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Physicochemical and Functional Properties of *Glechoma hederacea var. longituba* NAKAI

Deokjo Jo* and Joong-Ho Kwon.
Department of Food Science and Technology, Kyungpook National University

This study was performed to investigate physicochemical and functional properties of *Glechoma hederacea* leave (MC: 9.17%) in consideration of its potential use as food material or medicinal herb. The proximate chemical compositions were 20.38% in protein, 3.96% in fat, 59.58% in carbohydrate, 15.78% in ash, 5.36% in reducing sugar, 14.11% in total sugar, and 0.26% in polyphenol on a dry basis, respectively. Free sugars were mainly composed of glucose, fructose and sucrose. In fatty acids compositions, linolenic acid showed the highest concentration of 45% and the ratios of saturated to unsaturated fatty acids were 1:1.91. Seventeen kinds of total amino acids were determined, with the highest concentration (2,465.713 mg%) of glutamic acid. Among free amino acids, proline showed the highest concentration (260.085 mg%), followed by glutamine, α-aminoadipic acid, glutamic acid and valine. The contents of major minerals were 647.32 mg% in Na, 597.53 mg% in K, and 239.75 mg% in Ca. Antioxidative activity of 10% water extract was similar to that of 50 ppm-tocopherol, and nitrite scavenging ability reached the maximum at pH 1.2 and the minimum at pH 6.0.

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Rheological Properties of *Kochujang* as Affected by the Particle Size of Hot Pepper Powder

Sun-Mee Lee*, Yoon-Hyuk Chang, Yoon-Hwa Jeong[1] and Byoungseung Yoo. Dept. of Food Science and Technology Dongguk Univ., [1]Dept. of Food Science and Nutrition Dankook Univ.

The steady and dynamic shear properties of traditional *kochujang* containing different particle size of hot pepper powder were evaluated. *Kochujang* samples were highly shear-thinning behavior (n=0.25-0.27), and their magnitudes of consistency index (K) and apparent viscosity ($\eta_{a,20}$) increased with decrease in average diameter of hot pepper powder. Magnitudes of the yield stress from the vane method were much higher than those from Casson model. The yield stress increased significantly with decrease in particle size. Apparent viscosity of *kochujang* sample obeyed the Arrhenius temperature relationship. The magnitudes of activation energy (Ea) of *kochujang* samples were in the range of 9.94-13.77 kJ/mole. The decrease in Ea was more pronounced at smaller particle size. Storage (G') and loss (G") moduli increased with the decrease in particle size of hot pepper powder.