A Review on the Drying Kinetics of Common Corn (*Zea Mays)* Crops

Mariam Anjela A. Jajurie[1], Kristel Ann P. Javier[1], Carl Ethan S. Mesina[1], Mary Andrei R. Pascual[1], Rugi Vicente C. Rubi[1] *, Allan N. Soriano[2]

[1]Chemical Engineering Department, College of Engineering, Adamson University, 900 San Marcelino St. Ermita Manila, Philippines
[2]Chemical Engineering Department, Gokongwei College of Engineering, De La Salle University, Manila, Philippines

ABSTRACT

The incorporation of drying technology in the production of agricultural products to address food demand has been known to have beneficial effects in terms of quality and profitability. Common corn crops (*Zea Mays*) such as sweet corn, wild violet corn, waxy corn, white corn, purple corn, and young corn are types of cereal grains that typically undergo a drying process to produce a wide variety of food products. The drying process is important in maintaining the quality and prolonging the shelf life of crop products. Thus, drying kinetic research studies on common corn crops are necessary due to the significance of drying parameters in drying operations and are vital in the process that influences corn drying rate substantially. In this review article, the role of different process parameters like airflow and temperature, relative humidity, sample size preparation, and initial moisture content is presented. In addition, the investigation of the different drying kinetic mathematical model equations such as the Weibull and Peleg model, Midilli Kucuk model, Page and Modified Page models were studied to give a basis for design parameter evaluations. Finally, this review article aims to bring a better understanding for both researchers and scientists on how drying technology can be utilized in food manufacturing.

Keywords: *Maize, drying kinetics, model equations, drying technology, drying parameters*