**Phytochemical compounds, antioxidant capacity and micronutrient content of some Moroccan date palm fruit (*Phoenix Dactylifera* L.)**

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**Abstract**

The date palm (*Phoenix Dactylifera* L.) fruit is among the fruits most consumed in many countries due its nutritional qualities. In Morocco, there are more than 400 varieties, some of which, such as Khalt khal, Jdar lahmer and Rasse tmar, are mostly used for livestock feed.

The valorization of these varieties could significantly boost the economy of the oasian people. The main objectives of our work are as follows: (i) Analyzing the content of phenolic compounds, micronutrients, and antioxidant activity in different Moroccan varieties; (ii) valorizing low commercially valued varieties; (iii) researching biological activities to identify bioactive substances. Our results have shown that gallic acid and kaempferol are the predominant phenolic compounds. The antioxidant activity, assessed through various tests, showed the following results (2,2-diphenyl-1-picrylhydrazyl (DPPH) test: IC50 ranged from 1.149 mg/ml to 54.835 mg/ml, ferric reducing power (FRAP) test: IC50 ranged from 1.712 mg/ml to 3.464 mg/ml, and ferrous ion chelating capacity (FIC) test: IC50 ranged from 0.052 mg/ml to 1.580 mg/ml). High levels of zinc and iron were found in Khalt Khal, Jdar Lahmer, and Rasse Tmar varieties. These preliminary analyses suggest an antioxidant activity that may be attributed to the presence of phytochemical compounds. Additional analysis is needed to determine the complete phytochemical profile of the studied varieties, thus enabling a more effective approach to valorization."

**Keywords:** date palm fruit, phenolic compounds, valorization