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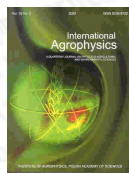
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abstract An investigation into the Poisson's ratio and elastic modulus of African nutmeg as a function of moisture content and loading rate was carried out. Quasi-static compressive tests were conducted at moisture levels of 8, 11.2, 14, 17.4 and 28.7% (d.b.) in an axial loading orientation. Both unit lateral extension and unit normal compression values were determined. Average values of 0.512 to 0.275 were obtained for moisture levels of 8 to 28.7%, respectively. Effects of loading rates were also investigated and results show that Poisson's ratio increased from 0.136 to 0.334 at loading rates of 1 and 7 mm min⁻¹, respectively. Elastic modulus was observed to decrease as moisture increased. Average values of 201.5 to 41.30 N mm⁻² were noted for moisture levels of 8 to 28.7%, respectively. A similar negative trend was observed with loading rate. These finding could therefore be useful in predicting the load deformation behaviour of African nutmeg.

keywords African nutmeg, Poisson's ratio, elastic modulus, moisture content