ABSTRACT

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TEMPERATURE DETECTOR IN ARDUINO BASED CHICKEN CAGE WITH LED OUTPUT, BUZZER, AND LCD

Broilers aged 0 to 7 days have not been able to regulate their own body temperature, temperature regulation must be done by the farmer which is done manually. A tool that functions as a temperature detector in a chicken coop is made to provide information on the temperature conditions of the chicken coop to the farmer. The design of this tool consists of 3 main parts, namely input, process, and output. At the input there is a DHT11 sensor which functions to read the temperature value which will be processed through the Arduino UNO. At the output there are LEDs for color indicators, Buzzer for sound indicators, and LCD as information displays. The detector works when the sensor reads the temperature value if it is equal to 30 C and 31 C then the Green LED will be active as an indicator of the temperature in the cage which is already in an ideal state then it will be displayed on the LCD, if it is equal to 29◦C and 32◦C then the Yellow LED will be active and the Buzzer will be active intermittently as an indicator in a state of alert, the temperature will move away from the ideal temperature then will be displayed on the LCD, if it is more than 29◦C and 32◦C then the Red LED will activate and the Buzzer will be active continuously as the temperature indicator is in danger and will then appear on the LCD. From the test results, it was found that the Green LED voltage was 4.45 V and 4.53 V for ideal conditions of 30◦C and 31◦C, the Yellow LED was 2.51 V and 2.59 V for the warning conditions of 29◦C and 32◦C, and the Red LED was 3.56 V and 3.62 V for hazard conditions over 29 C and 32 C. Buzzer voltage is 3.72 V, and LCD voltage is 4.65 V.

Bibliography (2012-2018)