Title	Effect of maturation, pre-harvest conditions, post-harvest handling, and storage on antioxidant capacity of fruits and vegetables
Author	S.Y. Wang
Citation	Book of Abstracts, 2004 IFT (Institute of Food Technologists) Annual Meeting and Food Expo, 13-16 July 2004, Las Vegas, Nevada, USA. 321 pages.
Keyword	antioxidant; fruit; vegetable

Abstract

There has recently been increasing public interest on the impact of food quality and public health. In the past, the agricultural industry was focused on maximizing the quantity of fruits and vegetables produced for commercial markets. However, modern consumers are now interested in optimizing the nutritional composition of foods in order to promote health. Therefore, much attention has now been placed on the agricultural practices that will enhance the nutritional content of fruits and vegetables being produced today. Fruits and vegetables have been shown to contain high levels of antioxidant compounds, which provide protection against harmful free radicals and have been suggested to lower the incidence and mortality rates of cancer and heart disease in addition to a number of other health benefits. The antioxidant capacities of various fruits and vegetables and the factors which affect their antioxidant activities such as crop genotype variation and maturity, pre-harvest conditions (Climate, temperature, and light), culture practices (compost, mulch, pre-harvest application of natural compounds and carbon dioxide enhancement), post-harvest handling and storage will be summarized. Many attractive opportunities exist for enhancing the quantity and quality of essential nutrients present in fruits and vegetables. Some strategies for establishing a new research and production paradigm such as improving selection criteria among different horticultural cultivars, improving pre-harvest conditions and post-harvest handling, and using tissue culture and genetic engineering to modify nutrient quality are among the priorities of agricultural research will also be discussed.