

The role of pre-treatment in enhancing yield and antioxidant activity of lemongrass (*Cymbopogon citratus*) essential oil

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Abstract	Sample preparation before distillation is an important step in producing high yield and good quality of lemongrass (<i>Cymbopogon citratus</i>) essential oil. In order to improve the production process and to provide information as reference for further practical applications, the effects of sample pre-treatment (with and without microwave heating) and distillation time (3, 4, and 5 h) were studied. In addition, the samples types (dried stem and dried leaf) were compared. Results of the study suggested that the highest antioxidant activity of lemongrass essential oil (86.33%) was obtained from lemongrass dried stem that were heated in microwave and distilled for 4 h with yield of 2.307%. While the highest yield of lemongrass essential oil produced (2.63%) was obtained from lemongrass dried stem that were heated in microwave and distilled for 5 h with antioxidant activity of 69.67%. Based on the results, it can be concluded that lemongrass stem contains higher essential oil compare to that of the leaf and microwave heating before distillation gave higher yield and better quality of the product.
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