



A study on the comparative performance evaluation of different types of coconut dehuskers

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Abstract : Dehusking of coconut is a very tedious job and many of the labourers show reluctance for this work as it causes injury to them by following traditional method. Development of a suitable coconut dehusker is, therefore, very much important in the state Odisha where there is a great potential for coconut cultivation and marketing of commercial products from coconut husk. The present study was conducted at College of Agricultural Engineering and Technology, OUAT, Bhubaneswar to develop a power operated coconut dehusker suitable among the coconut growers of the state, Odisha and to compare its performance with other prevailing manually operated coconut dehuskers. It was observed that the number of nuts dehusked per hour, dehusking efficiency and cost of dehusking per nut in case of power operated dehusker were 300, 92 per cent and Rs. 0.10, respectively and 125, 83 per cent, Rs. 0.20 in case of hand operated dehusker, and 170, 85 per cent, Rs. 0.15 in case of pedal operated dehusker, respectively. The power operated dehusker was found to be safe to operate, easy to fabricate, commercially feasible and economically viable compared to other manually operated dehuskers.

Key Words : Coconut dehusking, Coconut dehusker, Copra, Coir, Dehusking efficiency

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INTRODUCTION

Dehusking is the process of removing the outer covering called husk from the coconut to get two important commercial products such as copra or dried kernel and fibre or coir. Copra yields oil and oil cake where as fibre produces carpets/mattresses and coir pith briquettes. Coconut shell obtained after dehusking is also a very useful industrial product to get coconut shell charcoal, activated carbon and coconut shell powder which have a good market value (Jacob and Bastian, 1998). Dehusking is, therefore, an important operation for coconut processing industry. The coconuts reaching markets are either partially husked or dehusked as per demand and requirement in distant markets. Coconuts meant for copra making are fully husked. Coconuts meant for distant market places are left with some fibres covering the eyes or on all around the nuts. Such partially husked coconut minimizes the

breakage during transportation and attains longer keeping quality. It is also observed that even when coconuts are fully husked, a tuff of husk is left at the end of the nut over the eyes as it is considered to be auspicious and believed to preserve the nuts from spoilage. It has been reported that about 20 per cent of the total coconut produced in Odisha are consumed as tender nuts and 5 per cent are retained by the farmers for household and seed nut purposes (Anonymous, 2007). About 42 per cent of the coconut produced is consumed in the state itself and 33 per cent are exported to the other states like Bihar and Madhya Pradesh where cultivation of coconut is not favourable. Hence, dehusking of coconut needs to be done not only to increase the bulk density for easy transportation but also to process quickly for industrial purposes. Mechanization of dehusking operation is needed in the state like Odisha as coconut is one of the most important plantation crops of the state. The area under coconut production in the

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