



# Dandelion leaf

*Taraxacum officinale*

## Common names

Lion's tooth, taraxacum, blowball, puffball, wet-a-bed

## Family

Asteraceae/Compositae (daisy)

## Part used

Leaf

## Background and traditional uses

Dandelion is a perennial herbaceous plant with a large taproot, native to many areas of the northern hemisphere, that grows to around 30cm high. It is considered a weed in many parts of the world, but a useful one, as it has been employed both in traditional medicines and as a kitchen edible for centuries. It has hairless, shiny, deeply toothed leaves, reflected in the French common name from which the English derives: '*dent-de-lion*' or Lion's tooth. Dandelion plants have a bright yellow inflorescence atop hollow stems that produce a milky-white sap when broken. These flowers bloom for most of the year, opening at dawn and in fine weather and closing at dusk and in wet weather. Dandelion flowers were considered 'rain predictors' in folklore. On maturation, the flowers close and wither and a cypsela is formed to disperse seeds via the wind.<sup>1</sup>

Dandelion's botanical name, *Taraxacum officinale*, has been claimed to have several origins. It may be derived from the Greek words '*taraxo*' meaning 'disturbance' and '*akos*' meaning '*heal*' or '*remedy*', or possibly from the Persian-Arabic word '*tharakhcharkon*' meaning 'edible'.<sup>1</sup> The ground, roasted root is a popular coffee substitute with a similar bitter, earthy flavour.

Although there are very few clinical trials supporting the therapeutic use of dandelion leaf, it has a strong reputation as an effective diuretic and digestive tonic in traditional herbal medicine disciplines and is supported anecdotally in modern practice.

## Actions

### Primary:<sup>2</sup>

- Diuretic

### Secondary:<sup>1,2</sup>

- Bitter digestive tonic
- Choleric
- Anti-inflammatory
- Mild laxative
- Antirheumatic

## Applications and indications

- Cystitis, when prescribed with *Arctostaphylos uva-ursi* (Bearberry).<sup>3</sup>
- Dyspepsia and other digestive disturbances.<sup>4</sup>
- ESCOP recommends the use of dandelion leaf in minor urinary complaints, where an increase in urine output would be beneficial, such as the prevention of renal gravel and some rheumatic conditions.<sup>5</sup>
- The German Commission E supports the use of dandelion leaf as a treatment for appetite loss, dyspepsia, flatulence and bloating, and the combined use of dandelion leaf and root in cases of dysfunctional bile flow.<sup>6</sup>

## Active constituents and pharmacodynamics

Dandelion leaf contains an abundance of terpenoid and sterol bitter principles including taraxacin and taraxacerin, which are equally distributed in the roots, leaves, and flowers of the plant. The leaves contain sesquiterpene lactones such as taraxinic acid, which are largely responsible for their bitter taste, and triterpenoids such as cycloartenol.<sup>7</sup>

Dandelion leaves are also nutrient rich and a good source of vitamins A, B-complex, C and D, tannins, alkaloids, pectins, starch, caffeic acid and flavonoids, and many minerals,<sup>8</sup> explaining their prevalent use as an edible vegetable. They have a high potassium content, which is considered partly responsible for their diuretic activity.<sup>8</sup>

## Summary of clinical evidence

### Diuretic

In a pilot study, 28 healthy volunteers were asked to measure their urine output over a consecutive three-day period and were then given a high quality ethanolic extract of fresh dandelion leaves in three 8mL doses, five hours apart. The participants measured both frequency and volume of urine over the day. In the 17 volunteers who adequately completed the measures, significant increases in both urinary frequency and output were recorded.<sup>9</sup>

In a year-long, randomised, placebo-controlled, double-blind study on 57 women with chronic, recurrent cystitis, a herbal compound of dandelion leaf and bearberry (Uva-E) was shown to eliminate recurrence in the study group, compared to a 23% recurrence rate in the placebo group.<sup>10</sup>

## Dosage summary

**Liquid extract (1:1):** 40-80mL weekly<sup>2</sup>

**Dried herb equivalent:** 4-10g three times daily by infusion<sup>11</sup>

## Safety information

- Dandelion leaf is considered safe in pregnancy and lactation.<sup>8</sup>
- Avoid/prescribe with caution for individuals who are known to be sensitive to plants in the *Asteraceae/Compositae* family.<sup>7</sup>
- Avoid for patients with renal failure, diabetes and/or heart failure due to possible risks of hyperkalemia.<sup>7</sup>
- The use in children under 12 years of age has not been established due to lack of adequate data.<sup>7</sup>
- If fever, dysuria, spasms or blood in urine occur during the use of dandelion leaf, a doctor should be consulted.<sup>7</sup>

## References

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