

Development and Evaluation of a Batch type Maize Dryer

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Institute of Post Harvest Technology, Jayanthi Mawatha, Anuradhapura, Sri Lanka.

Drying of maize is done by spreading it directly on ground or on mats and allowing to sun dry. Drying time is depending on the weather conditions. The main disadvantage of this method is contamination of the product with dust, dirt and other air born impurities. Also contamination occurs due to stray animals. During cloudy weather, drying cannot be accomplished within one day and has to be prolonged for several days, thus leading to microbial and chemical spoilage and deteriorate in product quality. However, there is no presently available dryer for drying maize in Sri Lanka. Therefore, a study was undertaken to develop a suitable dryer for drying maize cobs which would preserve its quality and substantially increase farmers' incomes. It was observed that the developed dryer can be used to dry 1000 kg of maize cobs containing moisture 26 - 33.7% (w.b) to moisture content 13% that suit to store within 15.5-26.6 hrs and relevant cost of drying per kg of maize was 1.9 - 2.68SLR. The average drying air temperature was 46°C. Fire wood was used as the fuel and the requirement of fire wood was 12kg/hr.