

## ABSTRACT

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*Hydroponics is a cultivation method that utilizes nutrient-rich water. One of the challenges in this method is the limited time available to monitor environmental factors crucial for plant growth, such as room temperature, humidity, and water temperature. This study designed a monitoring system for hydroponic melon plants using Internet of Things (IoT) technology, equipped with DHT22 sensors to monitor air temperature and humidity around the plants, and DS18B20 sensors to monitor water temperature in the hydroponic system. Real-time monitoring is conducted through a website connected via IoT network. The recorded results on the website show significant variations in greenhouse environmental conditions throughout the day. Humidity ranges from 65.70% to 77.00%, room temperature remains stable at 25.00°C - 29.80°C, and water temperature ranges from 24.30°C to 27.70°C. Despite minor differences between sensor and thermometer readings, the results consistently fall within acceptable ranges.*

*Keywords: Hydroponics, Internet of Things, real-time monitoring, web, hydroponic melon.*