

BARDANA

Scientific name: *Arctium lappa* Linné^(1,2).

Family: Compositae^(2,4).

Popular names: Bardana, Beggar's Buttons, Burr Seed, Clot-Bur, Cockle Buttons, Cocklebur, Foxe's Clote, Great Burr, Happy Major, Hardock, Hareburr, Lappa, Love Leaves, Personata, Philanthropium, Thorny Burr⁽¹⁾, Gobo⁽⁵⁾.

Used parts: whole plant

Botanical characteristics: The plant grows to a height of 80 to 150 cm. The stem is erect, rigid, grooved, branched and downy to wooly. The leaves are alternate, petiolate, broad to ovate-cordate. They are blunt and slightly wooly to hairy on the underside. The lowest leaves are very large and have a latex-filled stem. The crimson flowers grow in long-peduncled, loose cymes. The heads are fairly large, globose and almost glabrous. All flowers are funnel-shaped and androgynous. The bracts are green and coriaceous with a barb-shaped inward-curving tip. The fruit is compressed and has a bristly tuft, which falls off easily. The fruits separate from their stems on ripening⁽¹⁾.

Habitat: Burdock grows in Europe, northern Asia and North America⁽¹⁾.

Chemical composition: Lignans (neoarctiin A⁽¹⁾, arctiin^(2,3), diartigenin, arctigenin⁽⁴⁾), sesquiterpene lactones, polyynes (trideca-1, 11-dien-3, 5,7,9-tetraen), chlorogenic acid, isochlorogenic acid, polysaccharides, triterpenes (alpha-amyrin, omega-taraxterol, acetic acid ester) phytosterols (beta-sitosterol, stigmasterol, campesterol) and tannins. Volatile oil: phenylacetaldehyde, benzaldehyde, 2-alkyl-3-methoxy-pyrazines⁽¹⁾, inulin⁽²⁾.

Indications:

• Burdock is used for ailments^(1,4) and complaints of the gastrointestinal tract, as a diaphoretic^(1,6) and diuretic, for blood purifying^(1,4,6) and diabetes treatment⁽²⁾. Externally: used for ichthyosis,

psoriasis and seborrhea of the scalp^(1,3).

• Chinese medicine: Burdock is used to treat carbuncles, ulcers and erythema of the skin as well as sore throats⁽¹⁾.

Dose: Capsules: 460 mg and 475 mg; Fluid Extract – 1:1⁽¹⁾; Infusion: 4 to 6 g for seeds; Tincture: 1:10 in alcohol 45%: 8 to 12 ml three times a day⁽²⁾.

Others informations:

- The lignans is have been shown to influence sex hormone metabolism as well as protein synthesis, steroid biosynthesis and metabolism, growth factor action, cell proliferation, cell transformation, cell differentiation and angiogenesis⁽³⁾.
- Inulin-drug conjugates with urinary tract tropism have been designed to cure urogenital diseases as they exert their pharmacological activity in the urinary tract⁽⁵⁾.
- Particulate inulin was observed in experiments on mice to have anti-tumor activity⁽⁵⁾.
- The fructofuranan have been a significant cough-suppressing activity⁽⁵⁾.

References:

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4. HAN, B. H. et al. A Butyrolactone Lignan Dimer From *Arctium lappa*. **Phytochemistry**, v. 37, n. 4, p. 1161-1163, 1994.
5. KARDOSOVÁ, A. et al. A biologically active fructan from the roots of *Arctium lappa* L., var. Herkules. **International Journal of Biological Macromolecules**, 2003

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