ABSTRACT

Soil fertility is one of the factors that influence success in agriculture, besides that soil fertility affects plant growth. Each type of plant has different suitability for each type of soil, the parameters that must be present in the soil include Potential Hydrogen (pH) and soil temperature. In addition, soil temperature is also an important indicator of plant development. The success of the harvest is determined by the type of soil that will be selected for planting plant seeds, therefore it is necessary to have a tool to detect the level of soil fertility on agricultural land. This final project makes a prototype to find out the content of agricultural land so that farmers can determine suitable plant seeds for the land to be planted so that the yields obtained have good quality. The test results show that the sensor accuracy in pH parameters reaches ±99%-100% for 3 different soil samples and the soil temperature sensor accuracy reaches ±99% for 3 different soil samples.

Keywords: *Soil Fertility, Potential Hydrogen* (pH)*, Soil Temperature, Agricultural Land, Sensor Accuracy*