

Abstract

There are still many farmers do not know what nutrients and soil content they use for farming so many farmers often experience crop failure and very large losses due to soil problems that they do not know, whether the land they use is good or not, the processing of their soil fertility is also not appropriate. And also many of the farmers who do soil detection manually, the farmers only predict the nutrients that exist in the soil from the outside view only. But they do not know the soil ph, temperature, humidity and what chemicals are contained in the soil it is all because they do not have the tools to determine the soil taht will be used by farmers in farming.

Given the problems that have been described, the appropriate framework is expected to identify soil fertility, in determining the temperature, humidity, pH contained in the soil accurately.

This system is designed by making a device using a microcontroller and arduino-based system, a humidity sensor with an LM393 module which is used to determine the moisture of the soil, a temperature sensor with an LM35 module which is used to determine the temperature of the soil and also a sensor. Soil pH is used to determine the pH contained in the soil.

Keywords: microcontroller arduino, moisture, temperature, pH