

# **Evaluation of Varietal and Moisture Content Effect of Some Cowpea Varieties (*Vigna Unguiculata (L) Walp*) on their Bulk Density, Particle Density and Porosity**

Thomas A. Adegbulugbe<sup>1</sup> & Olugbemi A. Olujimi<sup>2</sup>

<sup>1</sup> Agricultural Engineering Department, Federal College of Agriculture, Institute of Agricultural Research & Training, P. M. B. 5029 Ibadan, Nigeria Email: [taadebulugbe@yahoo.com](mailto:taadebulugbe@yahoo.com)

<sup>2</sup> Data Processing Department, Research and Marketing Services Limited, 26, Odozi Street, Ojodu, P. O. Box 8225, Ikeja, Lagos Nigeria Email: [oolujimi@rms-africa.com](mailto:oolujimi@rms-africa.com)  
[olugbemijimi@yahoo.com](mailto:olugbemijimi@yahoo.com)

Effect of genotypic characteristics known as varietal effect in some widely accepted locally bred cowpea varieties (TVX 3236, Ife Brown and IT81D-994) at various moisture levels on their bulk density, particle density and porosity were investigated on. Results obtained through the analysis of variance and Duncan multiple range test shows that varietal effect of these cowpea was significantly different on these physical properties ( $P < 0.001$ ). Same significant effect was also observed on moisture content effect of these cowpea on their physical properties. Ife Brown Cowpea variety produced highest significant effect on particle density and porosity. Though, TVX 3236 produced the highest significant effect on bulk density. This study further shows that bulk density decrease linearly with increase in moisture level of these cowpea, but higher moisture levels, produced higher value of porosity. All these are essential for the fabrication of harvesting and processing machines of these cowpea breeds.