

ABSTRACT

Freshness of fish is one of the important factors in determining the feasibility level of a meat to be consumed. Fish as a high source of protein needs to be considered freshness in order to maintain its protein content. The level of freshness of fish depends on how the fish is stored. Fish stored in the refrigerator will last longer freshness compared to fish left in the open. Usually, to determine whether the fish is still fresh or not, people only see the physical shape of the fish, ranging from the color of the fish, fish eyes, fins and gills of the fish, as well as smelling the fish. If the fish has smelled fishy, the skin starts to slim and the eyes of the fish begin to darken, then people will think that the fish is no longer fresh.

In this final task study, a system was designed to detect the freshness of fish using neural network method with gas sensor. The fish to be detected is tilapia fish. The smell to be detected is the smell of amonia and alcohol released by tilapia fish. Therefore, there needs to be a gas sensor so that the smell of fish can be detected. The gas sensors used in this study were the MQ-135 and MQ-3 sensors. The smell of fish captured by both gas sensors will be processed in microsoft excel using neural network method that will be classified in two conditions, namely fresh fish and unsalted fish.

The results of tests conducted on five tilapia fish with different freshness levels, obtained success rate using neural network with accuracy of fish freshness of 90.67%. When viewed from the MQ-135 sensor for ammonia levels, the classification of fish freshness occurs when the fish is fresh with a sensor value of < 4100 ppm and the fish is not fresh with a sensor value of > 4100 ppm. While the MQ-3 sensor for alcohol content, the classification of fish freshness occurs when the fish is fresh with a sensor value of < 4800 ppm and the fish is not fresh with a sensor value of > 4800 ppm. This tool is expected to help people to get mujair fish in good condition and fresh that deserves to be consumed.

Keywords: *Fish Freshness, Neural Network, MQ-135 Sensor, MQ-3 Sensor*