

Bem vindo ao Livro de Resumos (“eletrônico”) do COLACRO XII & SIMCRO 2008.

Após exaustiva avaliação o Comitê de Resumos aceitou cerca de 700 trabalhos para serem apresentados na forma de Poster, divididos em 3 dias e várias sessões. Houve um aumento qualitativo e quantitativo (cerca de 80%) marcante em relação à última edição do evento, realizada no Brasil (Campos do Jordão, 2004), o que demonstra um aumento e melhora na Ciência feita na América Latina. Lembramos a todos que haverá um volume especial do *Journal of Chromatographic Science* a ser dedicado ao COLACRO XII. Os artigos completos já estão sendo recebidos e avaliados pelo periódico, de acordo com o padrão de referagem do mesmo. A data máxima para envio do trabalho completo para publicação é 15 de novembro de 2008, devendo ser efetuado através do website do periódico.

Agradecemos aos nosso patrocinadores e a todos os demais que contribuíram na realização do COLACRO XII em Florianópolis.



COLACRO XII

Livro de Resumos

RESUMOS ENVIADOS ATÉ 01 DE OUTUBRO DE 2008.

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EFFECT OF REFINING ON THE FATTY ACID, TOCOPHEROLS AND STEROL COMPOSITIONS OF SOYBEAN OIL FROM GENETIC MODIFIED SEEDS

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Soybeans are an exceptional source of polyunsaturated fats, high quality proteins and high levels of vitamin E, being part of the human diet mainly as vegetable oil and as source of protein. Nowadays, soybean oil represents almost 30% of the world's vegetable oil production. As most vegetable oils, crude soybean oil must be refined in order to remove unacceptable materials, such as phospholipids, free fatty acids and pigments, that cause a decrease in the product quality. Nevertheless, during this process, desirable components such as phytosterols, tocopherols and polyphenols can be lost.

The aim of this work was to study the compositional evolution during extraction and refining processes of soybean oil. Considering that soybean is the most important genetically modified (GM) crop, corresponding to 57% of the world's total biotechnological planted area, the studied samples were obtained from GM seeds. Sampling included the extraction steps (whole, cracked, laminated and extruded seeds and crude oil) as well as refining steps (neutralized, washed, bleached and deodorized oil). Fatty acid and phytosterols compositions were evaluated by GC/FID and vitamin E profile was determined by HPLC/DAD/FL.

Fatty acid composition did not change significantly along the refining process with the exception of the *trans* isomers content, which increased from 0.1% to 0.7% in the last refining step (deodorization). Total phytosterols content increased along the preparation steps of soybean seeds before solvent extraction (cracking, lamination and extrusion-expelling) probably because those steps showed to be crucial to maximize oil extraction (from 17% to 21%). Refining caused a 20% loss of total phytosterols (from 392.8 to 314.1 mg/100 g oil). A significant reduction of the phytosterols content was observed after neutralization and washing, which could be due to free sterols lost in the soaps micelles. Along crude oil refining, a 30% reduction of Vitamin E content was observed (from 1343.8 to 942.4 mg/kg). The main tocopherols were gamma and delta while no tocotrienols were detected.