

Effect of agro-ecological variation on growth and cinnamon oil yield of Ceylon Cinnamon (*Cinnamomum zeylanicum* Blume)

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Comparison of the growth parameters and oil content of Ceylon Cinnamon (*Cinnamomum zeylanicum* Blume) at different locations were studied chemically and physiologically. The genetic factor has been kept constant throughout using asexually grown two accessions of Ceylon Cinnamon, Sri Gamunu, and Sri Vijaya. Samples were collected from three different locations in two different agro-ecological zones: National Cinnamon Research and Training Center, Palolpitiya (IL1a), Intercropping and Betel Research Station, Narammala (IL1a), and Mix Cropping and Up-country Research Center, Nillamba (WU2b). The physiological evaluation was based on the measurements of stick length, stick girth at breast height, stick weight, and fresh weight of leaves per stick in the same field. At the processing center, fresh and dry weights of bark were measured. The physiological parameters were significantly different at different locations. Length, girth, and weight of a stick and dry leaf yield per stem was significantly higher ($p < 0.05$) in Narammala than the other two locations while dry bark yield per stem has no considerable difference at three locations. When compared two accessions separately from three locations, both Sri Gamunu and Sri Vijaya at Narammala showed significantly higher growth performances. The leaf and bark oil contents showed significant differences at different locations even in the same agro-ecological zone. Significantly higher bark oil content was shown in Sri Gamunu at Palolpitiya than Nillamba and Narammala. In contrast, Sri Gamunu accession at Palolpitiya and Nillamba showed significantly higher leaf oil content than Narammala.

Keywords: *Cinnamon, growth parameters, oil content, different locations, accessions*

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