

ABSTRACT

White oyster mushrooms are one of the most superior food commodities. The problem faced is that the temperature and humidity in the lowlands are very unstable and tend to be hot. To get optimal results, the growth of oyster mushrooms requires temperatures in the range of 26 ° - 29 ° C and air humidity in the range of 80% - 90% RH

In this final project, a system has been designed that can control stable room temperature and humidity values (26 ° - 29 ° C, 80% - 90% RH) using on/off control, as well as IoT-based control and monitoring (Internet of Things). The system is implemented with a prototype in the form of a greenhouse measuring 100x80 cm in which there are 20 polybags containing oyster mushrooms as planting media. By utilizing a fan accumulator that aims to maintain the air temperature value to remain stable. In addition, the system can also be monitored and controlled by automatic mode or manual mode through an Android-based smartphone application

The slower the duration on the pump accumulator, the humidity in the room will be higher and the slower the duration on the fan accumulator, the lower the air temperature. The system reaches the setpoint value for approximately 6 seconds when the air temperature is 29C °. This system has image output in the form of black and white pixels displayed on Android-based smartphone applications.

Keywords : *temperature, monitoring, image, internet of things*