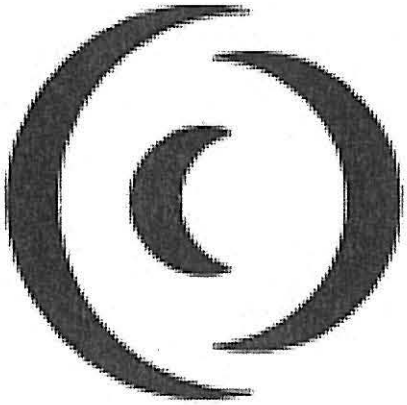

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Determination of acrylamide in coffee and coffee products by GC-MS

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The occurrence of acrylamide in fried or baked foodstuffs was first reported by Tareke et al[1] in 2002. The food categories that show a higher contamination of acrylamide are the ones based in potatoes, cereals and coffee. Several monitoring studies have been carried out since then, which exhibit adequate reliability and accuracy for the generality of the food products. However they have shown as well evident limitations when dealing with more complex matrices like coffee and cocoa samples[2].
The objective of this work was to develop a method to determine acrylamide in "espresso" coffee, instant coffee and other coffee mixtures. The fulcrum of the method was a purification step based in Solid Phase Extraction (SPE) with 2 different sorbents: C18 and Isolute Multimode. 18 samples of roasted coffee beans, 5 instant coffee (2 decaffeinated), 2 coffee blends with cereals and a cappuccino were analysed.
The results obtained for "espresso" coffee were about 0,62 µg AA/cup, for instant coffee 0,64 and 0,88 µg AA/cup for decaffeinated and for cappuccino 0,45 µg AA/cup. The coffee blends with cereals showed the highest AA levels: 2,15 µg AA/cup. The results indicate clearly that the developed method is widely applicable to a large range of coffee products and that the presence of cereals increases the observable AA levels.

1. Tareke, E. et al, J. Agric. Food Chem. 50 4998-5006 (2002).
2. Zhang, Y. et al, J. Chromatogr. A 1075 1-21 (2005).

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Characterization of several olive (*Oleae europaea* L.) cultivars based on fatty acids, triacilglycerol and tocopherol compositions

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Olive oil is the principal lipid source of the Mediterranean countries being largely consumed in Portugal. In the last years, the olive oil sector showed a great dynamics and olive oils with Protected Designation of Origin (PDO) and varietal olive oils (olive oils from just one cultivar) are introduced in the market. In this context, this work intends to contribute for a better knowledge of the most representative cultivars of *Olea europaea* L grown in Trás-os-Montes and Beira Interior, regions with importance in the production of these products. 34 samples of olives belonging to 14 olive cultivars were analyzed. Moisture and fat contents were determined in the fruit pulp and acidity, absorbance coefficients, fatty acids profile, triacylglycerols and tocopherols were evaluated in the oil fraction. Fat contents ranged from 47.2% to 70.3% of dry matter. Monounsaturated fatty acids were predominant, particularly oleic acid (68.6 – 82.6%). Among the triacylglycerols identified, 1,2,3-trioleoylglycerol (OOO) was the major (38.1 – 64.0%). The four isomers of tocopherol (α-, β-, γ- and δ-tocopherol) were identified in all samples. The chemical profile can be used to discriminate the oils obtained from the different cultivars.
Acknowledgment: Work partially financed by demonstrative project AGRO 482 "*Protecção contra pragas do olival numa óptica de defesa do ambiente e do consumidor*".