Publications
Nutritional Profile and Antioxidant Potential of Selected Organically and Conventionally Grown Fruits

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Abstract
Interest in organically produced food is increasing throughout the world in response to concerns about intensive agricultural practices and their potential effect on human health as well as on the environment. Fruits are very important part of daily diet. Regular consumption of fruits is positively correlated with the prevention of chronic diseases like cardiovascular diseases, diabetes, cancer, etc. In the present study, a comparison of nutrient content and antioxidant properties of organically and conventionally grown fruits was carried out using standard methods. Results showed that there is no significant difference for moisture content of organically and conventionally grown fruits. About 50% of organically grown fruits showed higher content of ash, calcium and iron. Phosphorus content was higher in conventionally grown fruits. Ascorbic acid and β-carotene content were also found significantly higher in organically grown fruits. Comparing antioxidant profile, organically grown fruits showed significantly higher content of total phenol, flavonoid and total antioxidant activities against 1,1-Diphenyl-2-picrylhydrazyl (DPPH) radical than conventionally grown fruits. Further, the regression analysis showed a significant (p<0.01) and positive relationship between total phenol-flavonoids, total phenol-total antioxidant capacity and flavonoids-total antioxidant capacity among organically grown fruits. Hence, the study concludes that organically grown fruits offer higher amount of nutritional as well as antioxidant properties with inclusion of organically grown fruits in daily diet which could lead to a positive health.

Keywords: Organically grown foods, fruits, antioxidant capacity

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ANTIOXIDANT PROFILE OF ORGANIC AND CONVENTIONAL GROWN GREEN TEA (CAMELLIA SINENSIS)

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ABSTRACT
Tea is the most widely consumed beverage in the world. Green tea (Camellia sinensis) is a good source of bioactive compounds and it is gaining interest due to its health benefits. In the present study, a comparison of antioxidant profile of organic and conventional green tea was carried out. For this, polyphenol, flavonoid, and total antioxidant capacity by DPPH/FRAP were analysed using standard methods. Results from this study showed that organic green tea showed a significant higher values of total phenol, flavonoid, FRAP and DPPH/FRAP. Regression analysis revealed that total phenol content showed a positive and significant correlation with DPPH/FRAP in organic green tea. In conventional green tea, total phenol showed it with FRAP. It revealed that the total antioxidant capacity could be due to its total phenol content. The study concludes that organic green tea offers higher amount of antioxidant properties without any adverse effects of synthetic pesticides.

Keywords: Green Tea (Camellia sinensis), Organic, Conventional, Antioxidant Capacity
ANTIOXIDANT PROFILE OF ORGANICALLY AND CONVENTIONALLY GROWN FRESH TURMERIC (*CURCUMA LONGA L.*): A COMPARATIVE STUDY

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Abstract: Turmeric (*Curcuma longa*) is an important spice in India from ancient time due to its colouring properties by its key pigment curcumin and medicinal efficacy as anti-atherosclerotic, antidiabetic, antimutagenic and anticancer agents. The effect of cultivation practices on antioxidant capacity of fresh turmeric was evaluated from organically and conventionally grown samples collected from Anand (Gujarat, India). Total phenol, flavonoid, curcumin contents were measured using standard methods. Total antioxidant capacity of fresh turmeric was measured by DPPHRSA, ABTSRSA and FRAP. Results from this study showed that in organically grown turmeric, total phenol, flavonoid and curcumin contents were 708.06 mg/100g, 84.57 mg Rutin Eq/100g and 41.24 mg Rutin Eq/100g respectively, which were significant (p<0.91) higher than the same of conventionally grown turmeric. A significant and positive correlation was observed in curcumin with DPPHRSA and FRAP in organically grown turmeric and similar correlation of curcumin with ABTSRSA was observed in conventionally grown turmeric. The study concludes that organically grown turmeric offers higher amount of antioxidant properties and significant differences between two cultivation practices were evident.

Key words: Turmeric (*Curcuma longa L.*), Antioxidant

IS ORGANICALLY GROWN FOOD SAFER AND NUTRIDENSE???

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ABSTRACT

Awareness regarding safety and quality of conventional foods has increased the demand of organically grown foods which are believed to be safer and healthier. This review discusses the safety and nutritional quality of organically grown foods in comparison with conventionally grown foods. It is interpreted from the relevant scientific studies that organically grown foods contain significantly lower levels of pesticide residues and nitrates as well as heavy metals. Regarding nutrient and non nutrients compounds organic foods showed significant higher levels than conventionally grown alternatives in some cases whereas in few studies it showed no significant difference, yet the differences in nutrients and antioxidants is questionable as far as the agricultural practices vary.

KEYWORDS: Organic foods, pesticide residues, nutrients, antioxidants