ABSTRACT

Freshness of meat is the most important factor in determining the suitability of a meat for consumption. The freshness of a meat will determine whether the meat is still fit for consumption. Currently, the high demand for meat and limited availability of meat in the market has made the price of meat expensive and more and more meat traders are mixing rotten meat into fresh meat so that in some cases there are still sellers who do not sell fresh meat. In this case, it increases profits for naughty meat traders, but it is very detrimental to consumers, because at this time consumers are still ordinary and have difficulty detecting fresh or rotten meat. Based on these problems, in this study a tool was developed to detect the freshness of meat using a system that can identify the freshness of the meat quickly, precisely, and is non-destructive. This system is implemented into the Arduino Uno by using a gas sensor and a color sensor as a freshness detector that replaces the human sense of smell and sight in determining the level of freshness of meat.

In this final project, Artificial Neural Network is used because it requires a system that can identify meat according to the data specifications provided. The input used is the PPM value from the MQ-137 sensor along with the Red, Green and Blue values obtained from the TCS 3200 sensor. There are 3 conditions for the freshness of the meat, namely fresh meat, half-fresh meat, and rotten meat.

The use of gas sensors and color sensors in the system has succeeded in obtaining a special pattern for each level of freshness of the meat tested. From the test results on three samples representing the freshness of the meat, the success rate in the identification process reached 80%.

Keywords : ***Freshness of meat, Artificial Neural Network, gas sensor, colour sensor***