ABSTRACT

In Indonesia, a significant portion of the population relies on agriculture and animal husbandry for their livelihoods. To improve the quality of home-raised broiler chickens, proper and sustainable management is crucial to produce high-quality chickens by paying attention to nutrition and proper feeding practices. As a solution, an IoT-based automatic poultry feeder has been developed to simplify the feeding process and optimize the growth and development of chickens by ensuring they receive adequate nutrition. This device not only makes it easier for farmers to provide regular feed but also contributes to the health and growth of the chickens.

The test results indicate that the device has good accuracy in distributing feed at the scheduled feeding times, which are 06:00 WIB, 14:00 WIB, and 18:00 WIB, based on the programmed number of chickens. The system is designed to dispense feed according to the number of chickens set through the Blynk app: 14 grams for 1-2 chickens, 28 grams for 3-4 chickens, 42 grams for 5-6 chickens, and 56 grams for 7-8 chickens. The average amount of feed dispensed in 10 trials for each chicken category is 14.1 grams (1-2 chickens), 27.5 grams (3-4 chickens), 42.2 grams (5-6 chickens), and 56.8 grams (7-8 chickens), with a servo motor accuracy rate of 72.5% based on 40 trials.

This study evaluates the performance of the device in measuring the remaining feed in the container. The device demonstrates consistency in detecting the amount of feed left. Test results show that the measured remaining feed based on the number of chickens tested is 146.5 grams, divided into four categories based on feed availability status. The average feed size for the "Abundant" status is 53.3 cm, for the "Moderate" status is 29.75 cm, for the "Low" status is 15 cm, and for the "Empty" status is 5 cm..

Keywords: *Automatic feeding, Blynk, Chicken, Feed, IoT, Microcontroller, Poultry farming, Servo Motor, Testing, Ultrasonic sensor*