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Maturity dependence of chemical constituents in bark and leaf oil of two varieties of Ceylon cinnamon (*Cinnamomum zeylanicum* Blume)

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The maturity dependence of chemical constituents in bark and leaf oils of two varieties of Ceylon Cinnamon, *Cinnamomum zeylanicum*, was studied. We maintained both genetic factor and ecological factor constant by using two varieties of Ceylon Cinnamon, Sri Gamunu and Sri Vijaya, which were vegetatively cultivated, and planted in the field in the same agro-ecological zone, IL1a ($6^0$1.7820N'; $80^0$33.4990'E; 22.3 amsl.). Three maturity stages of cinnamon plants, i.e. more than 5 years, between 2-2.5 years, and between 1.5-2 years, were used. Each data was statistically treated with 10 replicates. When compared the oil contents, Sri Gamunu had a higher oil yield in both the bark and leaf (2.33% and 3.7%, respectively) than Sri Vijaya (1.38%, 2.41%), and also both showed significantly higher oil yields at maturity stage of 2-2.5 years which was about the customarily identified maturity for harvesting (~2 years). In Sri Gamunu, about 78 % of the bark oil consisted of cinnamaldehyde and cinnamyl acetate while those two chemical constituents in Sri Vijaya accounted for only about 63%, but consisted of a higher content of eugenol (12%) and benzyl benzoate (9%). In contrast to the bark oil, eugenol was the major component in leaf oil of cinnamon, which accounted for about 80 % and 87% in Sri Gamunu and Sri Vijaya, respectively. The study revealed that the best maturity stage to harvest both varieties of cinnamon is 2 – 2.5 years of maturity for maximum chemical constituents in bark and leaf oils.

Keywords: cinnamon, cinnamon bark oil, cinnamon leaf oil, cinnamaldehyde and cinnamon maturity

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