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Chemical composition of coconut haustorium and preparation of dehydrated chips

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The coconut haustorium (*Palapi*) is discarded during processing of seasoned coconut. The haustorium (*Palapi*) is palatable at early stages of germination. It is sweet in taste and has about 6 hours of shelf life. A study was carried out to find out the nutritional composition and to deduce the optimum condition to prepare dehydrated chips from coconut haustorium. Germinated coconuts of four germinating stages obtained from Coconut Research Institute were selected for this study. The stages of germination were selected from the size of the shoot. The chemical analysis showed that it contained 88.2 – 91.2 % moisture, 0.83 – 1.24 % ash, 0.71 – 1.70 % protein, 1.35 -2.91 % fat, 0.53 – 0.82 % crude fibre and 1.35 – 2.91 % sugar. The fat from haustorium showed that it contained 4 – 6 % oleic acid, 47 – 50 % lauric acid and 21 % myristic acid. Fatty acid content did not vary with the stages of germination. Total plate counts were 9 $x10^3$, 5 $x10^3$, 4 x 10^3, and 2.5 x 10^3 CFU (Colony Forming Unit) / g at cut opening for 1st germination stage to fourth stage respectively. Plate count increased when it was exposed to ambient conditions. After 6 hours, the plate counts were 1.1 $x10^5$, 2.1 x 10^5, 4.5 x 10^5, and 1.2 x 10^5 CFU/ g for 1st germination stage to fourth stage respectively.

Two preservation methods - direct dehydration and osmotic dehydration were carried out for preservation of haustorium. Six treatments with different sizes of the chips and different ratio of sugar: Haustorium (w/w) were carried out for preservation studies. All the samples were dehydrated at 65 °C for 7 ½ hours. The temperature was increased to 75 °C during last 20 -30 minutes to give crispness to chips.

Kruskal Wallis one-way nonparametric ANOVA test showed that there was a significant difference for organoleptic qualities among chips from different treatments. Osmotic dehydration obtained higher scores on sensory evaluation than the direct dehydration. Out of different treatments for osmotic dehydration 1 x 1 x 4 cm^3 size; 1:1 sugar: haustorium ratio obtained highest score for overall acceptability. Initial study showed that the osmotic dehydrated chips could stored at ambient conditions up to 3 months.

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