ABSTRACT

Banana fruit or the scientific name Musa paradisiaca is one of the most widely cultivated fruits in Indonesia. The ripeness of banana fruit can affect its selling value, currently the identification of the level of ripeness in banana fruit is still done manually by humans which has limitations in accuracy and speed. This research aims to develop a banana ripeness identification system based on RGB and HSV color space using fuzzy logic. This system uses a TCS3200 sensor to capture the color of the banana fruit which is then processed to obtain RGB color results which will then be processed using mamdani fuzzy logic to produce banana fruit maturity classes. In this study using white ambon banana as the object of research and will be grouped into three maturity classes namely raw, ripe and overripe. After testing the system can detect the level of maturity on the banana fruit 40 times out of 45 trials with an accuracy of 88.8%.

Keywords: *Arduino Mega 2560, Fuzzy Mamdani, Banana, TCS3200 Sensor,*