

Performance evaluation of finger millet de-stoning machine

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De-stoning of finger millet is an essential post harvesting operation. Finger millet seeds get contaminated with sand, straw, dust and other foreign matters, and removing sand from finger millet is a major problem faced by the finger millet processors. Small and large particles can be easily removed using different methods by sieving, winnowing and blowing. But removing particles of the same size of finger millet grains is the problem faced by the farmers. The performances were evaluated in terms of cleaning efficiency, machine capacity, power requirement and cost of production. Evaluation was based on three positions of blower adjustment; as fully closed, semi closed, fully opened and three passes one, two and three with constant inclination angle of the deck, deck oscillation frequency and feeding rate. The capacity of the machine was 120 kg/hr with a product recovery of 77%. The combination of three passes through the machine with semi closed blower opening showed the best performance and the cleaning efficiency and power requirement by this combination (semi closed and three passes) were 67% and 0.67 kW respectively. The operating cost of the machine was LKR 2.24 per kilogram of finger millet.

The objective of this study was to evaluate the performance of finger millet de stoner machine with a view of recommending it as a de stoner for the benefit of processors to enhance the product quality of finger millet. Finger millet is a valuable food for diabetic patients, due to slow digestion rate and high fibre content. Therefore different products of finger millet are available in the market.