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Changes in chemical composition of *Vateria copallifera* (*Hal*) seeds during the traditional debittering process

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Vateria Copallifera is a valuable endemic herbal plant which belongs to the family of *Dipterocarpaceae*. Usage of *Hal* bark is abundant as a natural preservative and debittered *Hal* seeds are utilized for food processing as a healthy food source. Since *Hal* seeds contain a bitter taste, the traditional practice of removing the bitter taste is, packing scraped seeds in a jute bag and then placing the bag in a running water stream for at least overnight. Therefore, in this study changes of chemical composition occurred during the traditional debittering process was investigated. Freshly scraped *Hal* seeds were packed in jute bags and placed it in an artificially formulated running water stream (Stream velocity was 69.16 ml/sec) for 12 hours. Freshly scraped *Hal* seeds and de-bittered *Hal* seeds were used for the analysis of chemical composition. Standard methods were used to determine moisture content, carbohydrate content, total mineral content, protein content, fat content and crude fiber content. Changes in minerals, fatty acids, starch, sugars were determined by using, ICP-OES, GC-MS, spectrophotometry and HPLC methods respectively. According to the results, reduction percentages of carbohydrate content, ash content, fat content and crude fiber content were (15.5%), (0.84%),(1.07 %) and (0.92 %) respectively during the traditional de-bittering process. However, no change in protein content (4.025±2.89 g/100g) in between de-bittered and fresh *Hal* seeds was assessed. Results of the fatty acid profile showed that, fresh *Hal* seeds contain mainly, oleic acid (36.93%) and palmitic acid (29.74 %) and they were reduced up to 31.56 % and 20.10 % respectively during the de-bittering process. Total starch content was reduced by 0.09 % and amylose content was reduced by the same percentage. Only Sucrose (0.7%) was determined by HPLC in fresh *Hal* seeds and none of the sugars were detected in the de-bittered *Hal* seeds. Mineral contents (K, Ca, Mg) have fluctuated while Potassium content was significantly decreased during the debittering process. However, results revealed that, there was a significant reduction on the chemical composition of *Hal* seeds during the traditional practice of debittering process.

Keywords: *Vateria copallifera*, Chemical composition, Traditional de-bittering process

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