

ABSTRACT

Chicken meat is a source of animal protein at an affordable price and easy to obtain, but it rots easily so traders add chemicals such as formaldehyde which has a negative impact on health. Consuming chicken meat contaminated with formalin can cause acute and chronic problems including cancer. According to WHO, 141 million people suffer from cancer and 8.2 million die from formaldehyde. Even though BPOM has tried to monitor the use of formalin by adding bitter flavors to make it easier to recognize, there are still many chicken meat traders who still add formalin because the public still has little information about the dangers of formaldehyde, so a formaldehyde detection tool that uses the Internet of Things is needed so that people can easily It is easy to obtain information on formalin levels, because by using the Internet of Things people can monitor formalin levels in real time, can access data easily and get notifications directly. Thus, a prototype formaldehyde detection tool was created using the HCHO MEMS sensor connected to a telegram bot. This research method uses chicken meat as an object which will then be given soaking treatment in a formalin solution that has been prepared at 5 concentrations (1, 1.5, 2, 2.5, 3) ppm with 6 repetitions on different days and tested using a designed prototype. The results of the research show that the average test accuracy value using the formalin detection device prototype is 91.2% with an average error of 8.8% and a delay sent from the system to telegram of 0 minutes. Judging from the results of the accuracy values, the prototype formaldehyde detector works quite well.

Keywords: Accuracy, Chicken meat, Formalin, HCHO MEMS, IoT