

Implementation of Soybean Ari Skin Peeling Machine to Improve Product Quality

Ir. Moch Irwan Nari, S.T., M.T. (*Thesis Advisor*)

Moch Dawan Afana

Mechatronics Engineering Technology Study Program

Engineering Department

ABSTRACT

The process of hulling soybeans is an important step in making tempeh that affects the final quality of the product. However, in most household industries, this process is still done manually, requiring a lot of time and energy and producing inconsistent quality. This research aims to design and implement an automatic soybean epidermis peeling machine to improve the efficiency and quality of tempeh production. This machine is designed using a single-phase electric motor as the main drive with a pulley and V-belt transmission system. The research method includes tool design, component assembly, functional testing, and machine performance analysis. The test results show that the machine is able to peel the epidermis of soybeans with high efficiency at a rotation of ± 280 rpm, and is able to reduce dependence on human labor. The implementation of this machine is expected to be an appropriate solution for small and medium enterprises (MSMEs), especially in the Gudang Karang Village area, Jember Regency, in increasing the productivity and quality of tempeh production.

Keywords: Soybean, Automatic, Efficiency, Tempe Production