

PERANCANGAN SISTEM OTOMATIS PEMBERIAN PAKAN PADA HEWAN TERNAK KALKUN BERBASIS IOT

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The productivity and quality of turkey livestock are highly influenced by proper feed management, including feeding time, feed quantity, and environmental conditions. Irregular feeding schedules and inappropriate feed portions can lead to suboptimal growth and reduced production efficiency. In Indonesia, turkey feeding is still largely performed manually, which requires significant time and labor and often results in delays and inaccurate feed distribution. Moreover, environmental factors, such as cage temperature, are frequently overlooked, even though temperature significantly affects feed intake and animal activity. This study aims to design and develop an automatic feeding system based on the Internet of Things (IoT), integrated with a DHT21 temperature sensor as an additional parameter for regulating feed delivery duration. The system utilizes an ESP32 microcontroller as the main control unit, which processes data from the temperature sensor and controls the actuator mechanism. A servomotor is employed to open and close the feed container, with the duration of servo operation automatically adjusted according to the cage's ambient temperature. This approach allows the amount of feed dispensed to adapt dynamically to the needs of the livestock. The system is equipped with an LCD display for local monitoring, showing temperature readings, servo status, and feeding schedules. Furthermore, it is integrated with the ThingSpeak platform for remote monitoring. Temperature data and feeding activity are transmitted via WiFi or Bluetooth, allowing real-time observation without the need for physical presence at the livestock location. The results indicate that the proposed automatic feeding system operates according to schedule and adapts effectively to changes in environmental temperature. Implementation of this system is expected to improve feed management efficiency, reduce reliance on manual labor, and support optimal and sustainable growth and productivity of turkey livestock.

Keywords: *Automatic, turkey, Internet of Things, ESP32, DHT2*