

ABSTRACT

Laying hens are a breed of chicken raised specifically for egg production. Laying hens are selectively bred to achieve a high capacity to produce nutritious eggs. Laying hens are usually kept in layer farm cages. Usually laying hens are raised in large numbers. However, there is a problem that exists in layer cages, namely because the concept is open-house so that the temperature inside the chicken coop is very dependent on the weather around the chicken coop. Unstable weather makes the temperature in the chicken coop unstable as well which can cause disease outbreaks in every production season. This is because there are still laying hen farmers who have limited knowledge in keeping the chickens in good condition and health.

The solution to the problem is the need for a light and temperature controller to prevent the occurrence caused by the unstable temperature in the chicken coop. So, the solution to the problem is to use an automatic light and temperature control device that will remotely control the temperature and lights in the chicken coop. The concept of the cage in this system must also use the close-house concept so that the temperature in the chicken coop is easier to control and does not follow the temperature around the chicken coop. This will make it easier for farmers who want to keep an eye on the chicken coop without having to go to the coop. In addition, the benefit of the lamp controller itself is to make more efficient use of electricity in the chicken coop.

This research produces an IoT device that can control the temperature of the laying hen cage using fuzzy logic at an optimal temperature of 30 ° C - 32 ° C. It works well, with an average fuzzy calculation accuracy of 99.20%, an average DHT11 sensor accuracy of 99.66%, and the response of the mode change button control has an average duration of 2.6 seconds, the manual light button response has an average duration of 2.35 seconds and for the manual fan button has an average response duration of 2.88 seconds. This system has worked in accordance with predetermined specifications. The test results after several days confirmed that this system can maintain the temperature of the chicken coop at the optimal temperature of 30°C - 32°C.

Keyword : Controller, Fuzzy, IoT, Laying Hens, Temperature.