

PHENOLIC CONTENT AND ANTIOXIDANT ACTIVITY OF THREE NATIVE DATE (*PHOENIX DACTYLIFERA* L.) VARIETIES GROWN IN OUARGLA

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ABSTRACT:

Fruits of date palm (*Phoenix dactylifera* L.) are consumed throughout the world and are a vital component of the diet in most Arabian countries. This study has been carried out to evaluate the total phenolic content and the antioxidant activity of three date palm fruit varieties grown in Ouargla (Algeria): Deglet Nour (DN), Degla Baidha (DB), Ghars (Gh). The antioxidant capacities of these varieties were evaluated by using two methods, namely ABTS^{•+} (2,2'-azino-bis-(3-ethylbenzthiazoline-6-sulphonic acid)) scavenging activity expressed as Trolox equivalent antioxidant capacity (TEAC), DPPH (2,2-diphenyl-1-picrylhydrazyl) radical scavenging activity. Total phenol content (TPC) was determined by using Folin–Ciocalteu Reagent. Total flavonoid content (TFC) was determined by using aluminum chloride method. ABTS radical cation scavenging activity (Trolox equivalent), the TEAC values decreased in the order of DN > Gh > DB. Effective scavenging concentration (IC₅₀) on DPPH radical decreased in the order of DN > Gh > DB.

The TPC was found from 55.025 to 84.73 mg/100g gallic acid equivalents, the order of TPC of DPF is: DB > Gh > DN, while TFC to vary from 9.6 to 14.1 mg/100g rutin equivalents, and in a descending order of DB > DN > Gh.

This study suggests that Algerian date palm fruit may serve as a good source of natural antioxidants and could potentially be considered as a functional food ingredient.

KEYWORDS: *date palm fruit; Antioxidant capacity; ABTS; DPPH; Total phenolic content and total flavonoid.*