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Determination of Mineral Contents in Korean Domestic Unpolished Rice and Bean Samples by Neutron Activation Analysis

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As scientists have focused their researches on the health impacts caused by mineral nutrient deficiencies and hazardous elements, public concern regarding mineral intake from dietary food is rising. For this reason, the dietary habit of Koreans has shifted from white rice to more nutritious rice like unpolished rice and rice mixed with beans. The objectives of this study were to determine the mineral contents in unpolished rice and bean samples and to compare the level of mineral contents between the analyzed samples. Four kinds of unpolished rice and three kinds of beans were chosen as the target samples and seventeen mineral contents, Al, As, Br, Ca, Cl, Co, Cr, Cs, Cu, Fe, K, Mg, Mn, Na, Rb, Se, and Zn were determined by a neutron activation analysis. K shows the highest values among the analyzed elements from unpolished rice and bean samples. Only As in the unpolished rice samples shows higher contents than that in the bean samples. Ca, Cu, Fe and K in the unpolished rice are 8-times higher than those in the beans. Mg and Zn in the unpolished rice are slightly higher than those in the beans. Additionally, these results were compared with mineral contents in white rice

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