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### Changes in chemical composition of cinnamon bark oil in relation to the time of distillation

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Cinnamon (*Cinnamomum verum* Prsl. syn. *C. zeylanicum*) is indigenous to Sri Lanka. Higher the percentage of major constituent cinnamaldehyde in cinnamon bark oil, better the quality and higher the price. Though, the oil and cinnamaldehyde content are very important in industry, no attention has been paid on the quantity percentages of them received in relative to the distillation time. 30.00 g of newly processed CRS 40 grade C 5 cinnamon quills were used to distill oil by water distillation in three replicates from 15 min up to 4 h with 15 min time intervals. Oil was collected to a mixture of solvents of 2 mL of hexane and 1 mL petroleum ether and solvents were evaporated. Percentage of oil content was determined on dry basis (DB) and percentage concentration of cinnamaldehyde content was determined using Gas Liquid Chromatography (GLC) equipped with Flame Ionization (FI) detector and 10 % carbowax 20 M WAW column and also with column initial and final temperatures 60 °C -210 °C, injector temperature 230 °C and programme rate 4 min<sup>-1</sup>.

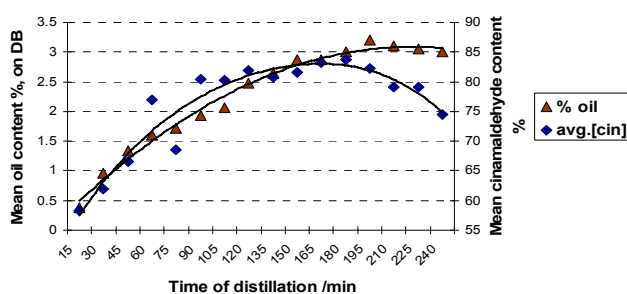


Figure 1: Percent cinnamaldehyde distillation

mean oil content and content with time of

Maximum cinnamaldehyde content of 83.74 % was obtained at 3 h (Figure 1) and highest oil content was observed at 3 h 15 min. of distillation. The maximum cinnamaldehyde content was determined before the highest oil content. To obtain the highest amount of oil with very high cinnamaldehyde percentage, cinnamon bark should be distilled for 3 h 15 min. Distillation for 4 h reduced the cinnamaldehyde content due to volatilization and vaporization and its solubility in water.

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