



# **Total Phenolic Content In Green Coffee Base And Essence**

Sensus Technical Note (SEN-TN-0020)

03/11/2009

**Youngmok Kim, Ph.D.**

## **ABSTRACT**

This study was conducted to provide precise information of Sensus green coffee product. Raw coffee bean contains significant amount of phenolic compounds such as chlorogenic acid, catechins, and flavonols. Determination of the amount of total phenolic content in the final product is important when providing precise chemical information to customers.

## **MATERIALS AND METHODS**

Green coffee base and green coffee essence were collected during a plant trial.

Coffee base and essence were properly diluted (400X for base and 3X for essence) with RO water and mixed thoroughly using vortex for 1 min.

Total soluble phenolic (TSP) concentration (a measure of total metal ion reducing capacity) including contributions from ascorbic acid, protein, and metal ions was determined by Folin-Ciocalteu assay (Swain and Hillis, 1959). Briefly, 300µL of coffee samples were added to 1 ml of 0.25 N Folin-Ciocalteu reagent in test tube and mixed by vortex for 30 sec. After 3 minutes reaction time, 1 ml of 1N sodium carbonate was added to form a water-soluble chromophore for a distinguishable blue color. After standing for 7 minutes, 7mL of pure water was added to each sample. All samples were transferred to a cuvette and absorbance was read at 726 nm after 2 hours using Genesys 6 UV-vis spectrometer (Thermo Fisher Scientific Inc, Waltham, MA). TSP was quantified in mg/L gallic acid equivalents (GAE).

## **RESULTS AND DISCUSSION**

Coffee base contains 78.47 g/L of total phenolics and more than likely it is mostly from its prevalent phenolic acid 3- (neo), 4- (crypton), and 5-caffeoylquinic acid.

Table 1. Total phenolic content in green coffee base and essence.

<b>Samples</b>	<b>Total Phenolics</b>
1. Green Coffee base	78.47 g/L
2. Green coffee Essence	7.04 mg/L

## **REFERENCE CITED**

Swain, T.; Hillis, W. E. The phenolic constituents of *Purmus domestica*. I. The quantitative analysis of phenolic constituents. *J. Sci. Food. Agric.* **1959**, *10*, 63-68.

Copyright by SENSUS, LLC.

1

7255 Hamilton Enterprise Park Drive  
Hamilton, OH 45011  
Tel: 513-892-7100  
www.sensusflavors.com