

ABSTRACT

PROTOTYPE OF DESIGN OF A TOOL FOR COCONUT SUGAR SWEETNESS LEVEL IN MANUFACTURING FRIED GETUK BASED ON THE INTERNET OF THINGS

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Coconut sugar has a role that cannot be replaced by other types of sugar because it is a natural sweetener in food. As a maker of fried getuk, choosing quality coconut sugar and a good level of sweetness are important factors for producing quality fried getuk. Fried getuk is a food made from cassava which has a sweet taste. In general, fried getuk producers assess the quality of coconut sugar manually based on their experience and instinct. However, this method is not always accurate and can sometimes cause variations in the quality of the final product. Therefore, the producer of Getuk Goreng H.Tohirin needs tools to help in selecting good quality coconut sugar as a production ingredient. In designing a tool to detect the level of sweetness, a pH sensor is needed to detect the pH level in coconut sugar, a Turbidity Sensor to detect the level of turbidity in coconut sugar and a Photodiode Sensor to determine light intensity. These sensors will send the data entered into the Arduino Uno and NodeMCU to be sent to the cloud so that it can be displayed in the Android application. This research utilizes the observation method to obtain data, and uses the Rapid Prototyping method for system design and functionality testing. The results of this research show that the best quality sugar has a turbidity level range above 20 - 60 NTU with a normal pH level of 6-9 and the solution viscosity is at 2 volts with the conclusion that sugar sample 1 has adequate suitability standards for use in fried getuk production. and sugar sample 2 can be used as a substitute if sugar sample 1 is difficult to find.

Keywords: *Arduino Uno, coconut sugar, IOT, NodeMCU Esp8266, Rapid prototyping.*