

Title Physical and mechanical properties in rice processing
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Abstract

The machinery and operations when improperly designed may generate rice kernel cracking and breakage and consequently a low marketing price. The objective of this work was to determine the influence of the rice processing operations on physical and mechanical properties of different rice varieties. Three varieties of rice, rough, brown and milled, were used in this work. The bulk densities of all varieties increased with processing up to 51% and there were differences among the varieties; the rice grain specific gravity was influenced neither by the processing nor by the varieties. The processing influenced the porosity of the bulk rice grains; the external static and dynamic friction coefficients were reduced. The higher friction coefficient values were observed on wood surface and the lowest on steel surface; the compression force needed to promote the rice kernel collapse was affected significantly by the processing.