EVALUATION OF PERFORMANCE OF COMPARTMENT TYPE PADDY SEPARATOR FOR DE-STONING OF FINGER MILLET

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Finger millet (*Eleusine coracana*) is a stable food of dry zone people and a popular food among diabetic patients because of its slow digestion rate and high fiber content. Of all major cereals, this is one of the most nutritious. Many processed products of finger millet are available in the market. Cleaning is an essential operation in post harvest processing of finger millet. The seeds of finger millet get contaminated by sand and stone due to the traditional method of harvesting used by most of the farmers in Sri Lanka. One of the major problems in the finger millet processing industry is the presence of sand in processed products. It is difficult to process and remove sand, since size, shape and weight of finger millet seeds are too close to sand particles. Therefore, it is impossible to accomplish cleaning using convectional method such as winnowing and sieving. The available de-stoners which are used for rice processing on the principle of specific gravity separation can be easily adapted to separate the foreign matters which are of the same size as the seeds. However, these machines are difficult to be used for finger millet processing without some modification because of the differences of paddy and finger millet seed. Compartment type paddy separator is already available at the Institute of Post Harvest Technology (IPHT) which is used to separate paddy from brown rice. It is required to determine the suitability of this machine for the finger millet processing. This study was under taken to evaluate the cleaning efficiency, grain separation efficiency, output capacity and power consumption of this machine for finger millet. Evaluation was conducted with two main adjustments, inclinations of the separation table and oscillation speed with constant impurity level. Results indicated that 100% cleaning efficiency, 85.59 % separation efficiency and 635.9 kg/hr machine

capacity would be achieved by having machine adjustments as level 1 on speed scale and level 3.5 on inclination scale which is the best compared to others. Compartment type paddy separator is suitable for de-stoning of finger millet under the above adjustments.

Key words: Compartment type paddy separator, Finger millet, De-stoning