

## Comparison of chlorophyll a and chlorophyll b in dried tea leaves products

Theeranat Suwanaruang\*

*Environmental Science Program, Faculty of liberal arts and science Kalasin Rajabhat University  
Namon District, Kalasin, Thailand*

\*Corresponding Author: drtheeranat@gmail.com

*Received 7 August 2015; Revised 31 August 2015; Accepted 1 September 2015; Available online 1 October 2015*

### ABSTRACT

Green tea ranks as one of the most popularly consumed beverages in the world since it has several health benefits, such as the preventing oxidative damage implicated in cardiovascular health and chronic inflammatory diseases and the inhibition of carcinogenesis. The aim of this research was studied chlorophyll a contented in dried leaves products. The method was selected 8 dried leaves products at Kalasin, Thailand. The chemical method was used methanolic solution extract and detected by spectrophotometer measurement at 653 and 666 nm for analysis chlorophyll a and chlorophyll b. The results found that chlorophyll a of dried tea leaves product samples A, B, C, D, E, F, G, H were  $6.92 \pm 0.87$ ,  $16.68 \pm 1.36$ ,  $23.06 \pm 0.11$ ,  $22.99 \pm 0.06$ ,  $17.07 \pm 4.14$ ,  $18.22 \pm 0.31$ ,  $21.44 \pm 0.23$  and  $21.20 \pm 1.05$  mg/L, respectively. Chlorophyll b of dried tea leaves product samples A, B, C, D, E, F, G, H were  $3.83 \pm 0.26$ ,  $27.80 \pm 4.89$ ,  $3.53 \pm 0.17$ ,  $3.78 \pm 0.02$ ,  $37.87 \pm 0$ ,  $22.47 \pm 0.15$ ,  $10.60 \pm 0.97$  and  $11.50 \pm 4.40$  mg/l, respectively. The conclusion was found that the highest chlorophyll a was tea leaves product sample C. Sample C was green tea products from Cambodia. The highest chlorophyll b was tea leaves product sample E. Sample E was green tea products from Japan. Chlorophylls provide natural colors and beneficial health effects. Chlorophylls, which are generally composed of chlorophyll a and b in a ratio of 3:1, are the most common green pigments in plant leaves however, are depend on process and types of green tea.

**Keywords:** Tea leaves, chlorophyll a, chlorophyll b and health benefits.

### INTRODUCTION

Tea consumption has several health benefits to human beings, among which the prevention of cancer is of special interest to most scientists. The anti-cancer properties of tea are mainly attributed to catechins, a group of polyphenolic compounds. Tea, the product from the leaves of *Camellia sinensis*, is one of

the most popular beverages in the world (Kang Wei et al., 2011).

Tea is one of the most widely consumed non-alcoholic beverages in the world and imparts marked benefits to human health, such as providing antioxidant activity and reducing the risk of cardiovascular disease and some forms of cancer. Under certain environmental conditions, such as low temperature or