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Comparison of the antioxidant content of fruits, vegetables and teas measured as vitamin C equivalents

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Abstract

Most of the health benefits of black, green and oolong teas made from *Camellia sinensis* are attributed to their antioxidant content. Many plants and spices have been used to make infusions that are erroneously referred to as “teas”™. The term “rich in antioxidants”™ is often used to describe such infusions, often without scientific support. We have used the DPPH method to quantify the total radical scavenging capacity (RSC) of a wide range of “teas”™, fruits and vegetables. The results are presented as vitamin C equivalents. These results are compared to the RSC of the recommended portions of fruits and vegetables in the food guide pyramid for a healthy and balanced diet. The EC₅₀ results show that there are no statistically significant differences in the RSC of black, green and oolong teas. However, the RSC of “teas”™ made from other species of plants are significantly lower. Our results show

that one or two cups of tea would provide a similar amount of RSC as five portions of fruits and vegetables or 400 mg vitamin C equivalents. This would be comparable to two capsules (200 mg) of vitamin C. Caution is advised in extrapolating these in vitro results to humans due to bioavailability.



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Keywords

Food-guide pyramid; Fruits and vegetables; Tea; Antioxidants; Radical-scavenging capacity; 2,2-diphenyl-1-picrylhydrazyl; Epigallocatechin gallate

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