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A preliminary biochemical study on germinated coconuts

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Coconut (*Cocos nucifera*) is the major source of edible oil and fats. Quality of coconut-based products is mainly depending on the quality of kernel used to process those products. While processing commercial coconut-based products invariably include the kernel from germinated coconut at various germinating stages. Hence the study was carried out to find the chemical composition of coconut kernel during germination, oil and desiccated coconut produced from germinated coconut (using D×T and T×T varieties) at four different stages of germination (base on size of the shoot).

Chemical analysis of kernel with progress of germination showed that the moisture content decreased from 50% to 41.7%. Ash content remains constant around 1.0 - 1.3% while fat content increased from 30% to 41.3%. Protein content showed decreasing trend from 6.5% to 4.9% with germination. Crude fibre content of kernel decreased from 4.5% to 2.7%. Sugar content showed an increasing trend in early germination stages and decreased in later stages. Higher values were observed in D×T variety (4.2-2.7%) than T×T (1.52-0.9%).

Quality of oil from each germination stage was determined and found increasing trend in oil moisture content from 0.5% to 1.06%. Acid value increased from 0.3 to 0.4 and Iodine value varies around 8.0 – 8.7. Saponification value decreased from 280 to 259 with germination. Peroxide value was not in detectable level. Fatty acid profile at each germination stage was similar with normal oil showing 47-50% Lauric acid. Moisture content of desiccated coconut varied around 1.4 – 1.7%. Fat content increased from 59.6% to 64.5% and Acid value increased from 0.6 to 0.8 in desiccated coconut with the progress of germination.

Desiccated coconut and oil produced from germinated coconut kernel were not good for edible purposes as they were not attained the quality requirements by set Sri Lanka Standard Institute and Asian Pacific Coconut Community.

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