

Engineering Properties of Certain Minor Millet Grains

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ABSTRACT

The millet grains are being stored and processed at various levels. Yet, modern processing mills are not available sufficiently for minor millets as in the case of major cereal crops. This necessitates the need of designing and development of various equipment required for millet grain storage and processing, for which study of engineering properties of grains is essential. A study was conducted to determine the engineering properties *viz*; moisture content, thousand kernel weight, seed volume, bulk density, true density, porosity, sphericity, surface area and angle of repose for proso millet, kodo millet, foxtail millet, little millet and barnyard millet. Thousand kernel weight for kodo millet was found to be higher (5.74 g) and for barnyard millet it was the lowest (3.08 g). Porosity was higher in little millet (51.74 %) while it was lower (29.01 %) in kodo millet. Grain hardness varied from 20.99 N for proso millet to 47.56 N for kodo millet. Sphericity which is an important feature of the grain to be considered while designing graders ranged from 0.584 for little millet to 0.760 for kodo millet. Thus, this study provides essential information to agricultural and food engineers for designing processing machinery, handling and storage systems for minor millets.

Key words: *Engineering properties, Minor millets.*