

Title Understanding phytochemicals in fresh fruits and vegetables

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Abstract

Background. In addition to vitamins and minerals, fresh produce is also a good source of phytochemicals. Considerable research interest is currently focused on understanding these phytochemicals and the health benefits associated with them. An important group of phytochemicals are the food phenolics which are believed to reduce cardiovascular disease risk. Food phenolics (commonly called polyphenols) come in many forms and widely distributed in a broad range of foods. Polyphenols have been most extensively studied for their heart healthy benefits in wine and tea. However, the antioxidant capacity of polyphenols from a variety of other foods has also been reported, including green tea, grape juice, and chocolate, as well as a wide range of fruits and vegetables.

Results and Discussion. Fresh produce is a good source of polyphenols. Polyphenols influence the sensory and nutritional qualities of produce. The astringency and bitterness of foods and beverages are largely due to their polyphenolic content. Considerable variation is found in measuring the polyphenolic content of produce. The polyphenolic content of produce seems to be primarily influenced by genetics, but numerous other factors including degree of ripeness, climate, storage and processing can also influence phenolic content. Quantifying polyphenol is further complicated by the fact that researchers use different analytical techniques to measure polyphenolic content.

Conclusions. Polyphenols are a diverse group of compounds found in most fresh produce. Polyphenols are found in significant quantities in the human diet and appear to be readily digested, absorbed and metabolized. Polyphenols have been shown to be potent antioxidants, and appear to be able to significantly reduce cardiovascular disease risk. Additional on the polyphenolic content of produce, their metabolism and mechanisms of action is needed before the relative importance of polyphenols in improving health can be fully appreciated.