

Title            Effect of pre-harvest conditions on antioxidant capacity in fruits  
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### **Abstract**

Public interest on the impact of food quality on human health has been increasing. In the past, the agricultural industry was focused on maximizing the quantity of fruits produced for commercial markets. 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 which will enhance the nutritional content of horticultural crops being produced today. Fruits have been shown to contain high levels of antioxidant compounds such as carotenoids, vitamins, phenols, flavonoids, dietary glutathione, and endogenous metabolites. These antioxidants can act as free radical scavengers, peroxide decomposers, singlet and triplet oxygen quenchers, enzyme inhibitors, and synergists. The various antioxidant components found in fruits may provide protection against cancer and heart disease, in addition to a number of other health benefits. We found that preharvest conditions such as climate, temperature, light intensity, soil type, compost, mulching, fertilization, increasing carbon dioxide concentration in the atmosphere, and application of naturally occurring compounds, all can affect the antioxidant content and antioxidant activity of the harvested fruits. Many attractive opportunities exist for enhancing the quantity and quality of essential antioxidants present in fruit crops. Discussion will also be made on some strategies for establishing a new research and production paradigm on improving preharvest conditions for enhancing nutritional quality in fruits.