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SOME MOISTURE DEPENDENT PHYSICO-MECHANICAL PROPERTIES OF FLAXSEED (VAR. GARIMA)

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ABSTRACT : The effect of moisture content on some physico-mechanical properties of flaxseed (var. Garima) was determined at five levels of moisture content ranging from 3.2-17.1% d.b., to facilitate the design of machines for its processing. The length, width and thickness increased linearly from 4.94-5.02 mm, 2.50-2.66 mm and 0.89-0.94 mm, respectively with increase in moisture content. Sphericity, geometric mean diameter, surface area and unit volume of the seeds showed a linear increase with the increase in moisture content. In the same moisture range, true density increased linearly from 1005.8-1111.65 kg/m^3 whereas bulk density decreased linearly from 680.11-616.22 kg/m^3 with increase in moisture. A linear increase in porosity, thousand seed mass and angle of repose was observed while the rupture force, deformation and energy absorbed decreased linearly with increase in moisture content. It was observed that static coefficient of friction increased linearly on plywood, aluminium, galvanized iron, and mild steel surfaces from 0.413-0.727, 0.381-0.710, 0.402-0.657 and 0.499-0.871, respectively.

Key Words: Flaxseed, *Linum usitatissinum*, physical properties, moisture content, angle of repose.