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FRAGARIA VESCA L. FRUITS AS SOURCES OF HIGH VALUABLE BIOACTIVE MOLECULES

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Introduction

Fragaria vesca L. (Rosaceae), wild strawberry, belongs to Rosaceae family and is commonly found in roadsides and slopes [1]. Its small sweet fruits can be consumed as sources of vitamin C, either in fresh or in infusions used for the treatment of intestinal disorders [2].

Objectives, Material and Methods

Herein, the fruits of wild *F. vesca* were characterized in terms of nutritional value (carbohydrates, proteins, fat, ash, and energy value), dietary fiber content and fatty acids profile. Furthermore, both the fruits and corresponding infusions were characterized by their content in soluble sugars, organic acids, folates and tocopherols by HPLC coupled to RI, DAD and FL detectors, respectively, and also for their mineral elements composition, evaluated by EAA.

Results

Carbohydrates were the main macronutrient found in *F. vesca* fruits, followed by fat, ash and proteins. They also contain high levels of dietary fiber, mainly as soluble dietary fiber. Linolenic (C18:3n3) and γ -linolenic acids (C18:3n6) were the main fatty acids found in the fruits, highlighting a prevalence of polyunsaturated fatty acids (PUFA). The fruits and corresponding infusion showed sucrose, followed by fructose as main sugars. Citric acid was the most abundant organic acid in both samples; while oxalic and ascorbic acids were only detected in traces in the infusion. In terms of microelements, manganese was the most abundant in both forms. Potassium and calcium were the main macroelements found in the fruits and their infusion, respectively. In terms of vitamins, both samples presented folates (vitamin B9) and tocopherols (vitamin E), being γ -tocopherol the main isoform found, followed by α -tocopherol. By the way, in the infusion only α -tocopherol was detected.

Conclusions

Although fruits of wild *F. vesca* are mainly consumed in fresh, this study also proves the potentiality of their infusions as a source of bioactive molecules.

References:

- 1] Castroviejo, S., et al., (1998). Flora Ibérica 6. Real Jardín Botánico, CSIC, Madrid.
- [2] Šavikin, K., et al., Journal of Ethnopharmacology, 146, 803-810.

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