ABSTRACT

DESIGN AND PERFORMANCE OF SKIN PEELER MACHINE WET COFFEE BEANS RUBBER ROLLER SYSTEM PRODUCTIVELY AND ERGONOMICLY

By
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One of the sub-process of coffee production is wet coffee processing. It is done to reduce the longer of drying time. So, it can minimize the growth of okhratoksin mushroom which can reduce the quality of coffee beans.

There are some steps in doing this research, as follow; the first, choosing peeler knife by using weighted rating method the second, using ergonomic and anthropometry value to find out dimension of the machine and choosing machine component. The third, attempting the machine performance. The fourth, calculating the breakeven point.

The results showed that the specification machine with the length of wall is 420mm, the width of leg machines is 610 mm, the width of the machine is 490mm, high machine is 1200 mm which is adjusted by measurement of Indonesian people anthropometric. Engine capacity with 600 kg / hour by moving the machine is an electric motor 1 phase and with rotation 1400 rpm. Transmission system used V-belt with diameter 32 mm could connect reduction gear and transmitted sprocket to the cylinder axis cylinder axis peeler paring. Cylindrical roller paring used natural rubber (natural rubber, NR) with cylinder angle 45° and knife distance 7mm . Construction pattern of 70mmx70mmx7mm corner profile and casing used 7mm thickness plat with AISI steel 1045 and 1015. Breakeven value of Rp. 17.288 with production volume is 432kg.

Keywords: Coffee, Ergonomic, Anthropometry, Natural Rubber, Steel AISI 1045 and 1015, Electrical motors