**Soil Moisture Sensor for Bonsai Tree**

**Introduction**

I wanted to come up with a more precise way to measure moisture levels in the soil of my bonsai tree. Bonsai need consistent watering to stay alive, however too much moisture leads to root rot.

**Materials**

* Arduino Uno, breadboard, wires.
* Liquid Crystal Display.
* Moisture sensor.

**Method**

Set up the simple circuit shown below, wiring for LCD taken from Arduino handbook. Features an optional button to reset/calibrate 0 moisture reading. Wrote an Arduino program to take in analogue data from the moisture sensor. Through measurement came up with an appropriate method for normalisation/calibration.

**Code**

Pretty simple, reads serial input coming from moisture sensor. Through experimentation we found the following values and determined appropriate normalisation.  
  
A computer code with black text

AI-generated content may be incorrect.

**Results**

The project works as intended. It prints 100% moisture when bonsai has recently been soaked and 1-20% when the soil is dry.