

soil moisture

temperature

easy to use



GENERAL INFORMATION

In any agricultural irrigation environment, a grower is constantly faced with the need to more effectively manage his/her irrigation scheduling routine. Soil moisture measurement, on your farm, in your crop and soil type and with your irrigation method, has proven to be an effective and inexpensive irrigation management technique. The irrigation of agriculture crops has a single purpose - to help a farmer make more money from his labor and capital. Producing a greater crop yield and quality, lower per unit cost, and put more money in the bank at harvest.

The art. 46909 is a digital instrument for the measuring of soil moisture. The instruments has two probes: a moisture probe and a pointed temperature probe for the automatic temperature compensation (so it's possible to use the instrument only like a thermometer for checking the temperature in the soil or inside the fruit).

The soil moisture sensor (granular matrix sensor) is an indirect, calibrated method of measuring soil water. It is an electrical resistance type sensor, read by the hand-held meter which converts the electric resistance reading to a calibrated reading of centibars of soil water suction.

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BENEFITS

- Less Water Used
- Less Pumping Energy Consumed
- Mitigation of Pests and Diseases
- Prevention of excessive leaching of mobile plant nutrients
- Prevention of groundwater pollution
- Lower wear and tear on irrigation systems
- Lowering of irrigation labor costs

INSTALLATION

The ref. 46909 allows you to monitor the amount of available moisture in your soil digitally. Simply bury the sensor to the desired depth at the roots level of your cultivation (for the first reading it's better to wait at least 15/20 days so the probe can accustom with the soil). Then the plug on the meter can be connected to the buried sensor and the results in Centibars/kPa can be read on the digital display (the temperature probe buried in the soil allows you to dial in the soil temperature to ensure correct, temperature compensated results). Bury as many sensors as you like at representative sites, then, using just one meter, you can read each sensor individually as frequently as necessary.

Be sure to avoid locating your sensors in low, moist spots, heavily shaded areas, or in areas with any unusual drainage effects caused by roof lines or down spouts.

The use is very simple:

1. connect the instrument with the soil moisture probe
2. immerse the soil temperature probe in the soil (for automatic compensation)
3. turn-on and read the result
4. turn-off the instrument
5. disconnect the instrument

Testing (the instrument and the probe are already calibrated)

In general, any failure of the sensor due to age or malfunction is accompanied by an increase in the resistance level of the sensor. This can be checked by pulling the sensor and soaking it in a bucket with distillate water at 15-25°C for an hour. The digital readout should be between 0 and 20 centibars. Attention: after this measurement you must place the probes in a dry room for at least one week

RESULTS

- 0-10 Centibars: soil saturated
- 10-20 Centibars: soil close to saturation
- 20-50 Centibars: good soil moisture level
- 50-100 Centibars: irrigation according to soil type
- 100-200 Centibars: soil dried

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IRRIGATION ACCORDING TO SOIL TYPE

SOIL TYPE	INTENSIVE IRRIGATION	EXTENSIVE IRRIGATION
Sandy soil	30-40 Cb	50 Cb
Mud soil	40-50 Cb	70 Cb
Clay soil	50-70 Cb	100 Cb

TECHNICAL DATA

- Measuring range: 0 - 200 centibars / -50°;+150°C
- Power supply: 9V dry battery, duration about 100 hours with alkaline battery, auto power off after 5/6 minutes
- Moisture probe: Granular matrix sensor - It is an electrical resistance type sensor which converts the electric resistance reading of centibars of soil water suction
- Temperature probe: PT100. Diameter 3mm, length 15 cm
- Working temperature: -5°;+50°C
- Dimensions: 150x80x30h mm
- Weight: 410 gr. with battery

WARNING

- If the instrument is not be used for a long time the battery must be removed
- If the battery is flat it must be replaced immediately
- Clean the probes after use