Abstract

Bulk maize cobs were stored in cribs in Barisal, Bangladesh in 1998 with an initial moisture content of 38% (db) and in 1999 with an initial moisture content of 40% (db) and dried to 16.10% and 18.32% respectively by natural air. The observed air temperature and grain temperature was found to be almost same. A mathematical model was developed to simulate the drying of maize in crib and the model consists of three sets of partial differential equations—mass balance equation, drying rate equation and energy balance equation. The equations were solved by numerical techniques with respect to time and positions, the width of crib being considered as a series of thin layers. The model was validated with the experimental data. Good agreement was found between the simulated temperature and moisture content both in 1998 and 1999.