2nd Symposium on Medicinal Chemistry of University of Minho

8 May 2015

SCHOOL OF SCIENCE, CHEMISTRY DEPARTMENT

Campus de Gualtar
Standard versus reserve lots of Thymus x citriodorus L. and Mentha spicata L.: nutritional contribution of the infusions

I. Rita, C. Pereira, L. Barros, I.C.F.R. Ferreira

Mountain Research Centre (CIMO), ESA, Polytechnic Institute of Bragança, Campus de Santa Apolónia, apartado 1172, 5301-855 Bragança, Portugal; iferreira@ipb.pt

Nowadays we can notice a significant increase in the consumption of tea and herbal infusions, in such a way that their daily worldwide consumption is valued in more than three million cups. Hence, as expected, the tea market became a highly competitive and sophisticated sector, where a wide range of products continue to be developed for added-value [1,2]. An example in the tea industry of a new range of emerging products, are the designated “reserve lots” exclusively made up by the younger parts (apical leaves) of the plant collected in the hot summer months, unlike the standard lots, which have no harvest specific requirements. In this context, the present study was accomplished to understand the differences between infusions made from reserve lots and standard lots, in an attempt to contribute for the consumer best choice. For that purpose, we studied the nutritional value and energetic contribution of the infusions of two important species widely used either by their health benefits or their organoleptic properties, Thymus x citriodorus L. and Mentha spicata L., available in standard and reserve lots.

All of the infusions revealed the presence of fructose, glucose and sucrose (determined by high performance liquid chromatography coupled to a refractometer index detector) in very low concentrations, but in the reserve lots slightly higher amounts were detected in comparison to the standard lots. Nonetheless, T. citriodorus revealed the most relevant differences between the carbohydrates level (6.2 and 15.4 mg/100 mL, for the standard and reserve lots, respectively) and, consequently, the energetic contribution (24.6 and 61 cal/100 mL). Regarding to the infusions of M. spicata, the carbohydrates and energy ranged from 13.2 mg/100 mL and 53 cal/100 mL (in the standard lot) to 16.9 mg/100 mL and 67.4 cal/100 mL (in the reserve lot), respectively. Sucrose was the most abundant sugar in M. spicata (5.9 and 8.4 mg/100 mL), whereas glucose prevailed in T. citriodorus (2.2 and 5.75 mg/100 mL). The results here described are of great interest once they elucidate the consumer about the main differences between the nutritional contributions of the infusions obtained from different lots available on the market, allowing making a conscientious choice.

Acknowledgments:
The authors are grateful to “Cantinho das Aromáticas” for samples providing and to FCT (Portugal) for financial support to CIMO (PEst-OE/AGR/UI0690/2014).

References: