

Moisture Sorption Isotherm of Nigerian Millet at Varying temperature

AJISEGIRI E. S. ; SOPADE P. A. ;

University of Maiduguri, Department of Agricultural Eng., Maiduguri, NIGERIA

Abstract

Moisture sorption characteristics of millet at 20°C, 25°C and 40°C were studied over a range of water activity 0.10-0.98. A static gravimetric method was employed and five sorption models were used in the analysis. At the same water activity, moisture adsorbed or desorbed reduced with temperature. The Chung-Pfost model gave the best fit to the experimental data with or without coupling the temperature effect.

Keywords: Gravimetric analysis; Mathematical model; Water activity; Temperature; Water; Sorption; Isotherm; Cereal; Millet