

**ANALYSIS OF CHEMICAL COMPOSITION AND
OIL YIELD OF**
Cymbopogon nardus AND *Cymbopogon winterianus*
IN THANAMALWILA AREA

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ABSTRACT

Citronella (*Cymbopogon nardus* and *Cymbopogon winterianus*) plant is a perennial crop which is used to extract citronella oil as a commercial product. Citronella is cultivated in Southern coastal area of Sri Lanka, mostly in Matara and Hambantota districts. Citronella cultivation is recently started in Thanamalwila area. Variety, climatic and soil condition can affect the yield and chemical composition of citronella oil. Objective of this study was to analyze and compare the oil yield and chemical composition of two species cultivated in Thanamalwila area to select the best species for oil extraction. Steam distillation technique was used to extract the citronella oil and gas chromatography-mass spectrometry (GC-MS) was followed to analyze the chemical composition. It was found significantly ($P < 0.05$) higher percentages of Citronellol (7.14%), Citronellal (9.02%) and Geraniol (16.01%) in *Cymbopogon nardus* than in *Cymbopogon winterianus* in which the respective values were 4.68%, 4.81% and 6.3%. There were no other significant differences between two species with respect to their Camphene, Limonene and Borneol contents. The oil yield of *Cymbopogon nardus* was significantly ($P < 0.05$) higher than that of *Cymbopogon winterianus*. Therefore, it could be concluded that *Cymbopogon nardus* shows the best characteristics for oil extraction out of the two species tested in the Thanamalwila area.

Keywords: Citronella, *Cymbopogon nardus*, *Cymbopogon winterianus*, Thanamalwila