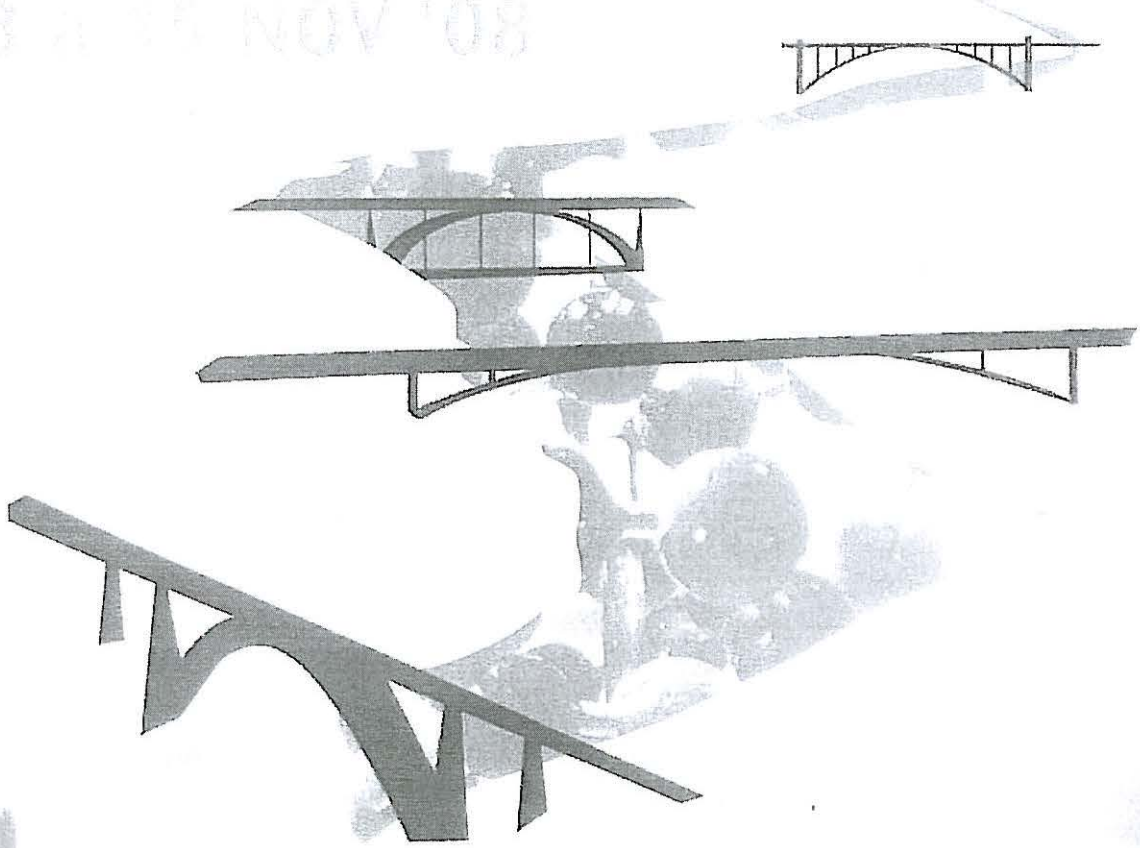
1º Encontro Nacional de Química Terapêutica

13 a 15 NOV '08



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ALMOND (*PRUNUS DULCIS*) AS A GOOD SOURCE OF HEALTH BENEFICIAL FATTY ACIDS

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Abstract

With the demographic imperative of an aging population worldwide, there is an understandable emphasis in the food industry to manufacture products that can be labeled with claims for health promotion and the prevention of chronic disease. Furthermore, growers of natural foods rich in a specific ingredient now seek to associate that constituent with health benefits (*1*). Almond (*Prunus dulcis*) is an example of these foods. This study focused on fatty acids (FA) composition of some selected regional and commercial almond cultivars. FA were determined by gas-liquid chromatography with flame ionization detection. The analyzed samples contained, in average, 9.48±0.77% saturated fatty acids (SFA), 66.79±7.26% monounsaturated fatty acids (MUFA) and 23.63±6.69% polyunsaturated fatty acids (PUFA). The obtained results presented enlighten that almond kernel oil is mainly constituted by three FA: oleic (C18:1ω9 = 66.14±7.27%), linoleic (C18:2ω6 = 23.55±6.69%) and palmitic (C16:0 = 7.08±0.46%) accounting for more than 96% of the total FA content. Besides these three main FA, 14 more were identified and quantified. Some of these FA (*cis*-10-heptadecenoic acid and *cis*-11,14-eicosadienoic acid) hadn't yet been detected in previous works, and, as far as we know, this is the first study that elucidates the different proportions of the C18:1 (C18:1ω9*t*, C18:1ω9 and C18:1ω7), C18:2 (C18:2ω6*tt*, C18:2ω6, C18:2ω6*ct* and C18:2ω6*tc*) and C18:3 (C18:3ω6 and C18:3ω3) isomers, with *cis*-9-octadecenoic acid (C18:1ω9) and *cis*-9,12-octadecadienoic acid (C18:2ω6) as the major compounds. Although almonds present high fat content, 90% or more is unsaturated fat, mainly oleic and linoleic acid, presenting a profile that might be cardio-protective, promote the development of the brain and retina of infants or improve the inflammatory response. These premises had already been confirmed by epidemiological studies (*2, 3*). In addition, it is widely recognized that the type of fat in the diet influences plasma cholesterol levels to a greater extent than total fat intake (*4*).

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