

ABSTRACT

Enoki mushroom (Flammulina velutipes) is a plant that belongs to the kingdom Fungi, division Basidiomycota, class Agaricomycetes, order Agaricales, and family Physalacriaceae. In enoki mushroom cultivation there are several phases starting from the spawning phase where the mycelium from the inoculated seedlings begins to colonize new substrates, the mushroom trunk phase begins to form, the fertilization phase and finally the harvest phase. Indonesia has a wealth of natural resources and has the potential for the development of mushroom cultivation. However, this potential is still hampered by the average temperature conditions in Indonesia that are not supportive, enoki mushroom cultivation requires specific environmental conditions, namely low temperatures and high humidity, which are often challenges in various regions, including in Jakarta. Jakarta, as the capital city of Indonesia, has a tropical climate with relatively high temperatures and insufficient humidity to support the optimal growth of enoki mushrooms. This condition poses a major challenge for farmers who want to cultivate enoki mushrooms in this region. In the cultivation process, enoki mushrooms require an ideal temperature ranging from 10-16 °C, a high humidity of around 90-95%, and a light intensity of 20-50 lux in order to grow optimally. However, a solution that can help overcome these obstacles is the use of Internet of Things (iot) technology in cultivation systems. In this final project, a tool has been designed that functions to carry out real-time automatic monitoring and control using Internet of Things (iot) technology. It integrates the DHT11 air humidity and temperature sensor, the BH1750 light intensity sensor, and the nodemcu as a microcontroller. The measurement results will be sent to the firebase database. In addition, the system is also equipped with a DC water pump connected to the nozzle sprayer to maintain moisture in the enoki mushroom mushroom.

Keywords: *Enoki mushrooms, Internet of Things, Humidity, Temperature, Light intensity.*