

Effect of different grades on physical and mechanical properties of popped makhana

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SUMMARY :

Makhana (*Euryale ferox*) is store house of the nutrition and commonly used as dry fruit in India. Makhana is mainly sold and marketed in the popped or puffed form. To develop any kind of mechanized system for processing the knowledge of physical and mechanical properties is desired. These properties will be useful for designing and development of processing equipment. The different physical and mechanical properties were determined at two moisture levels *i.e.* 4 per cent and 12 per cent using standard methods. As the moisture content increases the physical characteristics (Length, width, thickness, D_a and D_g) and gravimetric characteristics (sphericity, aspect ratio, surface area and volume) of all the grades increases linearly. The negative relation was observed with geometrical characteristics. Major variations were also observed in angle of repose and co-efficient of static friction at different grades and moisture levels. The result concludes that different grades and variation in the moisture level affects almost all the physical and mechanical properties significantly ($p < 0.05$).

KEY WORDS : Makhana, Popped makhana, Physical properties, Mechanical properties

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