



## Book of Abstracts of the 1<sup>st</sup> Congress on Food Structure Design

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## Comparison of bioactive compounds in four blueberry cultivars throughout the years: selection of the best cultivars to be used in health promoting foodstuffs

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### Abstract

Blueberries are known as rich in phenolics and possessing a considerable antioxidant capacity. In recent decades, Portuguese blueberry production has increased greatly with several new blueberry producers appearing every year and, considering the amount of factors that can affect the overall fruit composition it is important to systematically study each matrix in order to understand the phenolic compounds profile, and therefore allow both the industry and consumers to maximize the potential benefits.

Therefore the present work aimed to characterize four blueberry cultivars (representative of Portuguese blueberry production); Duke, Bluecrop, Goldtraube and Ozarkblue throughout a period of 3 years. Antioxidant activity, total phenolic compounds and anthocyanins were assessed.

The results obtained illustrated, as could be expected, significant differences throughout the years studied for all parameters assessed, with values ranging from ca. 205 to 770 g of ascorbic acid equivalents per 100 g of fresh fruit for the total antioxidant capacity, ca. 115 to 630 g of gallic acid equivalents per 100 g of fresh fruit for the total phenolics content and ca. 56 to 263 mg of cianidin-3-glucoside equivalents per 100 g of fresh fruit for the total anthocyanin content. Despite the large variations, the cultivar Goldtraube proved to possess systematically higher contents of anthocyanins and antioxidants than all other cultivars though the same cannot be said for the total phenolics were, despite possessing higher values for 2 years, in both Duke and Bluecrop significantly higher content of phenolic compounds were observed.

In conclusion, as it stands Goldtraube appears to be the better cultivar to be used in the development of blueberry based matrices and foodstuffs with higher potential health benefits.

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