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Evaluation of Bioactive Phenols in Blueberries from Different Cultivars

Authors : Christophe Gonçalves, Raquel P. F. Guiné, Daniela Teixeira, Fernando J. Gonçalves

Abstract : Blueberries are widely valued for their high content in phenolic compounds with antioxidant activity, and hence beneficial for the human health. In this way, a study was done to determine the phenolic composition (total phenols, anthocyanins and tannins) and antioxidant activity of blueberries from three cultivars (Duke, Bluecrop, and Ozarblue) grown in two different Portuguese farms. Initially two successive extractions were done with methanol followed by two extractions with aqueous acetone solutions. These extracts obtained were then used to evaluate the amount of phenolic compounds and the antioxidant activity. The total phenols were observed to vary from 4.9 to 8.2 mg GAE/g fresh weight, with anthocyanin's contents in the range 1.5-2.8 mg EMv3G/g and tannins contents in the range 1.5- 3.8 mg/g. The results for antioxidant activity ranged from 9.3 to 23.2 □mol TE/g, and from 24.7 to 53.4 □mol TE/g, when measured, respectively, by DPPH and ABTS methods. In conclusion it was observed that, in general, the cultivar had a visible effect on the phenols present, and furthermore, the geographical origin showed relevance either in the phenols contents or the antioxidant activity.

Keywords : anthocyanins, antioxidant activity, blueberry cultivar, geographical origin, phenolic compounds
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