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Effect of speed, die sizes and moisture contents on durability of cassava pellet in pelletizer

Oduntan O.B., Koya O.A.

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[fulltext]

The effect of pre-processing conditions such as speed, die sizes and moisture content on durability of cassava flour was investigated. Densification of cassava flour was done by pelletizing the flour through die and it is necessary to determine optimum conditions for designing and constructing a suitable processing plant. The flour was mixed with water at different blend ratios to form cassava mash of different moisture contents. The pellet quality was evaluated in terms of the durability of the pellets against the moisture content of the mash (18, 20 and 22% w.b.), die size (4, 6 and 8 mm) and the screw speed (90, 100 and 120 rpm). Test results showed that maximum durability of 84.437% was recorded at 20% (w.b.) moisture content using 4 mm die and low durability of 61.26% with using 8 mm die at 18% (w.b.) moisture content. The durability result shows that it decreased with

increase in die size. Statistical analysis revealed that the die size had significant ($P \leq 0.05$) effect on the durability.

Keywords:

cassava; pre-processing; densification; mash; screw speed

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