

Modification of Vertical Type of Patchiculate Waste Collection Machine

ABSTRACT

This research aims to modify a vertical type patchouli waste chopping machine based on a structural and functional approach to the machine. The technical analysis used in this study was to the effective capacity of the machine, and the percentage of patchouli waste chopped. The results showed that the working capacity of the machine was greatest with a pulley size of 2.5 inches, the effectiveness of the engine performance was 2 kg/hour with a final weight of 0.5 kg, the time required was 0.25 hours. The rotational speed of the 2.5-inch pulley has an initial speed of 2,200 rpm and a final speed of 1,442 rpm, a 3-inch pulley has an initial speed of 2,200 rpm and a final speed of 1,171 rpm, and a 4-inch pulley has an initial speed of 2,200 rpm and a final speed of 856 rpm. The largest number of accommodated chopped results is in the 2.5-inch pulley size with an average yield percentage of 92%. The least percentage of stuck pieces is found in the 4-inch pulley with an average yield percentage of 17.8%. The smallest percentage of loss of pieces is found in the 2.5-inch pulley with a yield percentage of 0.4%.