

ABSTRAK

RANCANG BANGUN ALAT UKUR KADAR PATI UBI KAYU MENGUNAKAN *LOADCELL* DAN ARDUINO BERDASARKAN METODE *SPEKIFIC GRAVITY*

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Telah direalisasikan alat ukur kadar pati ubi kayu secara digital berdasarkan metode *specific gravity*. Alat dirancang menggunakan sensor massa *loadcell*, *Analog to Digital Converter* (ADC) HX711, pengolah data Arduino UNO, serta penampil data LCD dan *personal computer*. Prinsip alat ini menggunakan metode *specific gravity*, yaitu mengukur perbedaan massa ubi kayu di udara dan di air. Kadar pati ubi kayu dihitung dengan menggunakan persamaan kadar pati Sungzikaw oleh mikrokontroler Arduino dan ditampilkan pada LCD. Hasil pengujian menunjukkan alat mampu mengukur kadar pati ubi kayu dengan kapasitas maksimum 2,2 kg dan persentase kesalahan rata-rata sebesar 1,4515%.

Kata kunci: Kadar Pati, *Loadcell*, Arduino Uno.

ABSTRACT

DESIGN OF MEASURING INSTRUMENT OF CASSAVA STARCH CONTENT USING LOADCELL AND ARDUINO BASED SPECIFIC GRAVITY METHOD

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It has been realized an instrument for measuring cassava starch content digitally based specific gravity method. The instrument is designed using loadcell as mass sensor, Analog to Digital Converter (ADC) HX711, Arduino Uno as data processor, LCD, and personal computer. The principles of this instrument is using specific gravity method, which are based on differences of cassava mass in the air and in the water. Cassava starch content calculated using Sungzikaw equation by microcontroller Arduino and displayed on LCD. The result showed that the instrument capable measure cassava starch content with maximum capacity of 2,2 kg and average error percentage of 1,4515%.

Key word: cassava starch, loadcell, Arduino Uno.