

Gelatinization of Rough Rice Using Far- Infrared (Fir) Radiation

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ABSTRACT: *Gelatinization of rough rice is an important unit operation in the rice parboiling process. The possibility of applying far-infrared (FIR) radiation for gelatinization of rough rice was investigated in this study. The soaked rough rice was exposed to FIR radiation at 5 s intervals up to 30 s and moisture content, degree of gelatinization & color of rice were measured. The moisture content of rough rice immediately after exposing to FIR radiation was in the range of 27.8 ± 0.1 - 21.4 ± 0.6 % and it decreased with the increase of exposure time. The degree of gelatinization increased with exposure time and was in the range of 20.51% and 100%. The optimum degree of starch gelatinization of 40% was achieved in an exposure time of 20 s. The yellowness index was in the range of 21.95 – 34.54. The lightness (L^*) of soaked rough rice exposed to FIR radiation was decreased with time from 60.30 to 52.72.*

Keywords: *Drying, infrared radiation, paddy, parboiling, rough rice*

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