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Abstract

The physical properties of sunflower seeds (*Helianthus annuus* L.) were determined as a function of moisture content in the range of 10.06-27.06% dry basis (d.b.). The average length, width and thickness were 7.79, 7.12 and 4.18 mm, at a moisture content of 10.06% d.b., respectively. In the above moisture range, the arithmetic and geometric mean diameters increased from 6.37 to 8.05 mm and from 6.15 to 7.93 mm, respectively, while the sphericity decreased from 0.789 to 0.835. In the moisture range from 10.06-27.06% d.b., studies on rewetted sunflower seeds showed that the thousand grain mass increased from 66 to 70 g, the true density from 885.00 to 902 kg m⁻³, the porosity from 53.06 to 54.93% and the terminal velocity from 4.07 to 4.57 m s⁻¹. The bulk density decreased from 415.40 to 406.56 kg m⁻³ with an increase in the moisture content range of 10.06-27.06% d.b. The static coefficient of friction of sunflower seeds increased linearly against surfaces of six structural materials, namely, rubber (0.55-0.65), aluminum (0.50-0.57), stainless steel (0.49-0.56), galvanized iron (0.53-0.59), glass (0.41-0.45) and MDF (medium density fiberboard) (0.43-0.48) as the moisture content increased from 10.06-27.06% d.b.