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ABSTRACT BOOK



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P-182 CHROMATOGRAPHIC METHODS TO OBTAIN THE BIOMOLECULES PROFILE OF SOME AROMATIC PLANTS IRRADIATED WITH ELECTRON BEAM

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Irradiation is being progressively considered as a versatile and effective conservation technique [1]. Based on this premise, our research group has been investigating the effects of different irradiation conditions in several food matrices. Aromatic plants are among the food products that require suitable conservation technologies to expand their use [2]. The effects of irradiation on the four species (*Aloysia citrodora*, *Melissa officinalis*, *Melittis melissophyllum* and *Mentha piperita*) studied herein were previously evaluated. In the present study, the same species were treated with different doses of electron-beam irradiation (0, 1 and 10 kGy) and several parameters were evaluated. The individual sugars profile was determined by HPLC-RI, fatty acids by GC-FID, organic acids by HPLC-PDA and tocopherols by HPLC-fluorescence. In general, the evaluated parameters remained practically unchanged, regardless of plant species or the irradiation dose. Regarding the profile of sugars, the major change was a decrease in the content of disaccharides. The most notable variations in organic acids were observed in plant species with the highest content in these molecules, especially the decrease observed in the samples of *M. officinalis* and *M. melissophyllum*. Among the tocopherols, the α and β isoforms were more susceptible to radiation, while the application of 1 kGy tended to increase the levels of tocopherols in *Aloysia citrodora*, while 10 kGy had the same effect on *M. melissophyllum*. *M. piperita* sample showed the highest levels of tocopherols, regardless of the dose applied. Finally, with regard to the fatty acids content, the irradiated samples showed higher percentages of monounsaturated fatty acids than the control samples. In general, analyzing the results taking into account the effects

described, it can be concluded that the application of irradiation with electron beam at doses 1 and 10 kGy is an effective way to retain biomolecules profile of the studied species.

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