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PCF-05

**BLUEBERRY JUICE AS A NUTRITIOUS AND BIOACTIVE BEVERAGE TO BE INCLUDED
IN NOVEL FOOD PRODUCTS**

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Blueberry (*Vaccinium myrtillus* L.) is a very popular fruit, native from the northern hemisphere and consumed worldwide. It has been widely studied for being a rich source of bioactive compounds with recognized beneficial properties for Human health [1]. Therefore, several industrialized products, such as juices and derivatives, have been developed from blueberry fruit, aiming at most practical forms of consumption. In this sense, the present work aimed to analyse the blueberry juice in terms of nutritional value, following AOAC procedures, and chemical compositions, namely in free sugars, by HPLC-RI, organic acids, by UFLC-PDA, and phenolic compounds, by HPLC-DAD/ESI-MS. Moreover, the antioxidant capacity, by TBARS and OxHLIA assays, was also assessed to validate its bioactive properties.

Regarding the nutritional value, carbohydrates were the major macronutrients found in blueberry juice, followed by ash and protein. In terms of free sugars, fructose and glucose were detected, with a higher concentration of fructose. Four organic acids were also identified in the juice, namely oxalic, quinic, malic, and shikimic acids, being quinic acid the most abundant one. In what concerns the phenolic composition, four phenolic acids (quinic acid, caffeic acid hexoside, cis 5-*O*-caffeoylquinic acid, and trans 5-*O*-caffeoylquinic acid) and six anthocyanins (cyanidin-3-*O*-glucoside, cyanidin-3-*O*-pentoside, peonidin-3-*O* glucoside, peonidin-3-*O*-pentoside, malvidin-3-*O*-glucoside, and malvidin-3-*O*-pentoside) were detected. As expected, considering its chemical composition, the juice also presented a strong antioxidant capacity, being able of inhibiting the lipid peroxidation and the oxidative hemolysis. The results obtained in the present study validate the nutritional and bioactive quality of the juice obtained from *Vaccinium myrtillus* L., justifying its application in the development of novel foodstuff.

References

[1] J. Paes et al., The Journal of Supercritical Fluids, 95 (2014) 8.

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