

ERGONOMIC EVALUATION OF DEVELOPED PEDAL OPERATED MILLET THRESHER FOR THRESHING OF FINGER MILLET

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ABSTRACT

Millet is one of the oldest human foods and is important food for sustaining tribal population in Bastar region of Chhattisgarh. They are using traditional methods like manual beating on wooden platform and rubbing ear heads of finger millets etc. The traditional methods of threshing are inefficient in operation, low output, higher grain damage and involved more drudgery to the farmers. The result of this analysis is also employed to improve the performance of pedal operated finger millet thresher. Finger millet threshing was evaluated on the basis of physiological and psychological ergonomics parameters viz. Heart Rate, Blood Pressure, Energy Expenditure Rate, Total Cardiac Cost of Work, Physiological Cost of Work for estimation of fatigue. The average working heart rate (HR work) of the subjects threshed ranged between 116-129 beats/min. Energy expenditure rate (EER) was observed to be 14.00 to 17.8 kJ/min. The overall discomfort rating (ODR) of the respondents was found with a score of 3.2 ± 0.30 by using pedal operated millet thresher.

KEYWORDS: Finger Millet, Pedal Operated Millet Thresher, Traditional Method, Ergonomics