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Determination of some metals in the processed durian seed powder containing chocolate aroma

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Durian is a tropical fruit with seeds which are usually discarded after consumption of the flesh. The seeds are round in shape; the color range from yellowish brown to reddish brown. We reported earlier that the processed seed powder of underutilized durian (*Durio zibethinus* Murr.) seeds contains chocolate odor active compounds which produce chocolate aroma. In this study, we analyzed some metals in the processed seed powder to determine the nutritional metal content in seed powder since it has not been reported in literature and to examine whether a loss in the metal content occurs during fermentation process. Durian seeds were fermented (FDS) and dried (DDS) to produce two types of seeds and they were roasted to produce the processed seed powder samples from each type. The samples were subjected to dry ashing followed by acid digestion for the evaluation of the minerals and trace elements of the processed seed powder of durian seeds by atomic absorption spectroscopy (AAS). The metal analysis was carried out for both DDS and FDS powders considering DDS powder as the control. The method was validated using the spiking technique. The calculated recovery percentages of selected minerals and trace elements were within 80-110%. Analysis of durian seed powder samples by AAS revealed the presence of metals; K (3.48±0.06), Na (2.33±0.04×10-1), Ca (2.39±0.05×10-1) mg/g and trace elements; Cu (8.27±0.05×10-3), Fe (8.62±0.07×10-3) and Zn (6.67±0.04×10-3) mg/g. The mineral content determined in the durian seed powder is higher when compared to the previously reported content in the durian flesh. A significant difference was not found in the metal contents between DDS and FDS powders illustrating that the metal loss is negligible during fermentation.

Keywords: Durian seed powder, Seed processing, Metal analysis

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