

ABSTRACT

Lontong is a food made from rice, wrapped and then boiled. At room temperature, lontong has a short shelf life of about one to two days, after which it will rot. Therefore, in the manufacturing process, sometimes there is lontong containing borax, so that lontong can last longer. If borax is consumed by the human body, it will have a bad impact. For this reason, borax is prohibited from being used as a food additive. In this study, a borax detector design will be designed in lontong with the turmeric test method using the TCS3200 color sensor based on the Arduino UNO microcontroller. The variations in borax levels in the samples used are 0 g/g , 1 g/g , 2 g/g , 3 g/g , 4 g/g , 5 g/g , 6 g/g , and 7 g/g . Turmeric paper will be dipped in the sample solution to find out whether the sample contains borax or not. If the sample contains borax, there will be a color change from yellow to orange or brick red on the turmeric paper. The color changes that occur will be detected by the TCS3200 color sensor and converted into frequency, which will then be processed and processed by the microcontroller. The LCD will display the output from the microcontroller in the form of the amount of borax contained in the sample. The results of measuring the sensor reliability value on lontong samples with 0 g borax, 1 g borax, 2 g borax, 3 g borax, 4 g borax, 5 g borax, 6 g borax, and 7 g borax, are still 100%, 100%, 96%, 96%, 90%, 100%, 98%, and 96%.

Keywords : *Borax, Lontong, Mikrokontroler, Turmerik, Sensor TCS3200*