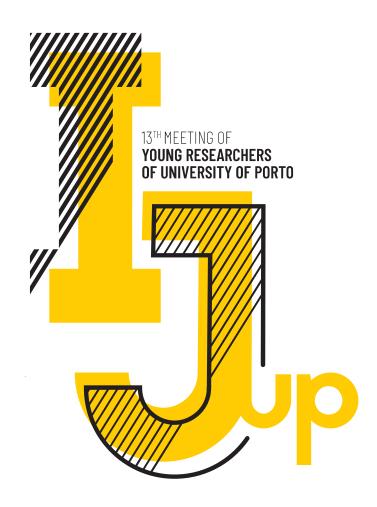
BOOK OF ABSTRACTS









CREDITS

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16820 | Opuntia ficus-indica - red variety: comparative analysis between cladodes and fruit

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Opuntia ficus-indica (L.) Miller is commonly known in Portugal as figueira-da-índia. Although wild plants could be found, these gained expression in our country as a crop, especially in the south of Portugal [1]. For that, the study of the plant, specifically its stems, cladodes, and fruits, becomes of utmost importance to support their consumption in natura or to develop other applications in food industry.

From this perspective, this study aimed to evaluate the nutritional composition and antioxidants content of cladodes and fruits of the red variety. The samples were produced in Torres Novas (Portugal).

The nutritional profile of cladodes and fruits was determined by AOAC methods [2] and the sugar composition by HPLC-ELSD [3]. For antioxidant compounds evaluation, the extraction was performed using different solvents: 100% water, water/ethanol (1:1) and 100% ethanol. The total phenolics and flavonoids contents, DPPH, and FRAP of the sample extracts were evaluated by spectrophotometric methods [4].

According to table 1, the nutritional profile of the fruit stands out in relation to the cladodes. However, both have low-fat contents and interesting amounts of protein. Cactus pear has a slightly higher total fiber content and carbohydrates. Fructose and glucose were the main sugars identified in the fruit whereas, in the cladodes, sucrose was also present. The cladodes stand out for their value in total minerals. Regarding antioxidant activity, the water/ethanol mixture (1:1) allowed a more efficient extraction in both samples.

Given the chemical similarities between cladodes and fruits of the red variety, the increase of this production and their dissemination, promotion, and valorization is justified. Nevertheless, different applications improve the potential of these products to be part of a healthy food pattern, their contribution to sustainable access to food, and promotion of food diversity.

Table 1. Nutritional composition of red variety of the cactus pear and cladodes

_	Sample	Moisture (%)	Fat*	Protein*	Ashes*	Dietary Fibre*	Carbohydrates*
Ī	Red Cactus pear	80.53 ± 1.22	1.50 ± 0.09	6.40 ± 0.41	3.86 ± 0.06	27.27 ± 0.36	60.90 ± 0.16
	Red Cladodes	92.05 ± 0.11	1.73 ± 0.33	3.48 ± 0.36	20.70 ± 0.04	22.95 ± 0.23	51.18 ± 0.57

^{*} Results presented as g/100 g dw

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