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Effect of Temperature and Moisture Content on Wa Coefficients in Rice Starch/Water Mixtures

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For simulating the process of cooking rice grains or rice starch-rela knowledge of the water diffusion coefficient as a function of tempe content is essential. Unfortunately, however, little reliable published this paper, the water diffusion coefficient (WDC) in rice starch/wat selected moisture content was measured by PFG-NMR over a ran WDC in a heated sample (0.42-0.89 g H_2O/g sample), which was 90°C for 60 min and cooling in advance, was measured over the te

C, and that in a non-heated sample (0.465-0.55 g H_2O/g sample)

C. The correlations between WDC and temperature as well as bet
moisture content were examined, and some empirical equations we
the estimation of the WDC at an arbitrary combination of temperat
was enabled.

Keywords: starch, rice, diffusion, NMR, gelatinization, water cont
dependence

[PDF (303K)] [References]

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