ABSTRACT

DESIGN AND REALIZATION DETECTION EQUIPMENT BRIGHTNESS OF PALM COOKING OIL USING OPTOCOUPLER SENSOR BASED MICROCONTROLLER ATMEGA8535

By

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It has been designed and realized brightness detection instruments of palm cooking oil using optocoupler sensor by displaying the results on a computer. The hardware of this device consists of LDR sensor, microcontroller ATMega8535, K-125 and the computer or notebook. The software used is Bascom and Visual Basic 6.0. The light source used is LED red, green and blue. The working process of this tool is a LED light located on the left side of the tube captured by LDR which is across the LED. Then the output of the LDR is read by the microcontroller and then displayed as a percentage of brightness by a computer. Brightness value of red LED, green and blue are used to determine the value of the brightness representing palm oil by using grayscale. Yellow color on any cooking oil is different, the grayscale used to neutralize the oil color. So the color of the oil is considered to have the same color for all cooking oil palm. Using a grayscale value, can be determined the quality of cooking oil palm is the value of sample A is 59.307, sample B is 44.699 and sample C is 43.735. Through the grayscale value, sample A is palm cooking oil with the best quality compared to samples B and sample C.

Keyword : Brightness, Palm Cooking Oil, LDR Sensor and Grayscale.