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## Characteristics Changes of Floury-type Rice depending on Water Immersion and Heat Treatment Time

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### [Abstract]

In the production of rice flour, wet milling is a method of milling rice after soaking it in water, and it takes a lot of time and cost from milling to drying. To overcome this problem, the floury type rice was developed for dry milling and it is known to have round starch granules, low content of damaged starch after milling, and a starch structure similar to wheat. Because of its unique properties different from normal rice, it is necessary to research on processing and characteristics of floury-type rice to expand its utility in the food industry. Therefore, this study aimed to prepare the pregelatinized floury type rice (Baromi2) by autoclave and investigate their physicochemical properties. As the heat treatment time increased, the brightness decreased from 83.8 to 76.8, however, both redness and yellowness increased from 0.57 to 4.5 and from 14.58 to 21.13, respectively. Despite of same treatment time, soaking in water (10 min) before autoclaving increased the solubility and swelling power of Baromi2 over 2 times. The peak viscosity of native Baromi2 was over 2000 RVU, on the other hand, there was a significantly decrease to less than 1000 RVU of pregelatinized Baromi2. Heat treatment without immersion caused partial gelatinization of starch, resulting that some starch granules maintaining their integrity. Whereas there were no starch granules in heat treatment with soaking in water due to complete gelatinization. This study would be helpful to the suggestion of using heat-treated floury-type rice as an intermediate material in the food industry in the future.

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