

# **Studies On Physical Characteristics Of Briquettes Prepared From Maize Cobs**

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## **ABSTRACT**

In this study, physical properties of briquettes made from maize cobs was evaluated. The physical properties namely compressed density, relaxed density, relaxation ratio, water absorption, shatter resistance, moisture content, compressive strength were evaluated by standard procedures. A high pressure briquetting machine operated at 118 MPa was used to produce maize cob briquettes. The obtained value of bulk density of milled maize cobs before briquetting was  $313.3 \text{ kg m}^{-3}$ . The moisture content of briquette was 12.93%. The compressed density and relaxed density of briquettes was 821.02 and  $850.82 \text{ kg m}^{-3}$ . The shatter resistance, water absorption of maize cob briquettes were 62.36 and 166.66% respectively. The compressive strength of briquette was 53.61 kPa. It was noted that the change in dimensional stability of briquette in longitudinal direction after 3 days, 5 days, 7 days and 20 days were 1.30 %, 1.67%, 0.42% and 0% respectively. The change in dimensional stability of briquette in diametral direction after 3 days was 5% and no change in stability after 3 days to 20 days. It was concluded that diametral expansion was more compared to longitudinal expansion after 3 days of briquettes production. This results showed that maize cob briquettes was feasible and are environmentally friendliness.