



Egyptian Herbal Monograph

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Volume 3

Herbal Formulations Used in Egypt

Egyptian Drug Authority (EDA)

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Guava, Tilia, Fennel Oil, Licorice

جوافة / تليو / زيت الشمر / عرقسوس

1. Names & Synonyms

Guava (1)

Psidium guajava L.

Family: Myrtaceae.

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

Arabic: جوافة

English name: Guava

Tilia (2,3)

Tilia cordata Mill.

Family: Tiliaceae (Malvaceae).

Arabic: تليو

English: Lime flower (4), Linden, Tilia and small leaf linden, small leaf lime (5).

Tilia platyphyllos Scop.

Family: Tiliaceae (Malvaceae)

Arabic: تليو

English: Lime flower (4), 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: تليو

English: European linden, European lime tree, Linden and Tilia (5).



Fennel (6)

***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

Licorice (7)

***Glycyrrhiza glabra* L. and its varieties or *Glycyrrhiza uralensis* Fisch.**

Syn. *Liquiritiae officinalis* Moench.

Family: Fabaceae (Leguminosae).

Arabic: Irksos, Erqsos عرقسوس

English: licorice, licorice root, liquorice, liquorice root, sweet root and sweet wood.

2. Parts used for medicinal purpose

Guava: Dried Leaves (1)

Tilia: Flowers (3-5)

Fennel oil: Dried ripe fruits (8)

Licorice: Dried Root (7, 9-11) and rhizome (7, 11).

3. Major chemical constituents

Guava

Phenolic Compounds (12)

- 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 (13, 14)

- 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 (12)

- 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 (3)

- **Flavonoids:** Kaempferol, quercetin, myricetin and their glycosides (mainly Kaempferol-3-*O*- β -D-(6''-*E*-*p*-coumaroyl)-glucopyranoside "tiliroside") and proanthocyanidins (4, 15)
- **Phenolic acids:** Caffeic, chlorogenic and *p*-coumaric acids (4, 15).
- **Essential oil:** Alkanes (mainly tricosane) (16), phenolic alcohols and esters, and terpenes including citral, citronellal, citronellol, eugenol, limonene, nerol, α -pinene and terpineol (monoterpenes), and farnesol (sesquiterpene) (4).
- **Others:** Mucilage, tocopherol (phytosterol) and amino acids (4).

Fennel oil (17)

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

Licorice (18)

- **Saponins:** Glycyrrhizin and glycyrrhizic acid (glycyrrhizinic acid), as a mixture of potassium and calcium salts.
- **Flavonoids:** glycosides of liquiritigenin and isoliquiritigenin, such as liquiritin, isoliquiritin, liquiritin apioside and licuraside (19).
- **Others:** Essential oil (mainly geraniol and geranyl hexanolate) and sterols (β -sitosterol, dihydrostigmasterol) (20).



4. Medicinal Uses (Indications)

- A. Expectorant in cough associated with common cold.
- B. Relief of symptoms associated with common cold.

5. Herbal preparations correlated to medicinal use

Combination of guava aqueous extract, tilia aqueous extract, fennel oil and licorice aqueous dry 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 50mg of guava extract, 15.6mg of tilia extract, 7.8mg of fennel oil and 100mg of licorice extract 3-4 times daily.

Children (above 4 years old): Combination of 25-50mg of guava extract, 7.8-15.6mg of tilia extract, 3.9-7.8mg of fennel oil and 50-100mg of licorice extract, 3-4 times daily.

Duration of use:

If the symptoms persist longer than one week during the use of the medicinal product, a doctor or a pharmacist should be consulted.

Method of administration: Oral use.

7. Contraindications.

- Hypersensitivity to the active substance(s) or to 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 (8).



8. Special warnings and precautions for use (9-11)

- If the symptoms worsen during the use of the medicinal product or if dyspnea, high fever or purulent sputum occurs, a doctor or a pharmacist should be consulted.
- Patients taking the medication should not take other licorice containing products as serious adverse events may occur such as water retention, hypokalemia, hypertension, cardiac rhythm disorders.
- This medication is not recommended to be used in patients affected by hypertension, kidney diseases, liver or cardiovascular disorders or hypokalemia, as they are more sensitive to the adverse effects of licorice.
- **Azole antifungals:** It may increase the levels of azole antifungals; avoid concurrent use.
- Concurrent use with grapefruit juice may increase corticosteroid action of licorice.
- Keep out of reach of children.
- To be used under medical supervision.

9. Interactions with other medicinal products and other forms of interaction (9, 11)

- Not to be used concomitantly with diuretics, cardiac glycosides, corticosteroids, stimulant laxatives or other medications which may aggravate electrolyte imbalance.
- The product may counteract antihypertensive action of prescribed medications.
- **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.
- If the patient is on other medications, he/she should seek medical advice.

10. Fertility, pregnancy and lactation

- The use during pregnancy and lactation should be avoided (3).



- 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 (11).
- If adverse reactions occur, a doctor or pharmacist should be consulted.

13. Overdose (9, 21)

- Prolonged use (more than 4 weeks) and/or intake of high amount of the product, may lead to overdose, which could result in symptoms such as water retention, hypokalemia, hypertension, cardiac rhythm disorders, hypertensive encephalopathy and in rare cases, myoglobinuria.

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



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