

Title Low-temperature, low-relative humidity drying of rough rice
Author George O. Ondier, Terry J. Siebenmorgen and Andronikos Mauromoustakos
Citation Journal of Food Engineering, Volume 100, Issue 3, October 2010, Pages 545-550
Keywords Low-temperature; Equilibrium moisture content; Rough rice; Drying rate; Head-rice yield; Quality

Abstract

The use of low air temperatures (26–34 °C) and relative humidities (19–68%) to dry thin-layer samples of rough rice to the desired 12.5% moisture content was investigated. Drying rates and durations and their effects on the quality parameters of head-rice yield, color, and pasting viscosity of long- and medium-grain rice cultivars harvested at 19.6% and 17.5% moisture contents, respectively, were determined. Results showed that dehumidification of the drying air had greater potential for increasing drying rates at 26 °C than at 30 and 34 °C. Low drying air temperatures and relative humidities had no adverse effects on head-rice yield or color compared to controls. Peak and final viscosities of low-temperature and low-relative humidity dried samples were similar to controls.