

**DESIGN, CONSTRUCTION AND EVALUATION
OF A ROTARY TYPE ONION SIZE
SORTING MACHINE**

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ABSTRACT

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This thesis entitled "Design, Construction and Evaluation of a Rotary Type Onion Size Sorting Machine" was conducted in the final year of study. It generally aims to design, construct and evaluate a rotary type onion size sorting machine, which has the ability to be easily transferred to areas where there is inadequate presence of manpower to perform the sorting operation.

The machine was composed of hopper, sieves, stand assembly, switch, electric motor, containers, wheel rollers and handle. It was constructed in such a way that it is operated by one or two persons.

There were two parameters used in the study, the sorting efficiency and the sorting capacity. The experiment was evaluated using 2 x 3 factorial design as it was evaluated in 2 different speed rotation of the sieve at 3 different sieve slope. The data were analyzed using Analysis of Variance (ANOVA) and Duncan's Multiple Range Test (DMRT).

The machine had a highest sorting efficiency of 78.44 % with a sorting rate of 3.25 kg/min.

The cost of construction of the machine was P43, 185.00.

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