ABSTRACT

Soil moisture and environmental temperature are two very important factors in plant growth and development. Proper humidity conditions and good heat tolerance are determining factors in the productivity and quality of agricultural products. Therefore, the level of heat tolerance in plants influences the development of plants which require relatively high air temperatures ranging from 25°C to 35°C. Therefore, creating a humidity and heat tolerance system can help farmers maintain ideal humidity and temperature levels for plants. The methodology used involves a humidity sensor to detect the humidity level and air temperature around the plant. By using a microcontroller and humidity sensor, you can show the results of sensor data on plants which can be displayed through an application so that farmers can always monitor humidity and temperature levels on plants. From the test results of the humidity level and heat tolerance detection system, the air temperature results were around 25°C to 35°C and the humidity level in the plants was around 49% to 57% in hot weather. The results obtained by the humidity sensor will be displayed through the application as a monitoring platform.

Key words: humidity sensor, microcontroller, plants, heat tolerant, humidity level and temperature.