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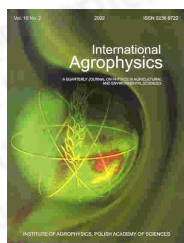
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Physical and mechanical properties of soybean

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abstract The physical and mechanical properties of soybean were determined at 8 to 16% moisture content. In this moisture range, grain length, width, thickness, arithmetic average diameter and geometric average diameter increased from 7.24 to 8.19, 6.79-7.12, 5.78-6.23, 6.60-7.18, 6.57-7.14 mm, respectively. The volume of grain and area of grain surface increased linearly from 130.97 to 160.32 and from 125.46 to 144.39 mm², respectively. The sphericity, bulk density, true density and porosity decreased linearly from 0.91 to 0.87, 766.12-719.00, 983.33-905.67 kg m⁻³ and 22.58 to 20.61%, respectively. The angle of internal friction increased linearly from 27.37 to 31.81° with the increase of moisture content. The static coefficient of friction increased from 0.385 to 0.571, 0.304-0.441 and 0.164-0.286 for concrete, wood and galvanized steel surfaces, respectively.

keywords soybean, physical properties, moisture content, angle of internal friction

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