K S Patel et al., J Fundam Renewable Energy Appl 2018, Volume 8
DOI: 10.4172/2090-4541-C4-059

11th World Bioenergy Congress and Expo

July 02-04, 2018 | Berlin, Germany

Distribution and sources of phenolic compounds in tropical plants

K S Patel, P K Sahu and **S Chakradhari**
Pandit Ravishankar Shukla University, India

Thousands of phenolic compounds are present in plant tissues to protect them from ultraviolet radiation, microbial infections or/and chemical changes. Polyphenols are antioxidants in plants having substantial amount of health benefits. Among the most well-known are the flavonoids, which are a grouping of several thousand of individual compounds. Their concentration and chemical types differ with respect to phylum and plant parts. Hence, in this work, the total phenolic and flavonoid contents in a variety of plant materials i.e. bark, seed pod, seed coat and leaf are identified by using Folin-Ciocalteu and AlCl3 as reagents for spectrophotometric measurements. The concentration of total phenols and flavonoid in term of tannic acid and quercetin in 212 plant materials was ranged from 0.09-5.11 and 0.10-4.23% with mean value (p=0.05) of 1.89±0.15 and 1.18±0.13%, respectively. The total phenolic contents in the barks (n=74), seed pods (n=11), seed coats (n=37) and leaves (n=90) were ranged from 0.010-5.10, 0.94-2.88, 0.09-5.11 and 1.10-4.13% with mean value (p=0.05) of 1.11±0.22, 2.19±0.31, 1.46±0.39 and 2.66±0.14%, respectively. Relatively lower concentration of flavonoids was observed, ranging from 0.11-4.20, 0.21-1.74, 0.10-4.23 and 1.06-3.76% with mean value (p=0.05) of 0.50±0.16, 0.68±0.26, 0.74±0.30 and 1.98±0.14% in the barks, seed pods, seed coats and leaves, respectively. The concentration variations and sources of phenolic compounds in the plant materials are discussed.

Biography

K S Patel has completed his PhD in Analytical Chemistry from Pandit Ravishankar Shukla University, Raipur, India and Postdoctoral studies from several German Institutes and UC Davis, USA. He continued as an Emeritus Professor in the same University and is now working in medicinal and herbal plant chemistry. He has published more than 100 papers in reputed journals in various fields of analytical chemistry.

patelkhageshwarsingh@gmail.com

Notes: