

# **QUANTIFICATION AND CHEMICAL ANALYSIS OF WASTE GENERATED DURING THE PROCESSING OF CASSAVA CROCKET**

**M.A.D. Somendrika<sup>1</sup>, I. Wickramasinghe<sup>1</sup>, M.A.J. Wansapala<sup>1</sup>, S. Peiris<sup>2</sup>**

<sup>1</sup>Department of Food Science and Technology, Faculty of Applied Sciences,  
University of Sri Jayewardenepura, Nugegoda

<sup>2</sup>National Cleaner Production Centre, Sri Lanka  
*dsomendrika@gmail.com*

Cassava (*Manihot esculenta*), is one of the most important food crops in the humid tropics. Sri Lanka has a surplus production of cassava. Developing of proper technologies is needed to increase the utilization of cassava as processed foods for increasing the potential utilizations and minimizing the postharvest losses of the crop. Cassavacrocket, cassava chips and cassava starch are few popular processed cassava products available in the local market. Investigations were carried out to identify the wastes generated during the processing of cassava crocket and chemical analysis were carried out to identify the potential utilizations of the wastes as a preliminary study to apply Resource Efficient and Cleaner production (RECP) Technology to improve the cassava crocket processing.

Processing of cassava crocket was observed at the manufacturing plants at “Maharagama” and “Peradeniya” and the data were collected. The samples of wastes were collected on site, according to the random sampling method to calculate the amounts of waste. The proximate composition of the cassava wastes was analysed according to AOAC methods.

The major wastes of the cassava crocket processing were cassava peel and the liquid squeezed out of grated cassava. According to the results  $21.5\pm1.3$  percent and  $20.8\pm1.7$  percent of the total weight of raw cassava root was wasted as peel and liquid squeezed respectively. From the peel waste  $3.6\pm0.5$  percent of total cassava root is the brownish peel which is the periderm and  $17.7\pm1.0$  percent of the total cassava root is thick peel which is the cortex. Results obtained from the proximate analysis of raw cassava tuber showed, the moisture content as  $63.07\pm0.4$  percent, protein content as  $1.5\pm0.3$  percent, fat content as  $0.5\pm0.03$  percent, crude fibre content as  $3.7\pm0.4$  percent, ash content as  $1.0\pm0.2$  percent and carbohydrate content as  $30.23\pm0.2$  percent. Proximate composition of cassava peel (cortex) had moisture content of  $7.5\pm0.3$  percent, protein content of  $8.2\pm0.1$  percent, fat content of  $3.1\pm0.4$  percent, crude fibre content of  $12.5\pm0.2$  percent, ash content of  $6.5\pm0.2$  percent and carbohydrate content of  $71.6\pm0.5$  percent.

According to results the total waste generated in the cassava crocket was  $42.3\%$  of the total weight of raw cassava root. The thick peel which is high in nutrients can be used as a good source of animal feed and the squeezed liquid can be used to develop snack foods like “Kokis” by incorporation of coconut milk and spices.

**Keywords:** Cassava, Cassava crocket, Cassava peel, waste quantification, proximate analysis