

Look Up Full Text

Full Text from Publisher



Save to EndNote online

Add to Marked List

1 of 1

## Biological Activities and Extraction Technologies of Pheonix dactylifera: A Review

By: Hamzah, NN (Hamzah, Nurfatim Nazirah)<sup>[1]</sup>; Ferdosh, S (Ferdosh, Sahena)<sup>[1]</sup>; Sarker, MZI (Sarker, Md. Zaidul Islam)<sup>[2]</sup>; Ghafoor, K (Ghafoor, Kashif)<sup>[3]</sup>; Yunus, K (Yunus, Kamaruzzaman)<sup>[4]</sup>; Chowdhury, AJK (Chowdhury, Ahmed Jalal Khan)<sup>[4]</sup>; Bari, NAA (Bari, Nurul Ashikin Abdul)<sup>[1]</sup>

[View ResearcherID and ORCID](#)

NATURAL PRODUCTS JOURNAL

Volume: 9 Issue: 1 Pages: 3-13

DOI: 10.2174/2210315508666180327152800

Published: 2019

Document Type: Review

### Abstract

Date palm (*Pheonix dactylifera* L.) has long been known for its medical benefits. In this review, the therapeutic properties of *P. dactylifera* are presented in light of the analysis of huge past reviews that reported the bioactivities of both flesh and seed of this fruit. The reported bioactivities of *P. dactylifera* included antioxidants, anti-cancer, aphrodisiac, antimicrobial, and anti-diabetic properties. This review additionally highlights the extraction technologies (Soxhlet, maceration, heat under reflux, Supercritical Fluid Extraction (SFE) and microwave assisted extraction) that were utilized as part of the extraction of *P. dactylifera*. This is because the quality and amount of the extraction yield depend on the extraction technology used.

Accordingly, this review aims for underlining the potentials of *P. dactylifera* by compiling available data on the bioactivities and extraction technologies used to set the directions for the improvement of future research of this fruit.

### Keywords

**Author Keywords:** *Pheonix dactylifera* L.; bioactivity; antioxidants; anti-cancer; aphrodisiac; antimicrobial; anti-diabetic; extraction technologies; supercritical fluid extraction

**KeyWords Plus:** FRUITS PHOENIX-DACTYLIFERA; ANTIOXIDANT ACTIVITY; DATE FRUITS; PHYSICOCHEMICAL PROPERTIES; L. VARIETIES; CHEMICAL-COMPOSITION; PHENOLIC COMPOSITION; BIOACTIVE COMPOUNDS; CULTIVARS; CAPACITIES

### Author Information

**Reprint Address:** Ferdosh, S (reprint author)

[+](#) IIUM, Fac Sci, Dept Plant Sci, Kuantan 25200, Pahang, Malaysia.

**Addresses:**

[+](#) [ 1 ] IIUM, Fac Sci, Dept Plant Sci, Kuantan 25200, Pahang, Malaysia

[+](#) [ 2 ] Int Islam Univ Malaysia, Fac Pharm, Kuantan, Pahang, Malaysia

[+](#) [ 3 ] King Saud Univ, Dept Food & Nutr Sci, Riyadh, Saudi Arabia

[+](#) [ 4 ] IIUM, Fac Sci, Kuantan, Pahang, Malaysia

**E-mail Addresses:** [sahena@iium.edu.my](mailto:sahena@iium.edu.my)

### Funding

| Funding Agency   | Grant Number    |
|--|-----------------|
| Research Initiative Grant Scheme for Post-Doctoral Fellowship of Research Management Centre at International Islamic University Malaysia | RPDF18-005-0005 |

[View funding text](#)

### Publisher

BENTHAM SCIENCE PUBL, PO BOX 294, BUSUM, 1400 AG, NETHERLANDS

### Categories / Classification

### Citation Network

In Web of Science Core Collection

0

Times Cited

[Create Citation Alert](#)

73

Cited References

[View Related Records](#)

### Use in Web of Science

Web of Science Usage Count

3

Last 180 Days

3

Since 2013

[Learn more](#)

This record is from:

Web of Science Core Collection

- Emerging Sources Citation Index

**Suggest a correction**

*If you would like to improve the quality of the data in this record, please suggest a correction.*

Research Areas: Pharmacology & Pharmacy  
 Web of Science Categories: Chemistry, Medicinal

[See more data fields](#)

◀ 1 of 1 ▶

## Cited References: 73

Showing 30 of 73 [View All in Cited References page](#)

(from Web of Science Core Collection)

1. **Aphrodisiac activity of aqueous extract of Phoenix dactylifera pollen in male rats**

By: Abedi, A.; Parviz, M.; Karimian, S.M.; et al.  
 Adv. Sex. Med. Volume: 3 Issue: 1 Pages: 28-34 Published: 2013  
[\[Show additional data\]](#)

Times Cited: 11
2. **Protective effects of green tea extract against hepatic tissue injury in strepto-zotocin-induced diabetic rats**

By: Abolfathi, A. A; Mohajeri, D; Rezaie, A.; et al.  
 J. Evid. Based Complementary Altern. Med. Volume: 2012 Pages: 10 Published: 2012  
 740671  
[\[Show additional data\]](#)

Times Cited: 1
3. **Effect of date fruits, Phoenix dactylifera L., on the hemolytic activity of streptolysin O**

By: Abuharfeil, NM; El Sukhon, S; Msameh, Y; et al.  
 PHARMACEUTICAL BIOLOGY Volume: 37 Issue: 5 Pages: 335-339 Published: DEC 1999

Times Cited: 7
4. **The ability of date extracts to support the production of aflatoxins**

By: Ahmed, IA; Robinson, RK  
 FOOD CHEMISTRY Volume: 66 Issue: 3 Pages: 307-312 Published: AUG 1999

Times Cited: 14
5. **CHEMICAL-COMPOSITION OF DATE VARIETIES AS INFLUENCED BY THE STAGE OF RIPENING**

By: AHMED, IA; AHMED, AWK; ROBINSON, RK  
 FOOD CHEMISTRY Volume: 54 Issue: 3 Pages: 305-309 Published: 1995

Times Cited: 113
6. **Quantification of phenolic compounds, evaluation of physicochemical properties and antioxidant activity of four date (Phoenix dactylifera L.) varieties of Oman**

By: Al Harthi, S. S.; Mavazhe, A.; Al Mahroqi, H.; et al.  
 JOURNAL OF TAIBAH UNIVERSITY MEDICAL SCIENCES Volume: 10 Issue: 3 Pages: 346-352 Published: SEP 2015

Times Cited: 5
7. **Comparison of antioxidant activity, anthocyanins, carotenoids, and phenolics of three native fresh and sun-dried date (Phoenix dactylifera L.) varieties grown in Oman**

By: Al-Farsi, M; Alasalvar, C; Morris, A; et al.  
 JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY Volume: 53 Issue: 19 Pages: 7592-7599 Published: SEP 21 2005

Times Cited: 210
8. **Compositional and functional characteristics of dates, syrups, and their by-products**

By: Al-Farsi, Mohamed; Alasalvar, Cesaretin; Al-Abid, Mohammed; et al.  
 FOOD CHEMISTRY Volume: 104 Issue: 3 Pages: 943-947 Published: 2007

Times Cited: 159
9. **Nutritional and Functional Properties of Dates: A Review**

By: Al-Farsi, Mohamed Ali; Lee, Chang Yong  
 CRITICAL REVIEWS IN FOOD SCIENCE AND NUTRITION Volume: 48 Issue: 10 Pages: 877-887 Published: 2008

Times Cited: 146
10. **The in vitro antioxidant activity of different types of palm dates (Phoenix dactylifera) syrups**

By: Al-Mamary, Mohammed; Al-Habori, Molham; Al-Zubairi, Adel S.  
 ARABIAN JOURNAL OF CHEMISTRY Volume: 7 Issue: 6 Pages: 964-971 Published: DEC 2014

Times Cited: 14
11. **Reproductive hormonal status of rats treated with date pits**

By: Ali, BH; Bashir, AK; Alhadrami, G  
 FOOD CHEMISTRY Volume: 66 Issue: 4 Pages: 437-441 Published: SEP 1999

Times Cited: 27