

ABSTRACT

The misuse of rhodamine b and auramine methanil yellow as food coloring agents, especially in widely circulated beef sausages raising concerns about the potential danger to consumer health. This research aims to develop a TCS34725-based sensor prototype as a means of detecting these textile coloring materials in beef sausage. The problem is detailed in various harmful effects that arise from consuming these coloring materials. In solving this problem, the TCS34725 sensor is used because of its ability to accurately identify rhodamine b and auramine methanil yellow. The parameter used is the color of the beef sausage. This research also integrates color sensors, namely TCS34725 sensors, and the Internet of Things (IoT), namely the telegram platform. Before testing on beef sausage, the rhodamine threshold was obtained, namely R (119), G (62.5), B (75) and auramine methyl yellow, namely R (146.5), G (95.5), B (46.5). Sausage samples will be tested and calibrated. The sample obtained the highest percentage of 87.26%, which means that the sensor is quite accurate in detecting the color of textile dyes. However, after testing, it shows a negative classification of rhodamine b and auramine methyl yellow. Testing of beef sausages treated with rhodamine b and auramine methanil yellow dyes with different concentrations shows a positive classification for the presence of these dyes. It can be concluded that the TCS34725 sensor is able to detect the color of rhodamine b and auramine methyl yellow dyes quite accurately.

Keywords: *Auramine methanil yellow, Beef sausage, Internet of Things, Rhodamine b, TCS34725 Sensor.*