EFFICIENCY ANALYSIS OF AUTOMATIC CASSAVA SLICING MACHINE TO IMPROVE PRODUCTION QUALITY

Salsabila Liandra Putri, S.KM., M.K.K.K., *As a Thesis Supervisor*

Rivaldi Ilham Maulana Apriliano

Mechatronics Engineering Technology Study Program

Enginering Department

rivaldiilhammaulanaapriliano@gmail.com

ABSTRACT

Cassava slicing is a crucial step affecting the quality of final products like chips. An automatic slicing machine was developed to replace the less efficient and inconsistent manual method. This study analyzes the machine's performance based on cutting time and slice thickness. Testing compared the automatic machine with manual slicing using a stopwatch, and caliper. The automatic machine sliced three cassava tubers in an average of 254.33 seconds, faster than the manual method's 511 seconds. Regarding slice thickness, the machine showed an average deviation of 0.0246 mm, significantly lower than the manual method's 0.3092 mm. These results indicate the automatic machine is more efficient and produces more consistent slices, showing potential as an appropriate technology solution in cassava processing.

Keywords: Cassava slicing, efficiency, slice thickness, single-phase motor, performance analysis