

## PHYTOCHEMICALS AND ANTIOXIDANT CAPACITY IN ORGANIC AND CONVENTIONAL VEGETABLES

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The consumption of fruits and vegetables is associated with lower incidence of chronic diseases, especially by their vitamin and phytochemical contents which acts as antioxidants. Some phytochemicals, like polyphenols and lycopene, are naturally present in plant tissue but their synthesis can be stimulated by external factors such as biotic and abiotic stresses. Organic agriculture is characterized by the absence of pesticides which could lead to higher exposure to stressful situations inducing the production of endogenous protective substances. The main objective of this work was to analyse the lycopene, free and total polyphenols as well as the antioxidant capacity, by DPPH reduction reaction, of six vegetables grown under organic and conventional agricultures. The free and total polyphenols contents showed mixed results between the two types of agriculture, presenting variations according to the plant species; whereas lycopene content was higher for both organically grown carrots and tomatoes. The antioxidant capacity was higher for most organic vegetables when compared to their conventional match; however the ranking of vegetables with highest antioxidant capacities was not the same for the two types of agriculture. These results indicate that eventhough polyphenol contents were not higher in all organic vegetables; other antioxidant compounds could be present providing it higher antioxidant capacity.

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