REPORT ON THE SOIL HUMIDITY SENSOR-

WORKING SYSTEM ABOUT THE SENSOR:

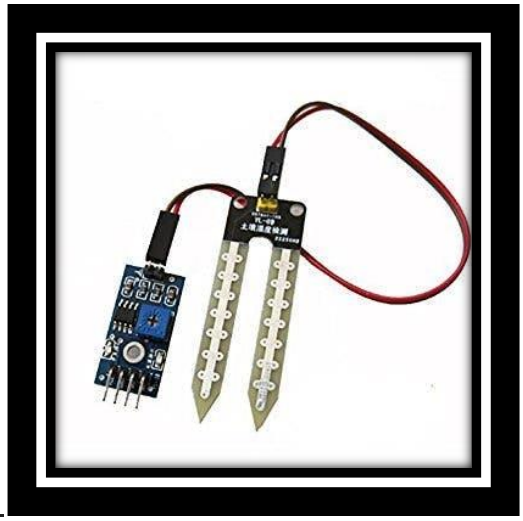
The Soil Moisture Sensor uses capacitance to measure dielectric permittivity of the surrounding medium. The sensor creates a voltage proportional to the dielectric permittivity, and therefore the water content of the soil. The sensor averages the water content over the entire length of the sensor. There is a 2 cm zone of influence with respect to the flat surface of the sensor, but it has little or no sensitivity at the extreme edges. The Soil Moisture Sensor is used to measure the loss of moisture over time due to evaporation and evaluate optimum soil moisture contents for various types of plants.

HOW DOES A SOIL HUMIDITY SENSOR WORKS?

A humidity sensor senses, measures and reports both moisture and air temperature .Relative humidity becomes an important factor, when looking for comfort. Humidity sensors work by detecting changes that alter electrical currents or temperature in the air.

OTHER TYPES OF SENSORS WHICH COULD EVEN WORK ON THE SAME PRINCIPLE-

This study compares two types of soil moisture sensors (resistive soil moisture sensors and capacitive soil moisture sensors). Both sensors provided analogue values which were converted into a percentage of water content in soil, some of the samples were kept in the oven for 24 hours to identify the soil moisture content.In a reflection of the results, the capacitive soil moisture sensor is shown to be more reliable than resistive soil moisture sensor. The sensors have similar calibration processes, but one limitation of the resistive sensor is that it can corrode quite easily.



CAPACITIVE SOIL SENSOR **RESISITIVE SOIL SENSOR**

ADVANTAGES OF THE SOIL HUMIDITY SENSOR:

Simple method of measurement.
It delivers the results immediately.
Watermark sensors are very low in cost.
Offers accurate results.
Watermark sensors offer larger moisture reading range from 0 to 200 cb or kpa.

DISADVANTAGES OF THE SOIL HUMIDITY SENSOR:

Watermark sensors provide less accuracy in sandy soils due to large particles.
Watermark sensors are required to be calibrated for each soil types.
Tensiometers also require periodic service.

It requires initial evaluation of site specific conditions before selection of appropriate moisture sensor.

APPLICATIONS:

1. It can be used more effectively and more efficiently.
2. SM150 moisture sensor used for soil moisture measurement.
3. It helps in saving water by providing the information that when the crops should be watered.
