

FINAL PROGRAM

# EUROFOODCHEM XVIII

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## UPCOMING CHALLENGES IN FOOD SCIENCE



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*Carla Pereira; Eliana Pereira; Lillian Barros; Isabel Ferreira*

# A COMPARISON OF THE NUTRITIONAL CONTRIBUTION OF TWENTY-SIX WIDELY USED CONDIMENTS

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## Introduction

Aromatic plants are used worldwide since ancient times for nutritional and medicinal purposes. Traditionally, these plants are used fresh, dried, whole, chopped or ground, and are prepared from several plant parts such as bark, flowers, roots, fruits, fully ripe berries or leaves, being added to improve the flavor and taste of meals and substitute the excessive use of salt or fatty condiments (1). Indeed, spices are perceived since antiquity as functional foods and are still recommended in contemporary dietary programs to provide additional physiological benefits to the normal nutritional requirements as well as prevent or delay the onset of chronic diseases (2).

## Objectives

Nevertheless, despite the numerous studies highlighting their capacity to improve general health, there is a growing loss of diversity of these spices. In this framework, the present study aimed to provide scientific information concerning the nutritional value and energetic contribution, as well as the fatty acids composition, of twenty-six condiments, all of them provided by "Cantinho das Aromáticas", organic farmers from Vila Nova de Gaia (Portugal).

## Results

Carbohydrates were the most abundant compounds in the condiments, with *Thymus x citriodorus* (Pers.) Schreb., *Thymus mastichina* L. and *Thymus vulgaris* L. revealing the highest values (91.51, 91.10 and 91.08 g/100 g). *Foeniculum vulgare* Mill. revealed the highest amount of protein (14.14 g/100 g), followed by *Anethum graveolens* L. (10.17 g/100 g), whereas this species showed the highest ash content (16.46 g/100 g) and *Capsicum* spp gave the highest amount of fat (4.55 g/100 g). The samples also revealed a varied range of sugars with fructose, glucose, sucrose and trehalose detected in all the condiments. *Stevia rebaudiana* Bert. was the species that revealed the highest variety of sugars, with seven different sugars quantified in a total amount of 27.55 g/100 g. Energetically, *Capsicum* spp gave the highest results followed by *Laurus nobilis* L. (399.30 and 395.76 kcal/100 g). In respect to fatty acids, *Chamaespartium tridentatum* (L.) P.E. Gibbs. subsp. *cantabricum* (Spach) revealed the highest percentage of saturated fatty acids (SFA; 60.12%) and *Capsicum* spp revealed the highest levels of monounsaturated fatty acids (MUFA; 44.93%), while *Allium schoenoprasum* L. and *Foeniculum vulgare* Mill. presented the highest percentages of polyunsaturated fatty acids (PUFA; 71.72 and 71.24%).

## Conclusions

In a general way, the energetic value of the studied condiments was very low and these plants revealed good nutritional properties that make them suitable for a balanced and diversified low caloric diet.

## References:

- (1) L. Salgueiro, A. P. Martins and H. Correia, (2010) Raw materials: the importance of quality and safety. A. Review. *Flavour Frag J* 25, 253-271.
- (2) M. C. Nicoli, M. Anese, M. Parpinel (1999) Influence of processing on the antioxidant properties of fruit and vegetables *Trends Food Sci Technol* 10, 94-100.