

ABSTRACT

Based on Imam Taufik's journal in 2018, during this time the process of stripping the coconut husk is still manual using a kitchen knife that is prone to injuring the fingers, besides the process also requires little improvement in patience and extra-high caution. Based on the description above, the author in conducting this final project research will create an automatic system to provide stripping of coconut husk. Technique. Reverse Engineering is a method for reproducing objects that already have dimensions, features, shapes, and properties of the object so that the data from the information collected must be product knowledge related to the system level, embodiment, and detail. then the selected design will be successful using the Finite Element Method. The finite element method is a numerical method which is the most widely used in the modeling process. The basic principle of the element method is to make the continuum replacement by infinity forming the mesh. Each geometry is simplified in a finite element to facilitate analysis of the actual structure. The object of this research is the existing ari skin peeling machine that supports the blade. The purpose of this study is to make a repair machine with a design design, calculate the lifetime of the blade and the results of stripping on the repair of the coconut husk stripping machine. Based on the results of data processing, 1 fruit requires $5,360e^{+8}$ Pa and with the pressure given the hardest is 0.11cm and the maximum stress received is $8.6200e^{+7}$ Pa so that the lifetime of the knife is 2777.78 working hours. By designing and downloading this has been created by making an actual machine.

Keywords: Reverse Engineering, Finite Element Method, 2D UVAT, speed, feed rate, dept of cut, lifetime and output