IOT-BASED OYSTER MUSHROOM CULTIVATION DESIGN PROTOTYPE USING ESP32-CAM MICROCONTROLLER

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ABSTRACT

Oyster mushroom cultivation requires an environmental temperature ranging between 25-300C with air humidity of 80-90%. Currently, many farmers cultivating oyster mushrooms still have difficulty in regulating the temperature and humidity required by oyster mushrooms because many farmers still use manual methods. Therefore, an automatic temperature and humidity control system is needed. In this research, a prototype of oyster mushroom kumbung was developed based on internet of things monitoring using an Arduino nano microcontroller as an automatic system and ESP32-CAM as IoT monitoring and application. In this system, when the temperature exceeds 300C the fan will turn on and when the humidity is below 80% the pump will turn on. Then for the internet of things, use the help of a telegram bot to monitor the condition of oyster mushroom mushrooms. The result of this research is to carry out an experiment by changing the temperature and humidity, when the temperature exceeds 300 C the fan will turn on and when the humidity is below 80% the pump will turn on, from this test the success results were obtained for automatic mushroom kumbung, namely reaching 100% and for testing internet of things achieved 100% success.

Keywords: oyster mushrooms, internet of things, automatic.