

## Article for CTMS

### SPECIALISED BOTANICALS FOR SPECIFIC SKIN BENEFITS

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#### INTRODUCTION

There are many specialised botanicals that can be used with beneficial effect on the skin. Exotic plants from the rainforests, sacred herbs dating from the times of the Egyptian pharaohs, or traditional herbal medicinal materials from ancient China and the Far East. Recent published literature has given some superb examples in these areas. However, one does not have to travel vast distances to find beneficial plants, indeed, some of the most potent and well documented materials can be found growing in the back garden.

Let us examine just a few examples of those botanicals, namely, plantain, daisy and clover, which will serve to represent the many dozens that could have been chosen.

#### PLANTAIN

One of the most persistent is Plantain, and it comes in many forms, with many different local variations of the common name.

The uses and properties of the **Plantago spp** are very similar and so, for the sake of brevity, will be considered as an overview. This is not a particularly scientific approach and not the way in which the author stores his own data, but it will serve to illustrate the complexity and diversity of the plant.

**Plantago major** - General Plantain, Common Plantain, Rat-Tail Plantain, Waybread, Great Plantain, Ripple Grass, Greater Plantain, Ripplegrass, Fireweed, Broadleaf, Ribwort, Lambgrass, Lanceleaf, Soldier's Herb, Ribgrass, Wagbread or White Man's Foot. Other related plants are **Plantago major** var. **asiatica** DC., **Plantago major** var. **exaltata** Horn., **Plantago loureiri** Roem. et Schult. **Plantago lanceolata** - Ribwort, Ribwort Plantain, Long Plantain, Snake Plantain. **Plantago ovata** - Ispaghula, Spogel seeds, Pale Psyllium seeds, Blond psyllium, Ispagol, Indian Plantago. **Plantago psyllium** - Psyllium, Dark Psyllium, Fleaseed, Flea seeds, Brown psyllium, French psyllium and Spanish Psyllium. **Psyllium indica** - Black psyllium. **Plantago ovata** - Pale psyllium, Ispaghula, Spogel seeds. **Plantago media** - Hoary Plantain. **Plantago depressa** Willd.), **P.arenaria** and **P.ramosa**.

The whole plant contains 10 to 30% mucilage, present mainly in the husk; it is composed of a mixture of polysaccharides with d-xylose as the major residue and l-arabinose and an aldobiouronic acid also present. Other constituents present (according to a Russian source) include mono-terpene alkaloids, such as (+)-boschniakine (indicaine), (+)-boschniakinic acid (plantagonine) and indicainine; planteose (a trisaccharide), sucrose, glucose, rhamnose, galactose and fructose; sterols ( $\beta$ -sitosterol, stigmasterol, campesterol); a pentacyclic triterpene (oleanolic acid); triterpenes; a fixed oil and fatty acids. The most important constituent of the leaves is an iridoid glycoside (aucubin also known as rhinanthin and catalpol amongst others). Aucubin is unstable and causes the dried leaves to darken.

Other constituents include carotenes, tannins, choline, enzymes (emulsin, invertin) and silicic acid aucuboside, which is hydrolysed into aucubine and sugar. It has been proved that the aglycon of aucubin, aucubigenin, has a pronounced antimicrobial effect. In addition the plant contains galacturonic acid, plantiobiose, various organic acids (such as citric and oxalic acids) and potassium salts (to 0.5%).

Ancient Greek and Roman medicine valued and gave credit to the healing power of plantain, as did the North American Indians and the New Zealand Maoris (who referred to the plantain as Englishman's foot, since it spreads from our settlements).

In folk medicine it is used as a bulk laxative, as an emollient and as a demulcent. It is used in India as a diuretic and to treat diarrhoea, gonorrhoea, urethritis, haemorrhoids, kidney and bladder problems. In China, both the seeds and the whole plant of related species are used for similar purposes. The seeds are used to treat bloody urine (haematuria), coughing and high blood pressure. The plant has been reported for its use in treating cancer, though this is speculative at the present time.

Extensive clinical Russian research and experiments have proved that fresh plantain juice is suitable for dressing wounds, ulcers, furuncles and boils and can be used also as a powder for abscesses, ulcers, wounds of bleeding and chronic skin conditions.

The topical use of Psyllium leaves has been used to treat poison ivy rashes, eliminating itching and preventing the spread of the dermatitis. The action is vulnerary, astringent and antiseptic. Externally, the juice of the leaves is reported to counteract the bite of rattlesnakes, poisonous insects etc., and is also used to check external bleeding, erysipelas, eczema, burns and scalds. Applied as a poultice, the leaves will relieve rheumatic pain, and steeped in vinegar they will bring relief to painful feet.

It is a useful cleansing herb and will help towards a clear healthy skin. Freshly expressed juice from the fresh plant is excellent for closing the pores and refining a coarse skin.

## DAISY

One could almost forgive this small flower for living in the lawn, with its tiny delicate white petals tinged with red and yellow centre. When one looks at the benefits that this small plant can bring, it seems unwise to remove it.

**Bellis perennis** - Daisy, Bruisewort, Bairnwort, English Daisy, Garden daisy, Eye of the daisy.

In the Middle Ages it represented humility, and was also worn by Knights as a symbol of their fidelity. It was dedicated to St. Margaret of Cotona.

In fairy lore. Milkah fed her foster child on the plant so that she would grow no higher than a daisy, this led to the belief that it was used by witches who would administer the roots to the babies of people they hated in order to stunt their growth. Similarly, if the roots were boiled and fed to puppies it was once a superstition that they would grow no larger.

In Norfolk it was believed that if a maiden walked in a meadow of daisies and bent down with her eyes closed and picked up a handful, that the number she picked up would be the number of years until she would marry. However, another belief says that if a maiden gazed at the rising sun and placed her right hand on the ground, then the number of daisies underneath would be the number of months until she was married.

There also exists a proverb, "that when you can put your foot on seven daisies then summer has come".

It contains tannin, resin, essence, colouring material, saponins, essential oil, flavones, bitter principle and mucilage.

Internally, it is good for chest problems, coughs, catarrh and colic because of its expectorant qualities. It was also used as an anti-inflammatory for conditions of the liver and in cases of jaundice. The astringent properties are of benefit in gastritis, enteritis and diarrhoea.

Daisy has direct cardio-vascular action, useful in angina pectoris. The action is attributed to the saponin content of the plant. It also has hypotensive effect and decongests arteries that have been blocked due to arteriosclerosis.

It is also used for sleeplessness and a tea made from daisies and primroses has a gently hypnotic effect in cases of slight insomnia.

Externally the fresh flowers help to heal and reduce the pain of inflamed swellings, especially those associated with bruising. As well as being used on burns and wounds, it is specific for injuries to the breast, and also has a valued reputation in arthritis and rheumatism.

A cold infusion is used in an eye bath for minor troubles, and an ointment can also be used for application to the eyelids.

An infusion of "daisy water" can be used to clarify the complexion, and help to rid the skin of spots, furuncles and boils etc.

## **CLOVER**

There are a number of different clovers.

**Trifolium pratense** is Red Clover, Trefoil, Meadow Clover, Purple Clover and Cow Clover, Honeystalks, Sweet Kitty Clover, Marl Grass, Cow Grass and Bee Bread, a name special to Kent.

Shakespeare called it Trifol.

**Trifolium repens** is Meadow Honeysuckle or Clover.

**Melilotus officinalis** is Common Melilot.

**Melilotus altissima** or Tall Melilot is known as King's Clover or Sweet clover.

We shall consider only the Red or Purple Clover.

The plant contains a quercetin glycoside; an essential oil; an hydroxymethoxyflavone; pratol; various phenolic glycosides including trifoliin and flavonoids, isoflavones such as biochanin A, formononetin, genistein, daidzein, pratensein, and trifoside, flavones, coumarins etc. It also contains trans- and cis- clovamide, trifoliin, phaselic acid, a galactoglucomannan, sugars (including rhamnose), protein, a volatile oil containing furfural, resins, fat, minerals (particularly rich in magnesium, copper and calcium), phosphorus, vitamins etc. Also contained are tannins; organic acids, salicylic acid; coumaric acid; isorhamnetin; a phytosterol glycoside; trifolianol; ; a plant oestrogen, coumestrol, cyanogenic glycosides and organic pigments.

The flowers are the part most often used.

Internally it is taken for its anti-tussive, sedative, antispasmodic and expectorant properties for bronchitis, coughs, hoarseness, whooping cough and asthma.

It is also taken for indigestion, gastric troubles, diarrhoea and nausea.

Externally, it is used as a vulnerary for acne and other chronic skin conditions such as boils, eczema, athlete's foot, pimples, psoriasis, rashes, sores, ulcers and skin eruptions, where it can also give relief from the itching that these conditions can produce. It is gently astringent.

## **CONCLUSION**

With ingredient labelling legislation leading towards the Linnean classification for the plant description, **Plantago major** looks no worse than, say, **Oenothera biennis** (Evening Primrose) on the listing.

This paper has examined three examples of common plant materials that are literally available on one's own doorstep, but there are many more. Granted that these plants are not glamorous to the Marketeer eager to entice the customer with exotic dreams and sparkling graphics, however, they are truly beneficial materials that are cheap, readily available and from a renewable resource.

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