

## Performance evaluation of threshing of finger millet by traditional method

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**ABSTRACT :** The research was conducted on evaluation and testing of threshing methods for finger millet in the Department of Agricultural Engineering. Finger millet (*Eleusine Coracana* Craertn) commonly known as ragi is one of the important small millet crops grown in red soil areas of India. It is predominantly cultivated in southern parts of Karnataka. The crop occupies an area of 2.5 million hectares and contributes 2.6 million tonnes of grain in India. The process of seed damage starts right from harvest to storage. More mechanical damage occurs during threshing process. The threshing of crop for grain or seed is generally done by manual beating with sticks or passing stone roller drawn by bullock pair or tractor. These traditional methods of threshing are tedious time consuming and inefficient in operation. The experiment was conducted with the varieties of ragi MR1 and HR911, 3 types of traditional threshing methods were adopted, manual beating with the stick, passing a bullock drawn stone roller and passing a tractor drawn stone roller. These three methods of threshing were experimented at three different moisture content levels of ragi [around 18 to 19, 13 to 15 and 10 per cent (w.b.)]. Among three methods of ragi threshing studied, the tractor drawn stone roller method showed higher threshing efficiency of 91.3 per cent for variety MR1 and 86.9 for HR911. The threshing efficiency increased significantly with decrease in moisture content.

**KEY WORDS :** Finger millet, Stone roller, Threshing, Moisture content, Ragi varieties

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### INTRODUCTION

Finger millet (*Eleusine coracana* Craertn) commonly known as ragi is one of the important small millet crops grown in red soil areas of India. It is predominantly cultivated in southern parts of Karnataka. The average yield of the crop under rainfed conditions is about 10 q/ha and under irrigated conditions, about 25 q/ha. The crop occupies an area of 2.5 million hectares and contributes 2.6 million tonnes of grain in India. Its cultivation is concentrated mainly in the states of Karnataka (49%), Orissa (11%), Maharashtra (10%), Tamil Nadu (9%) and Andhrapradesh (7%), Karnataka stands first both in area (1.06 million ha) and production (1.5 million tonnes). Among

all states, Karnataka contributes 54 per cent to country's annual production.

The moisture content of the seeds varies from 10.9 to 40 per cent in a earhead of cereals at harvest time. Ragi can be harvested at 30 days after anthesis. Moisture content of the ear-head plays a key role in threshing operation and seed quality. Processing of ragi has assumed a great importance in the recent years. Therefore, minor injuries to the seeds lead to reduction in normal seedling establishment. The process of seed damage starts right from harvest to storage. More mechanical damage occurs during threshing process. The threshing of crop for grain or seed is generally done by manual beating with sticks or passing stone roller drawn by bullock pair or tractor. These traditional methods of threshing are tedious time consuming and inefficient in operation.

Hence, the present investigation was undertaken at the University of Agricultural Sciences, Gandhi Krishi Vignana Kendra, Bangalore during *Kharif* season to evaluate the various methods of threshing traditionally, to evaluate the threshing methods for ragi, such as manual beating with a stick, bullock drawn stone roller and tractor drawn stone roller, to study the

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