

Title Low temperature low relative humidity drying of rough rice
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Citation Thesis, Master of Science (Food Science), University of Arkansas. 116 pages. 2008.
Keywords rice; drying

Abstract

With the increase in production capacity by rice farmers, the rice industry must find faster, more efficient and economical ways of drying rough rice without adversely affecting product quality. Low temperature/low relative humidity drying shows potential to dry rough rice uniformly across the bed utilizing low drying temperatures (26-34°C) and relative humidities (19-68%). Using a Parameter Generation and Control Chamber (PG&C), drying rates and duration, head rice yield, degree of milling, color, and pasting viscosity of both long- and medium-grain U.S. rice cultivars at harvest moisture content of (15.8-22%) were investigated. Changes in relative humidity were found to have a greater influence on the drying rates and duration at lower temperatures (26°C) than at higher temperatures (34°C). Head rice yield, degree of milling, and color of the dried samples was found to be dependent on the final moisture contents, and not the drying conditions of temperature and relative humidity. High peak and final viscosities were found for all the drying conditions.