doi:10.4172/2157-7110.10000S1

BIOTECHNOLOGY-2011

OMICS Group Conferences
Accelerating Scientific Discovery

World Congress on
Biotechnology

Phenolic compounds and their role during oxidative processes in fruits and vegetables

Arzu Altunkaya and Vural Gökmen*

Yuzuncu Yıl University, Turkey
*Hacettepe University, Turkey

Phenolic compounds occur in all fruits and vegetables as a diverse group of secondary metabolites. Secondary plant metabolites refer to compounds that are not essential to survival of the whole plant or certain parts of the plant. The phenolic composition of fruits and vegetables is determined by genetic and environmental factors but may be modifed by oxidative reactions during processing and storage. Two of the more important processes involve the antioxidant activity of the phenols and oxidative browning. In both roles, the key process is oxidation. The action of phenolics as antioxidants is beneficial in both foods and the body where phenolics are oxidised in preference to other food constituents or cellular components and tissues. On the other hand, their role as substrates for oxidative browning is probably restricted to foods. In both systems, the potential oxidising agents are important. In physiological systems, they appear to be reactive oxygen species while polyphenol oxidases and free radicals are the main oxidants in foods when the phenolics act as substrates and antioxidants, respectively. Knowledge of such compounds offers a number of opportunities including a better understanding of the relationships that may exist between these substances and the physiology and organoleptic qualities of the fruits and vegetables which, in turn, can be translated into a more solid basis for processing techniques. Furthermore, the identifcation of natural antioxidants will provide alternatives to synthetic materials.

Biography

Arzu Altunkaya has completed her Ph.D from Hacettepe University and postdoctoral studies will be from University of Copenhagen. She is the research assistant of Yuzuncu Yıl University. She has published 6 papers in reputed journals and also serving as an editorial board rewiever of 5 journals.