

Elecampane (*Inula helenium*)

Common Names: Inula or scabwort.

Location: This herb can be found in Asia and Europe.

Description: The dried root of this herb is used medicinally.

Properties: This herb is well known for its positive effects on the respiratory system. Also, elecampane can be used to aid in processes of digestion.

Uses: Elecampane can be used to treat bronchitis, pneumonia and congestive heart failure.

Doses: This herb can be found in tincture, tea and capsule form.

Warnings: This herb may cause sensitivity to allergies. You will know that you have ingested too much elecampane when you experience cramps, vomiting or diarrhea. Do not take elecampane if you are diabetic or pregnant.

Elecampane Root and Powder Profile

Also known as

Inula helenium, Alant, *Aster helenium*, *Aster officinalis*, Elfdock, Elfwort, *Helenium grandiflorum*, Horse-Elder, Horseheal, Scabwort, Velvet Dock, Wild Sunflower, Yellow Starwort.

Introduction

Elecampane is a member of the same plant family as the sunflowers and ragweed, native to southern and eastern Europe but naturalized around the world. It is named after Helen of Troy, who carried the flowers with her when Paris abducted her from Sparta. The 6- to 8-foot (200-250 cm) tall plant has large, pointed leaves with downy gray undersides, and yellow summer flowers. In both traditional Chinese medicine and Ayurvedic medicine it is recommended for bronchitis and asthma. Monks in the Middle Ages regarded it capable of restoring health to the heart. It is used extensively for horses and livestock, specifically for skin diseases in horses and sheep. Early American folklore relates that it can cure hydrophobia in cows. Elecampane is also said to enhance psychic abilities and works involving scrying, as well as being one part of a 9 herb bath blend that is said to impart protection from witches.

Constituents

Bitter substances known as alanto-lactones and up to 45% inulin.

Parts Used

Roots and rhizomes dug from 2- to 3-year-old plants, dried and cut.

Typical Preparations

Usually taken as a tea. Added to cough syrups, expectorants, herbal diuretics, pain remedies, and roborants (for bringing out color from pale skin). Can also be taken internally in the form of a capsule or extract. It has also been known to be candied and eaten as a sweetmeat.

Summary

Elecampane is an antiseptic expectorant that relieves congestion in colds and bronchitis. As a bitter, it can also be used to stimulate digestion, and as an antifungal and helminthic, it can be used to treat yeast infections and parasites.

Precautions

If you are allergic to ragweed, you may be allergic to elecampane. Taking too much of the herb can cause cramps and diarrhea. Do not use more than 1 gram (one-quarter teaspoon) of the herb in any one dose, or more than 3 grams (a little less than a teaspoon) in a day. Not to be used while pregnant. Some cases have been reported of nausea and vomiting probably from over-use. Not recommended for long term use.

Botanical: Inula Helenium (LINN.)

Family: N.O. Compositae

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---Synonyms---Scabwort. Elf Dock. Wild Sunflower. Horseheal. Velvet Dock.

(*French*) Aunée

(*German*) Alantwurzel

(*Welsh*) Marchalan

---Part Used---Root.

---Habitat---Elecampane is one of our largest herbaceous plants. It is found widely distributed throughout England, though can scarcely be termed common, occurring only locally, in damp pastures and shady ground. It is probably a true native plant in southern England, but where found farther north may have originally only been an escape from cultivation, as it was cultivated for centuries as a medicinal plant, being a common remedy for sicknesses in the Middle Ages. When present in Scotland, it is considered to have been introduced. Culpepper says:

'It groweth in moist grounds and shadowy places oftener than in the dry and open borders of field and lanes and other waste places, almost in every county in this country, but it was probably more common in his days, cultivation of it being still general.'

It is found wild throughout continental Europe, from Gothland southwards, and extends eastwards in temperate Asia as far as Southern Siberia and North-West India. As a plant of cultivation, it has wandered to North America, where it has become thoroughly naturalized in the eastern United States, being found from Nova Scotia to Northern Carolina, and westward as far as Missouri, growing abundantly in pastures and along roadsides, preferring wet, rocky ground at or near the base of eastern and southern slopes.

---Description---It is a striking and handsome plant. The erect stem grows from 4 to 5 feet high, is very stout and deeply furrowed, and near the top, branched. The whole plant is downy. It produces a radical rosette of enormous, ovate, pointed leaves, from 1 to 1 1/2 feet long and 4 inches broad in the middle velvety beneath, with toothed margins borne on long foot-stalks; in general appearance the leaves are not unlike those of Mullein. Those on the stem become shorter and relatively broader and are stem-clasping.

The plant is in bloom from June to August. The flowers are bright yellow, in very large, terminal heads, 3 to 4 inches in diameter, on long stalks, resembling a double sunflower. The broad bracts of the leafy involucre under the head are velvety. After the flowers have fallen, these involucre scales spread horizontally, and the removal of the fruit shows the beautifully regular arrangement of the little pits on the receptacle, which form a pattern like the engine-turning of a watch. The fruit is quadrangular and crowned by a ring of pale-reddish hairs - the pappus.

The plant springs from a perennial rootstock, which is large and succulent, spindle-shaped and branching, brown and aromatic, with large, fleshy roots.

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---History---Elecampane was known to the ancient writers on agriculture and natural history, and even the Roman poets were acquainted with it, and mention *Inula* as affording a root used both as a medicine and a condiment. Horace, in the Eighth Satire, relates how Fundanius first taught the making of a delicate sauce by boiling in it the bitter *Inula*, and how the Romans, after dining too richly, pined for turnips and the appetizing *Enulas acidas*:

'Quum rapula plenus
Atque acidas mavult inulas.'

Inula, the Latin classical name for the plant, is considered to be a corruption of the Greek word *Helenion* which in its Latinized form, *Helenium*, is also now applied to the same species. There are many fables about the origin of this name. Gerard tells us: 'It took the name *Helenium* of Helena, wife of Menelaus, who had her hands full of it when Paris stole her away into Phrygia.' Another legend states that it sprang from her tears: another that Helen first used it against venomous bites; a fourth, that it took the name from the island Helena, where the best plants grew.

Vegetius Renuus about the beginning of the fifth century, calls it *Inula campana*, and St. Isidore, in the beginning of the seventh, names it *Inula*, adding 'quam Alam rustici vocant.' By the mediaeval writers it was often written *Enula*. Elecampane is a corruption of the ante-Linnaean name *Enula campana*, so called from its growing wild in Campania.

The herb is of ancient medicinal repute, having been described by Dioscorides and Pliny. An old Latin distich celebrates its virtues: *Enula campana reddit praecordia sana* (Elecampane will the spirits sustain). 'Julia Augustus,' said Pliny, 'let no day pass without eating some of the roots of *Enula*,

considered to help digestion and cause mirth.' The monks equally esteemed it as a cordial. Pliny affirmed that the root 'being chewed fasting, doth fasten the teeth,' and Galen that 'It is good for passions of the hucklebone called sciatica.'

Dioscorides, in speaking of Castus root, related that it is often mixed with that of Elecampane, from Kommagene (N.W. Syria) (Castus, derived from *Aplotaxis auriculata* (D.C.)), is remarkably similar to Elecampane, both in external appearance and structure. It is an important spice, incense and medicine in the East.)

Elecampane is frequently mentioned in the Anglo-Saxon writings on medicine current in England prior to the Norman Conquest; it is also the 'Marchalan' of the Welsh physicians of the thirteenth century, and was generally known during the Middle Ages.

It was formally cultivated in all private herb-gardens, as a culinary and medicinal plant, and it is still to be found in old cottage gardens. Not only was its root much employed as a medicine, but it was also candied and eaten as a sweetmeat. Dr. Fernie tells us, in *Herbal Simples*:

'Some fifty years ago, the candy was sold commonly in London as flat, round cakes being composed largely of sugar and coloured with cochineal. A piece was eaten each night and morning for asthmatical complaints, whilst it was customary when travelling by a river, to suck a bit of the root against poisonous exhalations and bad air. The candy may still be had from our confectioners, but now containing no more of the plant Elecampane than there is of barley in Barley Sugar.'

In Denmark, Elecampane is sometimes called Elf-Doc. Here one sometimes comes across the name Elf-Dock locally, also Elfwort.

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---Cultivation---Although Elecampane is no longer grown to any extent in England, it is still cultivated for medicinal use on the Continent, mainly in Holland, Switzerland and Germany, most largely near the German town of Colleda, not far from Leipzig.

It grows well in moist, shady positions, in ordinary garden soil, though it flourishes best in a good, loamy soil, the ground being damp, but fairly well-drained.

It is easily cultivated. Seeds may be sown, either when ripe, in cold frames, or in spring in the open. It is best propagated, however, by off-sets, taken in the autumn from the old root, with a bud or eye to each. These will take root very readily, and should be planted in rows about a foot asunder, and 9 or 10 inches distant in the rows. In the following spring, the ground should be kept clean from weeds, and if slightly dug in autumn, it will greatly promote the growth of the roots, which will be fit for use after two years' growth.

By cutting the root into pieces about 2 inches long, covering with rich, light, sandy soil and keeping in gentle heat during the winter, a good stock of plants can also be obtained.

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---Part Used Medicinally---The drug, Elecampane (*Radix Inulae*), consists of both rhizome or rootstock and roots. It is official in most pharmacopoeias.

For pharmaceutical use, the root is taken from plants two to three years old; when more advanced it becomes too woody. As a rule, it is dug in autumn.

Elecampane root has at first a somewhat glutinous taste, but by chewing, it becomes subsequently aromatic, and slightly bitter and pungent; it has an agreeably aromatic somewhat camphoraceous orris-

like odour.

The distinguishing characteristics of Elecampane root to be noted by a student are:

Its horny, not starchy nature.

The presence of oil-glands.

The absence of well-marked radiate structure in the wood.

Most roots of similar appearance to Elecampane root, such as Belladonna, Dandelion and Marsh Mallow, are devoid of oil-glands. Belladonna, moreover, is distinguished from it by its starchy fracture, Dandelion by its thick, ringed bark, and Marsh Mallow by its radiate structure and fibrous, easily separated bark. Pellitory root, which *has* oil-glands, is distinguished by its yellow, radiate wood, distinctive odour and taste.

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---Constituents---The substance most abundantly contained in Elecampane root is Inulin, discovered by Valentine Rose, of Berlin in 1804, who named it Alantin (the German name of the plant is *Alantwurzel*; French, *Aunée*), but the title, Inulin proposed by Thompson, has been generally adopted. It has the same composition as starch, but stands to a certain extent in opposition to that substance, which it replaces in the rootsystem of *Compositae*. In living plants, Inulin is dissolved in the watery juice, and on drying, is deposited within the cells in amorphous masses, which in polarized light are inactive. It resembles starch in appearance, but differs from it in giving a yellow instead of a blue colour with iodine, in being soluble in boiling water without forming a paste, and in being deposited unchanged from the hot aqueous solution when it cools. With nitric acid, *Inula* affords no explosive compound as starch does. By prolonged heat or the action of dilute acids, it is changed first to *inulin* then to *levulin*, and finally to *levulose*. It is only slightly changed to sugar by ferments.

Sachs showed in 1864 that by immersing the roots of Elecampane or *Dahlia variabilis* in alcohol and glycerine, Inulin may be precipitated in globular aggregations of needleshaped crystalline form.

Elecampane is the richest source of inulin.

The amount of Inulin varies according to the season, but is more abundant in the autumn. Dragendorff, who in 1870 made it the subject of a very exhaustive treatise, obtained from the root in October not less than 44 per cent, but in spring only 19 per cent, its place being taken by levulin, mucilage, sugar and several glucosides. Inulin is widely distributed in the perennial roots of *Compositae*, and has been met with in the natural orders *Campanulaceae*, *Goodeniaceae*, *Lobeliaceae*, *Stylidiaceae*, and in the root of the White Ipecacuanha of Brazil, belonging to the order *Violaceae*.

Inulin is closely associated in Elecampane with *Inulenin*, obtainable in microscopical needles, slightly soluble in cold water and weak alcohol, and *pseudo-inulin*, which occurs in irregular granules, very soluble in hot water and weak, hot alcohol, but insoluble in cold alcohol.

It was observed by Le Febre as early as 1660 that when the root of Elecampane is subjected to distillation with water, a crystallizable substance collects in the head of the receiver, and similar crystals may be observed after carefully heating a thin slice of the root, and are often found as a natural efflorescence on the surface of roots that have been long kept. This was considered as a distinct body called *Helenin*, or Elecampane camphor, but the researches of Kallen in 1874 showed that it was resolvable into two crystallizable substances, which he named *Helenin*, a body without taste or colour, and *Alantcamphor*, with a peppermint odour and taste. As a result of further research, it is considered that the crystalline mass yielded by Elecampane root on distillation with water in the proportion of 1 to

2 per cent, and associated with about 1 per cent volatile oil, consists of *Alantolactone*, *iso-alantolactone* and Alantolic acid, all of which are crystalline, nearly colourless, and have but slight odour and taste. The oily portion, *Alantol*, found in the distillate, a colourless liquid, has a peppermint-like odour.

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---**Medicinal Action and Uses**---Diuretic, tonic, diaphoretic, expectorant, alterative, antiseptic, astringent and gently stimulant. It was employed by the ancients in certain diseases of women, also in phthisis, in dropsy and in skin affections. Its name 'Scabwort' arose from the fact that a decoction of it is said to cure sheep affected with the scab, and the name 'Horse-heal' was given it from its reputed virtues in curing the cutaneous diseases of horses.

In herbal medicine it is chiefly used for coughs, consumption and other pulmonary complaints, being a favourite domestic remedy for bronchitis. It has been employed for many years with good results in chest affections, for which it is a valuable medicine as it is in all chronic diseases of the lungs asthma and bronchitis. It gives relief to the respiratory difficulties and assists expectoration. Its principal employment as a separate remedy is in acute catarrhal affections, and in dyspepsia attended with relaxation and debility, given in small, warm and frequently repeated doses. It is, however, seldom given alone, but most frequently preferred in combination with other medicines of a similar nature. It is best given in the form of decoction, the dose being a small teaspoonful, three times a day.

The root used not only to be candied and eaten as a sweetmeat, but lozenges were made of it. It has been employed in whooping-cough. It is sometimes employed in the form of a confection for piles, 1 OZ. of powdered root being mixed with 2 OZ. of honey.

In the United States, it has also been highly recommended, both for external use and internal administration in diseases of the skin, an old use of the root that has maintained its reputation for efficacy.

Externally applied, it is somewhat rubefacient, and has been employed as an embrocation in the treatment of sciatica, facial and other neuralgia.

Of late years, modern scientific research has proved that the claims of Elecampane to be a valuable remedy in pulmonary diseases has a solid basis. One authority, Korab, showed in 1885 that the active, bitter principle, Helenin, is such a powerful antiseptic and bactericide, that a few drops of a solution of 1 part in 10,000 immediately kills the ordinary bacterial organisms, being peculiarly destructive to the Tubercle bacillus. He gave it successfully in tubercular and catarrhal diarrhoeas, and praised it also as an antiseptic in surgery. In Spain it has been made use of as a surgical dressing. Obiol, in 1886, stated it to be an efficient local remedy in the treatment of diphtheria, the false membrane being painted with a solution of Helenin in Oil of Almond.

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---**Medicinal Preparations**---Powdered root 1/2 to 1 drachm. Fluid extract, 1/2 to 1 drachm. Inulin, 1 to 3 grains.

Gerard tells us: 'It is good for shortnesse of breathe and an old cough, and for such as cannot breathe unless they hold their neckes upright.' And further:

'The root of Elecampane is with good success mixed with counterpoisons, it is a remedy against the biting of serpents, it resisteth poison. It is good for them that are bursten and troubled with cramps and convulsions.'

And Culpepper says:

'The fresh roots of Elecampane preserved with sugar or made into a conserve, or a syrup, are very effectual to warm a cold windy stomach and stitches in the side, caused by spleen and to relieve cough, shortness of breath and wheezing in the lungs. The dried root made into powder and mixed with sugar, and taken, serveth the same purpose.... It cures putrid and pestilential fevers and even the plague. The roots and herbes beaten and put into new ale or beer and daily drunk, cleareth, strengtheneth and quickeneth the sight of the eyes. The decoction of the roots in wine or the juice taken therein, destroys worms in the stomach, and gargled in the mouth or the root chewed, fasteneth loose teeth and keeps them from putrefaction, and being drunk is good for spitting of blood, and it removes cramps or convulsions, gout, sciatica, pains in the joints, applied outwardly or inwardly, and is also good for those that are ruptured, or have any inward bruise. The root boiled well in vinegar, beaten afterwards and made into an ointment with hog's suet or oil of trotters is a most excellent remedy for scabs or itch in young or old the places also bathed and washed with the decoction doth the same; it heals putrid sores or cankers. In the roots of this herb lieth the chief effect for the remedies aforesaid. The distilled water of the leaves and roots together is very good to cleanse the skin of the face or other parts from any morpew, spots or blemishes and make it clear.'

In Switzerland (*Neufchâtel*) Elecampane root is one of the substances used in the preparation of Absinthe, and it was also used for the same purpose in France. It furnishes the *Vin d'Aulnée* of the French.

A blue dye has been extracted from the root, bruised and macerated and mingled with ashes and whortleberries.

'The wine wherein the root of Elicampane hath steept,' says Markham (*Countrie Farme* 1616), 'is singularly good against the colicke.' A cordial was made from the plant by infusing Elecampane roots with sugar and currants in white port.