

Development of a New Margarine Added Date Seed Oil: Characteristics and Chemical Composition of Date Seed Oil

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Abstract : Date palm (*Phoenix dactylifera*) is a principal fruit that is grown in many regions of the world, resulting in a surplus production of dates. Algeria is considered to be one of the date producing countries. Date seeds (pits) have been a problem to the date industry as a waste stream. However, finding a way to make a profit on the pits would benefit date farmers substantially. This work concentrated on the valorization of date seed oils. A preliminary study was carried out on three varieties (soft, half soft, and dry) and we selected the dry variety. This work concerns the valorization of the date seed oil of the dry variety: 'Mech Degla' by its incorporation in a food formulation: margarine of table. Lipid extraction was carried out by hot extraction with the soxhlet; the extracts obtained are rich in fat contents, the results gave outputs of 13.21 ± 0.21 %. The antioxidant activity of extracted oils was studied by the test of DPPH, the content polyphenols as well as the anti-radicalaire activity. The analysis of fatty acids was made by CPG. Thus, it comes out from our results that the recovered fat contents are interesting and considerable. A formulation of the margarine 'BIO' was elaborated on the scale industrialist by the addition of the extracts of date seeds 'Mech-Degla' oil in order to substitute a synthetic additive. The physicochemical characteristics of the elaborate margarines prove to be in conformity with the standards set by the Algerian companies. The texture of the elaborate margarine has an acceptable color, an aspect brilliant and homogeneous, it is plastic and easy to paste having an index of required SFC and the margarine melts easily in the mouth. Moreover, the evaluation of oxidative stability is carried out by the test of Rancimat. The result obtained reported that the margarine enriched with date seed oil, proved more resistant to oxidation, than the margarine without extract, which is improved much during incorporation of the extracts simultaneously. By conclusion, considering the content of polyphénols noted in the two extracts (aqueous and oily), we can exhort the scientific community to become aware of the treasures of our country especially the wonders of the south which are the dates and theirs under products (pits).

Keywords : antioxydant activity, date seed oil, quality characteristics, margarine

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