

# **Egyptian Herbal Monograph**

**Volume 3**

**Medicinal Plants used in Egypt**

**Egyptian Drug Authority (EDA)**

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## Medicinal Plants Used in Egypt

*Taraxacum officinale* Weber

هندباء

### 1. Names & Synonyms

*Taraxacum officinale* Weber

**Family:** Asteraceae/Compositae (3 - 7).

**Syns.:** *Leontodon taraxacum* L., *Taraxacum vulgare* (Lam.) Schrank, *T. campyloides* G. E. Haglund. (1-2).

**Arabic:** Handebaa, Hindbeh, Hindiba هندباء

**English name:** Lion's Tooth (6, 8 -10), Common Dandelion (8, 9), Dandelion (1).

### 2. Parts used for medicinal purpose

Leaves, roots and root with herb (whole plant) (3 - 7).

### 3. Major chemical constituents

Generally, dandelion plant is rich in polysaccharides, phenolic acids, flavonoids, terpenoids, minerals (particularly potassium), amino acids, and vitamins (9, 11).

**Roots:**

- **Polysaccharides:** Inulin (9, 11).

- **Phenolic acids:** Chicoric, chlorogenic, caffeic, monocaffeoyltartaric, hydroxycinnamic, synergic, vanillic and *p*-hydroxyphenyl acetic acids (9, 11).

- **Sesquiterpene lactones:** 4,11 $\beta$ , 13, 15''-Tetrahydroridentin B and taraxacolide-O-glucopyranoside (7, 12), 11,13-dihydrolactucin and ixerin D (13), and taraxinic acid D-glucopyranoside, its 11,13-dihydro-derivative (7) and ainslioside (12 - 14).

- **Minerals:** Mainly potassium (15).

- **Others: Sterols/Triterpenes:** Taraxasterol,  $\beta$ -taraxasterol, their acetates and their 16-hydroxy derivatives arnidol and faradiol,  $\beta$ -sitosterol,  $\beta$ -sitosterol-D-glucopyranoside and stigmasterol, and  $\beta$ -amyirin (12, 16, 17). A Triterpenoid: 3 $\beta$ -hydroxylup-18(19)-ene-21-one in fresh roots (13).



**Leaves:**

- **Phenolic acids:** Chicoric, caffeic and chlorogenic acids (9).
- **Flavonoids:** Luteolin, quercetin, apigenin, and their glycosides (9).
- **Sesquiterpene lactones:** Taraxinic acid  $\beta$ -D-glucopyranoside and 11 $\beta$ , 13-dihydrotaraxinic acid (18).
- **Coumarins:** Cichoriin and aesculin (9).
- **Minerals:** Mainly potassium (15).
- **Others:** Polysaccharides and ascorbic acid (9).

**4. Medicinal Uses (Indications) (3-5)**

- A. For the relief of symptoms related to mild digestive disorders (such as feeling of abdominal fullness, flatulence, and slow digestion) and temporary loss of appetite.
- B. To increase the amount of urine to achieve flushing of the urinary tract as an adjuvant in minor urinary complaints.

**5. Herbal preparations correlated to medicinal use**

**1. Comminuted herbal substances as herbal tea.**

The dried drug is added to 150 ml of hot water as an infusion or boiled with water as a decoction.

- 1.1 Root with herb (3, 7, 10).
- 1.2 Leaf (4, 6, 10).
- 1.3 Root (5, 6, 10).

**2. Dry extract of dried root with herb, extraction solvent ethanol 60% (V/V) (3, 7).**

**3. Liquid extract**

- 3.1 Dried root with herb, extraction solvent ethanol 30% (V/V) or (m/m) (3, 7).
- 3.2 Dried leaf, extraction solvent ethanol 25% (4, 6, 10).
- 3.3 Dried root, extraction solvent ethanol 30% V/V (5).

**4. Expressed juice.**

- 4.1 Fresh root with herb (3).
- 4.2 Fresh leaf (4, 6).
- 4.3 Fresh root (5).

**5. Tincture (1:5 in 45% alcohol).**

- 5.1 Dried root with herb (3).
- 5.2 Dried leaf (6).
- 5.3 Dried root (5, 6).



## 6. Posology and method of administration correlated to medicinal use

### Preparation 1

#### Indications A and B

Adolescents, adults and elderly:

**Preparation 1.1:** 3 - 4 g as a decoction, or 4-10 g as an infusion up to 3 times daily (3, 7).

**Preparation 1.2:** 4-10 g as an infusion, up to 3 times daily (5, 6, 10).

**Preparation 1.3:** 1 - 5 g as a decoction, 2-3 times daily (5).

### Preparation 2

#### Indication A

Adolescents, adults and elderly:

300 mg, twice daily (4).

150 mg, 3 times daily (4).

#### Indication A & B

**Adults:** 0.75 – 1.0 g (750-1000 mg), daily (6).

### Preparation 3

#### Indications A and B

Adolescents, adults and elderly:

**Preparation 3.1:** 3.15 ml, 3 times daily (3.15 ml equivalent to 3.31 g), or 1 ml, 3 times daily (1 ml equivalent to 1 g), respectively (3).

**Preparation 3.2:** 4-10 ml, 3 times daily (4).

**Preparation 3.3:** 2-8 ml, 3 times daily (5).

### Preparation 4

#### Indications A and B

Adolescents, adults and elderly:

**Preparation 4.1:** 10 ml, 3 times daily (3).

**Preparation 4.2:** 5-10ml, once or twice daily (4, 6).

**Preparation 4.3:** 4-8 ml, 3 times daily (5).

### Preparation 5

#### Indications A and B

Adolescents, adults and elderly:

**Preparation 5.3:** 5-10ml, 3 times daily (5).

**Adults:**

**Preparation 5.1, 5.3:** 5–10 ml, 3 times daily (6).

**Preparation 5.2:** 2-5 ml, daily (6).



### **Duration of use**

If the symptoms persist longer than 2 weeks during the use of the medicinal product, a doctor or a pharmacist should be consulted (3 - 5).

**Method of administration:** Oral use (3 - 5).

**For indication B:** to ensure an increase of the amount of urine, adequate fluid intake is required during treatment.

## **7. Contraindications**

- Hypersensitivity to the active substance or to plants of the same family (3 - 5).
- Obstructions of bile ducts, cholangitis, liver diseases, gallstones, active peptic ulcer and any other biliary diseases (4, 6, 7).
- The use in patients with renal failure, diabetes and/or heart failure should be avoided because of possible risks due to hyperkalemia (3, 4).

## **8. Special warnings and precautions for use (3 - 5)**

- If complaints or symptoms such as fever, dysuria, spasms or blood in urine occur during the use of the medicinal product, a doctor or a pharmacist should be consulted
- The use in children under 12 years of age is not recommended.
- Patients with conditions where reduced fluid intake is advised by a medical doctor, dandelion root is not recommended (5).

## **9. Interactions with other medicinal products and other forms of interaction (10)**

- **Antacids, H2-blockers, proton pump inhibitors:** Dandelion may decrease their action.
- **Anticoagulants, antiplatelets, NSAIDs, salicylates:** Dandelion may increase bleeding when used with these products.
- **Antihypertensives, insulin, antidiabetics and hypoglycemic herbs:** Dandelion may increase their effects; concurrent use should be avoided.
- **Diuretics and diuretic herbs:** Dandelion may increase diuresis when used concurrently with diuretics, leading to fluid loss and electrolyte imbalances; concurrent use should be avoided.
- **Lithium:** Toxicity may occur as a result of sodium excretion if dandelion is used concurrently with lithium.



**Lab test:**

- **AST, ALT, alkaline phosphatase, APTT, INR, PT:** Dandelion may increase these levels.
- **Blood glucose:** Dandelion may decrease blood glucose levels.

**10. Fertility, pregnancy and lactation (3 - 5)**

- 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 (3 - 5)**

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

**12. Undesirable effects**

- If adverse reactions occur, a doctor or a pharmacist should be consulted (3 - 5).
- Allergic reactions (3 - 5) including anaphylaxis and pseudoallergic contact dermatitis may occur (7). Cross-reactivity has been reported in individuals with an allergy to the pollen of other members of Asteraceae family (7).

**13. Overdose**

No case of overdose has been reported (3- 5).

**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 last revision**

02/08/2022.

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