ANTIOXIDANT ACTIVITY AND NUTRIENT CONTENT IN ORGANIC AND CONVENTIONAL ORANGE AND TAHITI LEMON


The health benefits of consuming organic compared to conventional foods are unclear. In general, the evidence provided with regard to the nutritional quality and safety aspects of studied fruits was inconclusive, especially about the nutritional value. This study was carried out to determine and compare food composition and antioxidant activity of organic and conventional samples of oranges and tahiti lemon. Five lots of certified organic fruits, organic fruits (no stamp) and conventional fruits were acquired from supermarkets of Rio de Janeiro. Samples were evaluated in terms of mass, specific weight, ash, density, total titratable acidity, total soluble solids/total titratable acidity ratio, vitamin C (Adolf Lutz, 2008). The antioxidant capacity was measured by the DPPH radical method. Organic tahiti lemon and orange showed higher mean values of acidity, being 4,5% and 34,8% higher, respectively, when compared to conventional fruit. There were no statistical differences in the values of density and ascorbic acid between tahiti lemon and orange organic certified, organic fruits and conventional fruits. Sugar content and total soluble solids of organic certified and organic tahiti lemon was 47,4% and 25,8% higher than conventional fruits. Regarding antioxidant activity, we observed an increase in the percentage of reduction of DPPH radical in organic Tahiti lemon (18,4%) and organic orange(22,2%) in comparison to conventional fruit. In conclusion, small differences were observed in nutrient content of organically and conventionally fruits. However, organic fruits showed antioxidant activity higher than conventional fruits.