Temperature Monitoring System of Chicken Eggs

Incubator using Arduino

A Capstone Project

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ABSTRACT

Poultry farms are farms that raise chickens, ducks, turkeys, and other birds for meat or egg production (New World Encyclopedia, 2019). In the past, poultry farming involved raising chickens in the back yard for daily egg production and family consumption. However, poultry farming, today is a huge business that is split into several operations including hatcheries, pullet farms for meat production, or farms for egg production. This paper will focus on poultry farm hatcheries.

Poultry farms in Dumingag have incubator which uses manual method of egg hatching They are only using thermostat which is an aging device for temperature measurement. Meeting the high demand for poultry product calls for the development new technology for egg hatcheries to help increase the efficiency of poultry farming. The main objective of the project was to develop a temperature monitoring system for chicken eggs with a sensor that can control the humidity and temperature with the use of Arduino Microcontroller.

The study aimed to solve the burden of using manual egg incubation process. But, its drawback was the lack of automatic turning mechanism that could turn the egg for uniform heat distribution. In this project an incandescent bulb heat source incubator was designed and constructed to help hatch chicken eggs. The incubator system is an Arduino microcontroller based, which controls the heaters and the prevailing conditions in the incubator (temperature and the humidity). The conditions were displayed on a 16x2 LCD screen. Through this project, egg farmers could be more productive and would make their business more profitable since it envisions to make egg incubation process much easy and efficient. With the use of internet, the Real-time temperature and humidity reading can be accessed using loT efficiently.