

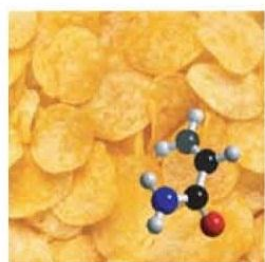
# BOOK OF ABSTRACTS

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## A-38

**PRODUCTION AND CHARACTERIZATION OF PHENOLIC-RICH, AQUEOUS EXTRACTS OF DRY FRUIT AND LEAVES FROM VACCINIUM CORYMBOSUM L.**

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In plants, phenolic compounds are frequently found as secondary metabolites and, considering the myriad of functions they perform (from structural support to their involvement in the plants reproductive and defense mechanisms), they are essential to plants physiology. There has been a considerable amount of epidemiological data relating the consumption of fruit and vegetables to lower risks of developing several pathologies (e.g. cardiovascular and neurodegenerative diseases), considering the high amount of compounds with a phenolic nature present in these foodstuffs, assuming that they are, at least partially, responsible for the health promoting properties observed. *Vaccinium corymbosum*, particularly its fruits (blueberries), are known for both their vast antioxidant and phenolic content, as such their use as a base to develop new foodstuffs or even ingredients with some functionality may be of particular interest, especially when considering their pleasing organoleptic characteristics. Considering all of the above, and taking into account the global popularity of tea and other infusions, this work aimed to produce tea-like extracts (infused and boiled), using dry fruits and leaves of *Vaccinium corymbosum*, with the highest antioxidant, phenolic and anthocyanins (for fruits) contents and to characterize their chemical composition. To do so, several different methods were employed: (I) ABTS radical cation for the determination of the total antioxidant capacity. (II) The Folin-Ciocalteu reagent was used to assess the total phenolic content. (III) The differential pH was used to assess the total monomeric anthocyanins. (IV) High Performance Liquid Chromatography was used to identify / quantify the main compounds present in the selected extracts. Our results showed that, for fruit extracts, higher extraction times lead to a lower yield of total anthocyanins though the same was not observed for infused or boiled leaf extracts. Overall, leaf extracts proved to possess a higher phenolic and antioxidant content than fruit extracts. The identification of the compounds present in the extracts showed that chlorogenic acid was present in all extracts, frequently being the most abundant compound. Additionally, p-coumaric and caffeic acid, cyanidin-3-galactoside and quercetin-3-galactoside were found in leaf extracts while, peonidin-3-glucoside and galactosides of malvidin and delphinidin were found in fruit extracts as relevant compounds.

**Keywords:** Phenolic content, antioxidant capacity, blueberry fruit, blueberry leaf

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