Effect of oil extraction methods and heterogeneity of copra on quality of coconut oil

P A B N Perumpuli* and Vinitha Wijerathne

Department of Agricultural Chemistry, Faculty of Agriculture, University of Ruhuna, Mapalana, Kamburupitiya

Coconut oil is one of the most common edible oils used in Sri Lanka. Considering about its quality characters such as specific gravity, moisture content, colour, Iodine value, Acid value, Saponification value, etc are very much important. Acid value and the saponification values were the major considerate in this research.

Objectives of this experiment were, to find out whether there was any effect of oil extraction method on saponification value and the acid value of coconut oil. Second was to find out whether there is any effect of varying degrees of heterogeneity in copra lot on saponification and acid values of coconut oil.

To achieve the first objective, five major treatments; expeller, solvent extraction, traditional village, freezing and NERD machine methods were used. In second objective, three treatments as sun-dried copra, copra from small-scale plantation and copra from large-scale plantation were taken. The experiment was done in a complete randomised design and five samples from each treatment were taken. Both saponification and acid values were calculated using titre metric method.

According to the results obtained, highest saponification value was at traditional village method and the lowest is in the solvent extraction method. NERD machine method gave the lowest acid value and the highest was at expeller method. In case of heterogeneity in copra lot, sun-drying method gives the highest saponification value and the small-scale copra production method gave the highest acid value.

There is a significant difference among dry and wet processors on saponification and acid values in coconut oil. The two dry processing methods are acting similarly and wet processing methods except NERD method are acting similarly. There's no effect of heterogeneity in copra lot on saponification value, but if effects on acid value.

*buddhip@sltnet.lk Tel: 041 2292200