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PHYSICOCHEMICAL CHARACTERISTICS OF DATE SAP "*LAGMI*" FROM DEGLET NOUR PALM (*PHOENIX DACTYLIFERA* L.)

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Physicochemical properties of sap from Deglet Nour date palm (Phoenix dactylifera L.) were studied. Composition analysis revealed (on a dry-weight basis) a high content of carbohydrates (94.98 g/100 g of dry matter basis) mainly sucrose, 2.72 g/100g (dry matter basis) of proteins and 2.29 g/100 g (dry matter basis) of ash. Date palm sap also contains 7.64 mg gallic acid equivalent/100 ml of total polyphenol. Thus, date palm sap showed antioxidant activity with a percentage inhibition of the DPPH radical value of 47.64%. Surface and foaming properties were also performed by drop volume and bubbling method, respectively. Equilibrium surface tension of fresh sap was 63.51 mN/m. Freeze-drying method preserved surface activity. Native sap showed better foam power (1.03) and foam stability (1150 s) than solutions prepared from lyophilised sap (5–30 g /100g of solution). Results demonstrated that this natural juice could be regarded as functional food due to its high nutritional value, antioxidant activity, surface activity, and foam power.

Keywords: Phoenix dactylifera ***L., Deglet Nour, Foam, Surface tension, Sap, Antioxidant activity.***

INTRODUCTION

The date palm trees (*Phoenix dactylifera* L.) are grown extensively in the arid and semiarid regions of the world, like northern Africa, the Arabian Peninsula, and Iran. In the south of Tunisia, date palm has an important role since it constitutes the principal source of remuneration and the basis of economy for the people living in Tunisian Sahara. It is also in a privileged position in the national economy. Indeed, the quantity of dates exported in 2004 reached 40.72 mille tons which represent approximately 11,04% of the total quantity of dates exported in the world and 85.91 million US $ in value.[1] 'Deglet Nour' cultivar is the most appreciated because of its high sensorial and nutritional properties. It represents more than 60% of cultured Tunisian palm.[2]

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