COCONUT DEHUSKING MACHINE

Submitted by

ASHWIN M KAMATH	**4SN08ME008**
RAHUL R KAMATH	**4SN08ME038**
SANTHOSH P SALDANHA	**4SN08ME047**
V SUDHIR RAO	**4SN08ME054**

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Under the Guidance of

Mr. RAMESH KUMAR K R

SRINIVAS GROUP

SAMAGRA GNANA

DEPARTMENT OF MECHANICAL ENGINEERING

SRINIVAS INSTITUTE OF TECHNOLOGY

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Abstract

Generally, coconuts are dehusked manually using either a machete or a spike. These methods require skilled labour and are tiring to use. Attempts made so far in the development of dehusking tools have been only partially successful and not effective in replacing manual methods. The reasons quoted for the failure of these tools include unsatisfactory and incomplete dehusking, breakage of the coconut shell while dehusking, spoilage of useful coir, greater effort needed than manual methods etc.

The present work involved the design, development and testing of a coconut dehusker which overcomes the drawbacks of the previously reported implements. The design and developmental stages called for a closer look at the magnitude and direction of the dehusking forces and their generation mechanisms. Details of a simple, sturdy and efficient hydraulic dehusker unit, financially beneficial to labourers and producers, are given here. Comparative assessment of this unit in relation to those reported in the literature is provided. Test results and assessment of the present unit in both laboratory and field conditions are also reported. Safety aspects are incorporated. The unit can dehusk about 120 coconuts per hour compared with about 80 nuts per hour from a skilled worker using the spike method. It can be operated by unskilled labourers. Cost benefit analysis indicates that it should be commercially viable.