DESIGN AND DEVELOPMENT OF FRUIT DETECTION TOOL USING FUZZY LOGIC METHOD BASED ON ARDUINO MICROCONTROLLER

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ABSTRACT

It is often found that the fruit obtained from the seller is not in accordance with what consumers want because the number and types are very large, this usually makes it very difficult for the consumer to choose the level of ripeness of the fruit for consumption. To determine fruit ripeness, consumers usually only use the sense of smell or only rely on experience which certainly cannot guarantee that the choice will be right. Therefore we need a system that can reduce these problems so that determining the level of fruit maturity will be easier and more precise. will be processed by the arduino microcontroller using the fuzzy clustering method, then it will issue an output in the form of information on the results of the test of the tool on the 3 fruit conditions, namely Ripe, Half Rot, and Rotten. The experimental results show that the success rate of the tool in determining the level of fruit maturity correctly is 83%, and the error rate of the tool in determining the level of fruit maturity is 16%.

***Keywords** ; Ripeness level of a fruit, TGS Sensor, Fuzzy Logic.*