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STUDY ON THE SUITABILITY OF LOCALLY  
AVAILABLE ROOT AND TUBER SPECIES OF  
BATTICALOA REGION FOR CHIPS MAKING

By

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## ABSTRACT

Roots and tuber crops comprise a large amount of species and play an important role in the meal planning of people living in Batticaloa region. Therefore, the present study was conducted to introduce a value addition to some of the roots and tubers grown in Batticaloa region, such as Arial potato, King Yam, Siru kilangu, Elephant Foot Yam and Arrow root. Thin and rectangular chips prepared from these roots and tubers were fried in vegetable oil and they were subjected to chemical and organoleptic evaluation. Significant differences in chemical and organoleptic characters were found among them. Crude protein content seemed to be highest in thin chips of elephant foot yam, moderately high levels were present in other thin chips and rectangular chips contained relatively low protein content than the others. Fat percentage of chips ranged from 2.07% and 0.5% in thin chips of elephant foot yam and rectangular chips of king yam respectively. There wasn't any significant variation found in ascorbic acid content between thin chips and rectangular chips, mean while highest amount of ascorbic acid content 25.9mg/100g was found in thin chips of sirukilangu and the lowest 15.14mg/100g was found in rectangular chips of king yam. Rectangular chips of king yam exhibited highest pH value 6.3 while the thin chips of arial potato exhibited lowest pH 5.3. According to organoleptic evaluation results, thin chips of elephant foot yam were considered superior to others while the thin chips of arial potato received score next to it.

Thin chips of elephant foot yam were fried in sunflower oil, vegetable oil and coconut oil and stored for one month in air tight glass container. Chemical evaluation, organoleptic evaluation and microbial evaluation were conducted at weekly intervals. The chips fried in sunflower oil were considered to be superior

when freshly eaten than the chips fried in vegetable oil and coconut oil , but to store for one month storage periods, chips fried in coconut oil were mostly suited than the chips fried in other two oils. Chips fried in sunflower oil could be stored only for 3 weeks storage periods while the chips fried in coconut oil and vegetable oil were good up to one month storage.

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