ABSTRACT

Maggot cultivation is increasingly in demand as many farmers need maggots as feed for their livestock. Maggots are a very useful source of feed for fish and poultry. Maggots can be given in a live (wet) state or processed into a dry form. Dry maggots have a longer shelf life compared to wet maggots. Dry maggots are produced through a drying process that can significantly extend their shelf life, maintain quality consistency, and reduce the risk of spoilage. However, the current maggot drying machines are still conventional, requiring direct presence and supervision by workers. This results in less effective time usage because the drying process must be constantly monitored, and workers have to wait until the maggots are completely dry before proceeding to the next stage.

The solution we offer is to apply the Internet of Things (IoT) in monitoring the drying process to maintain the quality of the drying process. The application of the Internet of Things is done by using a microcontroller that functions to control the maggot drying machine. After that, we create a monitoring system in the form of a maggot dryer monitoring application that has remote monitoring capabilities, providing flexibility. The application we created features the ability to input the weight of maggots to be dried in kilograms. During the drying process, the monitoring application will display an estimated time required to dry the maggots and will notify the maggot farmers when the drying process is complete.

The maggot dryer we created can work optimally and produce dry maggots with good and consistent quality. The sensors and components in the maggot dryer also have satisfactory accuracy and function, as does the application that can control and monitor the maggot dryer. The creation of this maggot dryer with Internet of Things technology is expected to provide effective and beneficial solutions for maggot farmers, especially in the production process of dry maggots. Farmers can manage maggot drying more efficiently, increase productivity, and maintain the quality of the dried maggots produced, thus providing significant added value to their business.

Keywords: Internet of Things, Maggot, Dryer, Monitoring.