IoT Based Integrated Quail Cage Temperature Monitoring Automatic Control System. Fendik Eko Purnomo, S.Pd., M.T. (*Chief Counselor*)

Tania Andara Putri
Program Studi Teknologi Rekayasa Mekatronika
Jurusan Teknik

ABSTRACT

Successful cultivation of quail can be achieved through the stages of the breeding process which include breeding, feeding and caring effectively. Good breeding will produce better livestock traits such as high egg production. Good management will affect animal health and minimize animal deaths. With temperature control, production can be scaled up and controlled accurately based on required environmental aspects such as temperature and humidity. Environmental factors include humidity and temperature, with observation results showing a humidity range of 35-79% and a temperature of 22-27.5°C. It is stated that poultry can produce stably in the humidity range of 30-80% at a temperature of 10-30°C. One of the challenges in quail cultivation is maintaining drum temperature stability because quail are sensitive to environmental conditions. Traditional methods of monitoring barn temperature rely on thermohygrometers, but the use of Internet of Things (IoT) devices can effectively help farmers control barn temperature and humidity. IoT devices monitor parameters such as temperature, humidity and ammonia gas levels, which affect quail metabolism. This research aims to overcome the research problems of traditional temperature monitoring methods on quail farms and proposes the use of IoT devices for more efficient control of cage temperature and humidity. This methodology involves implementing IoT devices to monitor and control temperature and humidity in quail pens. The results show that IoT devices can regulate temperature and humidity effectively thereby increasing the yield of quail cultivation. The implications of this research are very significant for small-scale quail farmers who want to optimize their farming practices.

Keywords: *quail farming, breeding process, temperature monitoring, humidity, Internet of Things, livestock management.*