



STUDY ON THE AERODYNAMIC AND DIMENSIONAL PROPERTIES OF CORN USED TO OBTAIN BIOFUEL

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ABSTRACT

The study focuses on the determination and evaluation of aerodynamic and dimensional characteristics of Pioneer P9911 maize seeds, important for post-harvest operations. Measurements of 320 seeds from eight maize ears were used to calculate geometrical mean dimensions and aerodynamic features. At a moisture content of 14% the thousand seed weight was 360 g and hectolitre mass (HLM) of 79-84 kg/hl. Seeds average dimensions for length was 13.08 mm, width of 8.61 mm, and thickness of 5.18 mm. The results show 98.30% of seed dimensions fell within three standard deviations (STD) of the mean interval. The calculated terminal velocity of 14.53 m/s and experimental value of 16.5 m/s are above literature references. These findings offer valuable insights for configuring machinery in grain conveying, sorting, and cleaning processes.
