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Change of Physicochemical Characteristics of Aromatic Rice (Sibrihyang) according to Mixing Ratio

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[Introduction]

The aromatic rice which is characterized by the flavor of popcorn-like when cooked rice, and its consumption has been recently increased. The new aromatic rice cultivar, Sibrihyang, was bred from Jeonbuk ARES. It is necessary for the basis data to develop rice products used Sibrihyang for increasing its consumption. For this reason, first of all, it was to investigate the physicochemical characteristics to select proper mixing condition considering buying price and consumer's preference on aromatic rice, etc.

[Materials and Methods]

The aromatic rice, Sibrihyang, and milling rice used in this study are purchased from Daeya Rice Process Complex in Gunsan. The mixing ratio of the aromatic rice on samples was set as 0, 10, 30, 50, 100%. The content of moisture, crude protein and crude lipid of the rice according to mixing ratio were analyzed by AOAC method, kjeldahl method and soxhlet extraction method. Also, The pasting properties, and texture properties of the rice according to mixing ratio were analyzed by rapid viscosity analyzer, and texture analyzer, respectively.

[Results and Discussions]

The content of moisture and crude protein of the aromatic rice with different mixing ratio was ranged from 13.97 to 14.45%, and from 6.82 to 6.91%, respectively. The crude lipid of the aromatic rice with increasing mixing ratio was decreased from 0.49% to 0.36%. Also, the whiteness of the aromatic rice with increasing mixing ratio was ranged from 40.48 to 41.35. The water adsorption index and water solubility index for the mixing aromatic rice were higher at 80°C than those of at 50°C. The swelling power of the mixing aromatic rice was increasing with the higher temperatures. The peak viscosity, trough viscosity, final viscosity, setback, and pasting temperature with the increasing mixing ratio of the aromatic rice in pasting properties were increased, respectively. The hardness and the adhesiveness of the aromatic rice with the increasing mixing ratio after cooking the rice have a tendency to decrease. In the future, it will be to select the final mixing ratio by conducting flavor component (2-AP) analysis as well as physicochemical properties according to the mixing ratio.

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