



Egyptian Herbal Monograph

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Volume 3

Herbal Formulations Used in Egypt

Egyptian Drug Authority (EDA)

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Medicinal Plants Used in Egypt

Fennel oil, Guava, Tilia

زيت الشمر / جوافة / تيليو

1. Names & Synonyms

Fennel (1)

***Foeniculum vulgare* Mill.**

Family: Apiaceae (Umbelliferae).

Syns.: *Anethum foeniculum* Clairv., *A. foeniculum* L., *A. rupestre* Salisb., *Feniculum commune* Bubani., *F. azoricum* Mill., *F. capillaceum* Gilib., *F. dulce* DC., *F. foeniculum* L. H. Karst., *F. officinale* All., *F. panmorium* DC., *F. piperitum* DC., *F. sativum* Bertol., *Ligusticum divaricatum* Hoffmannsegg et Link, L., *Foeniculum* Crantz., *Meum foeniculum* L. Spreng., *Ozodia foeniculacea* Wight et Arn., *Selinum foeniculum* L. E.H.L.Krause.

Arabic: Shamar شمر

English: Fennel

Guava (2)

***Psidium guajava* L.**

Family: Myrtaceae.

Syns.: *Psidium aromaticum*, *P. cujavillus* Burm, *P. pomiferum*, *P. pyriferum*, *P. pumilum*.

Arabic: Gawafa جوافة

English: Guava

Tilia (3,4)

***Tilia cordata* Mill.**

Family: Tiliaceae (Malvaceae)

Arabic: Tilio تيليو

English: Lime flower (5), Linden, Tilia and small leaf linden, small leaf lime (6).



***Tilia platyphyllos* Scop.**

Family: Tiliaceae (Malvaceae)

Arabic: تيليو

English: Lime flower (5), Linden, Tilia and large-leaf Linden

***Tilia x vulgaris* Heyne**

Naturally-occurring hybrid of *T. cordata* and *T. platyphyllos* Scop.

Family: Tiliaceae (Malvaceae)

Syn: *T. europaea* auct. non L.

Arabic: تيليو

English: European linden, European lime tree, Linden and Tilia (6).

2. Parts used for medicinal purpose

Fennel oil: Dried ripe fruits (7).

Guava: Dried leaves (2).

Tilia: Flowers (4-6).

3. Major chemical constituents

Fennel oil (8)

trans-anethole (+)-fenchone, estragole (methylchavicol), limonene, *p*-anisaldehyde, α -pinene and α -phellandrene.

Guava

Phenolic Compounds (9)

- Flavonoids: Quercetin and its glycosides, avicularin, apigenin, guaijaverin, kaempferol, kaempferol-3-arabofuranoside, hyperin, myricetin, rutin, catechin, epicatechin, epigallocatechin gallate and proanthocyanidins.
- Phenolic acids: Gallic acid and caffeic acid.



Essential Oil (10,11)

- β -Caryophyllene, 4 α -selin-7 (11)-enol, β -caryophyllene oxide, α -selinene, β -selinene, δ -cadinene, daucol, cubenol, 1,8-cineole (eucalyptol) and aromadendrene.

Others (9)

- Sugars: Sulphated and unsulphated polysaccharides (uronic acid), minerals (calcium, potassium, sulfur, sodium, iron, boron, magnesium, manganese and zinc), vitamins (C and B) and macronutrients (protein and fat).

Tilia (4)

- **Flavonoids:** Kaempferol, quercetin, myricetin and their glycosides (mainly Kaempferol-3-*O*- β -D-(6''-*E*-*p*-coumaroyl)-glucopyranoside "tiliroside") and proanthocyanidins (5,12).
- **Phenolic acids:** Caffeic, chlorogenic and *p*-coumaric acids (5,12).
- **Essential oil:** Alkanes (mainly tricosane) (13), phenolic alcohols and esters, and terpenes including citral, citronellal, citronellol, eugenol, limonene, nerol, α -pinene and terpineol (monoterpenes), and farnesol (sesquiterpene) (5).
- **Others:** Mucilage, tocopherol (phytosterol) and amino acids (5).

4. Medicinal Uses (Indications)

- A) Cough sedative.
- B) Expectorant in cough associated with cold.

5. Herbal preparations correlated to medicinal use

Combination of fennel oil, guava aqueous liquid extract, and tilia aqueous liquid extract.

Herbal preparations are in pharmaceutical dosage forms. The pharmaceutical form should be described by the pharmacopoeia full standard term.



6. Posology and method of administration correlated to medicinal use

Adults: Combination of 5 mg of fennel oil, 0.125 g of guava extract, and 5 mg of tilia extract, 3 times daily.

Duration of used: Not to be taken for more than two weeks.

Method of administration: Oral use.

7. Contraindications.

- Hypersensitivity to the active substance(s) or other plants of the same families.
- Patients with known hypersensitivity to Asteraceae (Compositae) should avoid the use of the product because of cross reactivity risk (7).

8. Special warnings and precautions for use

If the symptoms worsen during the use of the medicinal product, a doctor or a pharmacist should be consulted.

9. Interactions with other medicinal products and other forms of interaction

- **Ciprofloxacin:** The medicinal product may affect the absorption, distribution, and elimination of ciprofloxacin. If the two are used concurrently, their dosages should be separated by at least 2 hours (14-16).
- If the patient is on other medications, he/she should seek medical advice.

10. Fertility, pregnancy and lactation

- Safety during pregnancy and lactation has not been established. In the absence of sufficient data, the use during pregnancy and lactation is not recommended.
- No fertility data available.



11. Effects on ability to drive and use machines

No studies on the effect on the ability to drive and use machines have been performed.

12. Undesirable effects

- Allergic reactions affecting the skin, the respiratory or and gastro-intestinal system may occur (7, 14).
- If adverse reactions occur, a doctor or a pharmacist should be consulted.

13. Overdose

No case of overdose has been reported.

14. Relevant biological activities

Not required as per Egyptian guidelines for registration of herbal medicines.

15. Additional information

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16. Date of compilation/last revision

27/04/2026



References

1.	WHO monographs on selected medicinal plants (2007). Monographs on selected medicinal plants, 3, 136-144.
2.	WHO monographs on selected medicinal plants (2007). Monographs on selected medicinal plants, 4, 127-139.
3.	Assessment Report on <i>Tilia cordata</i> Miller, <i>Tilia platyphyllos</i> Scop., <i>Tilia x vulgaris</i> Heyne or Their Mixtures, Flos (2012). EMA/HMPC/337067/2011. Committee on Herbal Medicinal Products (HMPC)
4.	Barnes, J., Anderson, L. A. and Phillipson, J. D. (2007). Herbal Medicines, 3 rd edition. Published by the Pharmaceutical Press. ISBN 978 0 85369 623 0.
5.	Community Herbal Monograph on <i>Tilia cordata</i> Miller, <i>Tilia platyphyllos</i> Scop., <i>Tilia x vulgaris</i> Heyne or Their Mixtures, Flos (2012). EMA/HMPC/337066/2011. Committee on Herbal Medicinal Products (HMPC).
6.	Natural Health Product, Linden, Small Leaf – <i>Tilia cordata</i> (2017). Health Canada, http://webprod.hc-sc.gc.ca/nhp/bdipsn/atReq.do?atid=linden.tilleul.smallleaf.Petitesfeuilles &lang=eng .
7.	European Union Herbal Monograph on <i>Foeniculum vulgare</i> Miller subsp. <i>vulgare</i> var. <i>vulgare</i> , fructus (2024). Committee on Herbal Medicine Products (HMPC).
8.	Faudale, M., Viladomat, F., Bastida, J., Poli, F. and Codina, C. (2008). Antioxidant activity and phenolic composition of wild, edible, and medicinal fennel from different Mediterranean countries. <i>J. Agric. Food Chem.</i> 56 , 1912–1920.
9.	Kumar, M., Tomar, M., Amarowicz, R., Saurabh, V., Nair, M. S., Maheshwari, C., Sasi, M., Prajapati, U., Hasan, M., Singh, S., Changan, S., Prajapat, R. K., Berwal, M. K. and Satankar, V. (2021). Guava (<i>Psidium guajava</i> L.) leaves: Nutritional composition, phytochemical profile, and health-promoting bioactivities. <i>Foods</i> , 10 , 752.
10.	Karawya, M. S., Abdel Wahab, S. M., Hifnawy M. S., Azzam S. M. and EL- Gohary H. M. (1999). Essential oil of Egyptian Guajava leaves. <i>Egypt. J. Pharm. Sci.</i> , 40 (2), 209-217.
11.	El-Ahmady, S. H, Ashour, M. L. and Wink, M. (2013). Chemical composition and antiinflammatory activity of the essential oils of <i>Psidium guajava</i> fruits and leaves. <i>The Journal of Essential Oil Research</i> , http://dx.doi.org/10.1080/10412905.2013.796498 . 25 (6), 475–481.



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12.	Evans, W. C., Evans, D., & Trease, G. E. (2009). Trease and Evans Pharmacognosy (16 th ed.). Edinburgh; New York: Saunders/Elsevier. ISBN 9780702029332.
13.	Fitsiou, I., Tzakou, O., Hancianu, M. and Poiata, A. (2007). Volatile constituents and antimicrobial activity of <i>Tilia tomentosa</i> Moench and <i>Tilia cordata</i> Miller oils. <i>Journal of Essential Oil Research</i> , 19 , 2, 183-185, DOI: 10.1080/10412905.2007.9699255.
14.	Skidmore-Roth, L. (2010). Mosby's Handbook of Herbs & Natural Supplements. 4 th ed. ISBN 9780323057417.
15.	https://www.rxlist.com/fennel/supplements.htm .
16.	Duke, J. A. (2002). Handbook of Medicinal Herbs. 2 nd ed. CRC Press. ISBN 978084931284.