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ABSTRACT BOOK



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**P-190 POSTHARVEST CHANGES IN PROFILES OF SUGARS,
ORGANIC ACIDS AND TOCOPHEROLS IN LEAFY VEGETABLES
MONITORED BY CHROMATOGRAPHIC TECHNIQUES**

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After harvest, plants remain living organisms with the capacity to carry out metabolic processes. Thus, from the moment they are detached from the source of nutrients, they become entirely dependent on their own organic reserves [1]. Postharvest changes cannot be stopped, but they can be slowed within certain limits. Therefore, this study was conducted to evaluate the effects induced by storage in the profiles of sugars, organic acids and tocopherols of two leafy vegetables.

Wild samples of watercress (*Nasturtium officinale* R. Br.) and buckler sorrel (*Rumex induratus* Boiss. & Reut.), from the Northeastern region of Portugal, were analyzed after harvest (control) and after storage in sterilized packages (using the passive modification mode) at 4°C for 7 or 12 days, respectively. Analyses were performed by high-performance liquid chromatography (HPLC) using different detectors, *i.e.*, a refraction index detector (RID) for free sugars, a photodiode array detector (PDA) for organic acids, and a fluorescence (FP) detector for tocopherols.

The storage time decreased the levels of fructose, glucose and total sugars in both leafy vegetables and increased the total organic acids content. The decrease of these sugars can be related to its use by the plant to produce the required energy. Ascorbic acid was detected in buckler sorrel and decreased with storage; while the amount of malic acid increased in both species. Curiously, all the tocopherol isoforms increased in watercress, while buckler sorrel just present higher values of γ - and δ -tocopherols. In fact, the *de novo* synthesis of these bioactives compounds can be a plant strategy to fight against the reactive species that are produced during storage. The knowledge of the behavior of these compounds during storage that was achieved

with this study [2] may contribute to the development of more effective preservation strategies for leafy vegetables.

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