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Volume 3, Issue 6, December 2019, Pages 628-634

## Nigella sativa oil : Physico-chemical properties , authentication analysis and its antioxidant activity (Article) (Open Access)

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### Abstract

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Nigella sativa oil (NSO) is one of the high value oils in fats and oils industry due to its nutritional applications and its beneficial effects on human health. Several biological activities have been reported, especially antioxidant activities due to its active components, especially phenolics compounds. Some methods have been used for extraction of NSO from seeds to obtain high yield with excellent quality which includes solvent extraction, cold press, Soxhlet, and microwave assisted extraction. NSO commands a high price in the market, as a consequence, NSO is a target to be adulterated with cheaper oils such as corn and soybean oils. Indeed, the authentication analysis of NSO by determining several physico-chemical properties to determine the characteristics of NSO must be performed. This review highlighted some physico-chemical properties of NSO along with authentication of NSO from adulterants. The antioxidant activities of NSO were also highlighted in this review. Based on its activity as antioxidant, NSO is a good source to be used in nutraceutical and pharmaceutical products. © 2019 The Authors. Published by Rynnye Lyan Resources.

### SciVal Topic Prominence ⓘ

Topic: Nigella sativa | Seeds | Thymoquinone TQ

Prominence percentile: 97.393 ⓘ

### Author keywords

Antioxidant Authentication Black cumin Nigella sativa oil Physico-chemical properties

### Indexed keywords

EMTREE drug terms:

behenic acid benzoic acid campesterol cinnamic acid erucic acid glycerol stearate  
heptadecanoic acid linoleic acid Nigella sativa extract nutraceutical palmitic acid  
palmitoleic acid reactive nitrogen species reactive oxygen metabolite sitosterol  
stigmasterol thymoquinone tocopherol

EMTREE medical terms:

antioxidant activity Article fatty acid blood level Fourier transform infrared spectroscopy  
microwave assisted extraction nonhuman pharmaceuticals physical chemistry  
refraction index solvent extraction Soxhlet extraction soybean

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behenic acid, 112-85-6; benzoic acid, 532-32-1, 582-25-2, 65-85-0, 766-76-7; campesterol, 474-62-4; cinnamic acid, 4151-45-5, 538-42-1, 621-82-9; erucic acid, 112-86-7; glycerol stearate, 11099-07-3, 31566-31-1, 8049-07-8; heptadecanoic acid, 506-12-7; linoleic acid, 1509-85-9, 2197-37-7, 60-33-3, 822-17-3; palmitic acid, 57-10-3; palmitoleic acid, 373-49-9; sitosterol, 19044-06-5, 83-46-5; stigmasterol, 83-48-7; thymoquinone, 490-91-5; tocopherol, 1406-66-2

## Funding details

Funding sponsor	Funding number	Acronym
Kementerian Riset, Teknologi dan Pendidikan Tinggi		
Universitas Gadjah Mada		UGM

## Funding text

The authors are grateful to the Ministry of Research and Higher Education, Republic of Indonesia and Directorate of Research Universitas Gadjah Mada, Yogyakarta Indonesia for financial support during preparing this review article through scheme World Class Research 2019 with contract number of 1973/ UN1.DITLIT/DIT-LIT/LT/2019.

ISSN: 25502166

Source Type: Journal

Original language: English

DOI: 10.26656/fr.2017.3(6).115

Document Type: Article

Publisher: Rynnye Lyan Resources

## References (34)

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- 1 Abd El-Hack, M.E., Alagawany, M., Farag, M.R., Tiwari, R., Karthik, K., Dhama, K.  
Nutritional, healthical and therapeutic efficacy of black cumin (*Nigella sativa*) in animals, poultry and humans ([Open Access](#))

(2016) *International Journal of Pharmacology*, 12 (3), pp. 232-248. Cited 16 times.

<http://docsdrive.com/pdfs/ansinet/ijp/2016/232-248.pdf>

doi: 10.3923/ijp.2016.232.248

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- 2 Adamu, H.M., Ekanem, E.O., Bulama, S.  
Identification of essential oil components from *Nigella sativa* seed by gas chromatography-mass spectroscopy ([Open Access](#))

(2010) *Pakistan Journal of Nutrition*, 9 (10), pp. 966-967. Cited 7 times.

<http://docsdrive.com/pdfs/ansinet/pjn/2010/966-967.pdf>

doi: 10.3923/pjn.2010.966.967

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- 3 Ahmad, A., Husain, A., Mujeeb, M., Khan, S.A., Najmi, A.K., Siddique, N.A., Damanhouri, Z.A., (...), Anwar, F.  
A review on therapeutic potential of *Nigella sativa*: A miracle herb

(2013) *Asian Pacific Journal of Tropical Biomedicine*, 3 (5), pp. 337-352. Cited 365 times.

doi: 10.1016/S2221-1691(13)60075-1

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