/* Soil Moisture Basic Example
   Basic sketch to print out soil moisture values to the Serial Monitor */

int val = 0; // value for storing moisture value
int soilPin = A0; // Declare a variable for the soil moisture sensor
int soilPower = 7; // Variable for Soil moisture Power

// Rather than powering the sensor through the 3.3V or 5V pins,
// we'll use a digital pin to power the sensor. This will
// prevent corrosion of the sensor as it sits in the soil.

void setup()
{
    Serial.begin(9600); // open serial over USB
    pinMode(soilPower, OUTPUT); // Set D7 as an OUTPUT
    digitalWrite(soilPower, LOW); // Set to LOW so no power is flowing through the sensor
}

void loop()
{
    Serial.print("Soil Moisture = "); // get soil moisture value from the function below and print it
    Serial.println(readSoil());

    // This 1 second time frame is used so you can test the sensor and see it change in real-time.
    // For in-plant applications, you will want to take readings much less frequently.
    delay(1000); // take a reading every second
}

// This is a function used to get the soil moisture content

int readSoil()
{
    digitalWrite(soilPower, HIGH); // turn D7 "On"
    delay(10); // wait 10 milliseconds
    val = analogRead(soilPin); // Read the SIG value form sensor
    digitalWrite(soilPower, LOW); // turn D7 "Off"
    return val; // send current moisture value
}