

## Efficiency of mechanical thresher over traditional method of threshing finger millet

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■ **ABSTRACT** : The research was conducted on efficiency of mechanical thresher over traditional method of threshing finger millet. Finger millet (*Eleusine Coracana* Craertn) commonly known as ragi is one of the important small millet crop grown in red soil areas of India. It is predominantly cultivated in southern parts of Karnataka. The process of seed damage starts right from harvest to storage. The traditional methods of threshing are tedious time consuming and inefficient in operation. The experiment was conducted with two ragi varieties (MR1 and HR911). Hence, mechanical threshing is a means to overcome the above problems. So as to evaluate the performance efficiency of mechanical thresher over traditional method of threshing finger millet and optimum threshing parameters for finger millet. Some of the important parameters which influence the threshing efficiency, mechanical damage, moisture content, threshing cylinder speed, feeding rate and concave clearance. The method of threshing was experimented at three different moisture content levels of ragi [around 18 to 19, 13 to 15 and 10% (w.b.)]. The mechanical ragi thresher has given the maximum grains output of 140.5 kg/h for variety MR1 and 130.3 kg/h for variety HR911 as compared to traditional threshing methods.

■ **KEY WORDS** : Finger millet, Rasp bar thresher, Stone roller, Moisture content, Ragi varieties

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**F**inger 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 average yield of the crop under rainfed conditions is about 10 quintals per hectare and under irrigated conditions its about 25 quintals per hectare. Its cultivation is concentrated mainly in the states of Karnataka (49%), Orissa (11%), Maharastra (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.

Moisture content of the ear-head plays a key role in threshing operation and seed quality. The traditional methods of threshing are tedious time consuming and inefficient in operation. Hence, mechanical threshing is a means to overcome the above problems. At present there is a little information available regarding the mechanical threshers and optimum

threshing parameters for ragi crop.

Hence, the present investigation entitled efficiency of mechanical thresher over traditional method of threshing finger millet (*Eleusine Coracana* Craertn) was undertaken at the University of Agricultural Sciences, Gandhi Krishi Vignana Kendra, Bangalore with the following objectives:

-To evaluate the threshing of finger millet by traditional and mechanical methods, to study the effect of different parameters on threshing output and efficiency in ragi threshing and to determine the optimum operating parameters to obtain maximum threshing output and efficiency.

### ■ METHODOLOGY

This chapter deals with the materials used and the methods employed in the experiment on evaluation and testing of threshing methods for ragi threshing with respect to grain moisture content output, threshing efficiency, damage, germination percentage and cost of threshing conditions.

The experiment was conducted with the varieties of ragi