

***Automatic Weighing System Design
On a Coconut Grater***

By

Cici Syntia

*Mechatronics Engineering Technology Study Program Engineering Department
Jember State Polytechnic*

ABSTRACT

Coconut is one of the main agricultural commodities in Indonesia which plays an important role in people's lives and contributes foreign exchange to the Indonesian economy. Along with advances in technology, many products have been created to make people's work easier, including coconut grater machines. However, conventional coconut grating machines generally only function for grating without an automatic weighing feature, which is an obstacle in industries that require high accuracy.

This research developed a coconut grater machine with an automatic weighing feature using a loadcell sensor, LCD to display weight, and a single-phase AC motor as a driver. Implementation of this system increases efficiency and productivity in the coconut grating process. With the ability to measure weight automatically and stop operation of the grater motor when the target weight is reached, this system reduces manual intervention and optimizes operational time. Based on the results of experiments on coconuts weighing 100grams to 500grams, the highest error percentage was found at a weight of 200grams with a value of around 8.35%, while the lowest error percentage was found at a weight of 500grams with a value of 0.32%.

Keywords: *Automatic Weigher, System Design, Coconut.*