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Quality characteristics of Tteokbokki (Rice Cake) depending on cultivars and particle sizes of dry-milling rice flour

Eun-Ju Song, So-Ra Choi, Young-Eun Song, In-Sok Lee, Ki-Kwon Lee

Division of Agri-food Development, Jeollabuk-do Agricultural Research & Extention Services, 413 Seodong-ro, Iksan, Jeollabuk-do, Republic of Korea, 54591

Abstract

This study was examined to establish a conditions for producing *Tteokbokki* using dry-milling rice flour which can save manpower and labor time. Since the cost of producing rice flour milled in a wet condition is 500 to 700 won/kg, which is more than twice as much as that of 300 won wheat flour, it is necessary to directly make rice flour from raw rice. The dry-milling rice flour used in the experiment was produced by Air mill (Nara machinary co. ltd., Tokyo, Japan) from 5 rice cultivars *(Samkwang, Dasan-1, Boramchan, Seolgaeng, Hanareum-2)*, which were cultivated in A-san in 2015 year. Their particle sizes were 50, 100 and 150 μm for each cultivar, respectively. A control was a wet-milled rice flour milled with a roll mill after the rice was soaked in water for 4 hours. The moisture content of dry-milling rice flour based on cultivars was 11 ~ 12%, and added water up to 50 ~ 55% of dry-milling rice flour weight. The RVA characteristic of peak viscosity was the highest in *Dasan-1* and *Hanareum-2*, the lowest in *Seolgaeng*. The setback value used as an indicator of aging was the highest in *Dasan-1*, therefore *Dasan-1* was expected to be quick solidification, resulting in the low tendency of sensory evaluation. The damaged starch was high in *Dasan-1* and *Boramchan* ($p<0.05$) compared to others. The Hunter color L were no significant among cultivars and b value increased in all cultivars of dry-milling rice flour compared with control. The hardness of dry-milling rice flour was higher than that of the control, especially *Dasan-1* and *Hanareum-2* were the highest. Based on the sensory evaluation, the best cultivars were *Boramchan, Hanareum-2* and *Samkwang*. The overall preference of dry-milling rice flour was good in particle size of 50~100um.

Keywords: Dry-milling rice flour, Cultivars, Particle size, Tteokbokki

Corresponding author*
Eunju Song
Address 413 Seodong-ro, Iksan, Jeollabuk-do, Republic of korea, 54591
Tel and Fax 82-63-290-6042, 82-63-290-6059
E-mail mzssong@korea.kr