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Agroecologicaldependence of the quantity of phytochemicals in barks of Ceylon Cinnamon, (*Cinnamomumzeylanicum* Blume)

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Ceylon cinnamon, *Cinnamomumzeylanicum* Blume, cultivars are located in five districts covering seventeen agroecological zones in Sri Lanka. Nowadays, most of cinnamon products in Sri Lanka are exported as raw bark materials. The quantities of major classes of phytochemicals in barks of Ceylon Cinnamon have been analyzed to determine their agroecological dependence using two asexually propagated genotypes, Sri Gamunu and Sri Vijaya. The samples, cinnamon plants of about 2-2.5 years of maturity from both Sri Gamunu and Sri Vijaya varieties, were collected at three regional research centers of the department of export agriculture: Palolpitiya, Narammala, in the IL1a agroecological zone, and Nillamba, in the WU2b agroecological zone. In general, it is observed that the bark of the Sri Gamunu genotype is superior in phytochemicals over the Sri Vijaya in spite of the agroecological variation. Quantities of phytochemicals in the barks of Sri Gemunu from three different agroecological zones are analyzed: alkaloids (Palolpitiya: 7.94, Narammala: 3.56, Nillamba: 3.10 g/100g), Saponins (Palolpitiya: 9.55, Narammala: 8.22, Nillamba: 7.68 g/100g), flavonoids (Palolpitiya: 1.63, Narammala: 1.57, Nillamba: 0.96 g/100g) and polyphenols (Palolpitiya: 6.23, Narammala: 5.41, Nillamba: 4.11 mg TAE/gFW). All contents in the barks of Sri Gamunu variety are higher in the IL1a agroecological zone compared to those in the WU2b agroecological zone providing an indication that the barks of Sri Gamunu genotype growing in the low country intermediate zone (IL1a) contains a considerably higher amount of phytochemicals than up country WU2b zone.

Keywords: *Cinnamon varieties, Sri Gamunu, Sri Vijaya, cinnamon bark, genotype*

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