

# **XIV Encontro de Química dos Alimentos**

Indústria, Ciência, Formação e Inovação



## **LIVRO DE RESUMOS**

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Indústria, Ciência, Formação e Inovação

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**CP029**  
**CHEMICAL FEATURES OF GREEN FIG PULP AND PEEL:  
PHENOLIC, ORGANIC ACIDS, AND TOCOPHEROLS PROFILE**

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*Ficus carica* L. is one of the first domesticated trees of the Neolithic Revolution; it is native to western Asia and was later spread to the Mediterranean region. Its fruits, figs, are widely consumed in fresh or dried form, or used for spirit beverage and jam due to their sweet taste and well-known nutritional properties [1, 2]. Nevertheless, the fruit peel is often discarded in the preparation of food products that only require the pulp, and this part of the fruit is reported as a good source of phenolic compounds with several beneficial properties for human health [3], thus the importance of studying the different parts separately is justified. Therefore, the aim of this study was to explore and compare the chemical composition of green fig pulp and peel. For that purpose, the phenolic composition was assessed by HPLC-DAD-ESI/MS, organic acids by HPLC-PDA, and tocopherols by HPLC-fluorescence.

Regarding phenolic compounds, the highest concentration was found in the peel, which revealed the presence of flavonoids and phenolic acids in similar concentrations, with quercetin-3-*O*-rutinoside, 5-*O*-caffeoylquinic acid, and vanilic acid malonyl-di-deoxyhexoside as the major compounds detected. On the other hand, the pulp presented a prevalence of phenolic acids, among which caffeic acid hexoside was the most abundant one.

In terms of organic acids, despite the higher amounts of oxalic and succinic acids found in the pulp, the peel showed higher concentrations of quinic, malic, citric, and total organic acids. The tocopherols profile was similar for both samples, with the four isoforms being detected;  $\alpha$ -,  $\beta$ -, and total tocopherols were mostly found in the peels, whereas  $\gamma$ - and  $\delta$ -tocopherol were prevalent in the pulp.

The results presented highlight the importance of this fruit in human diet, given its richness in nutritional and bioactive compounds that contribute for a balanced and functional diet. Additionally, the chemical composition of fig peel justifies the recovery of this part of the fruit for further application in food industry, in the cases where it is discarded for the preparation of fig-based products.

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