The East London Garden Society

Plant Facts

Moringa Oleifera: A Botanical Pharmacopoela

Moringa Oleifera is already highly esteemed by people in the tropics and sub-tropics for the many ways it is used medicinally by local herbalists. Some of these traditional uses reflect the nutritional content of the various tree parts. The following are just some of the ways the tree is used in Asia, Africa and the Americas. In recent years, laboratory investigation has confirmed the usefulness of some of these applications.

Leaves

- In India, juice from leaves is believed to have a stabilizing effect on blood pressure and is used to treat anxiety. In Senegal, an infusion of leaf juice is believed to control glucose levels in cases of diabetes.
- Mixed with honey and followed by a drink of coconut milk two or three times a day, leaves are used as a remedy for diarrhoea, dysentery and inflammation of the colon.
- Leaf juice, sometimes with carrot juice added, is used to increase urine flow. Eating leaves is recommended in cases of gonorrhoea on account of the diuretic action.
- In India and Nicaragua, leaves and young buds are rubbed on the temple for headache.
- In India and the Philippines, a poultice made from fresh leaves is applied to reduce glandular swelling.
- It was reported that Malaysians sometimes applied a leaf poultice to the abdomen to expel intestinal worms.
- Leaf juice is sometimes used as a skin antiseptic.
- In India, leaves are used to treat fevers, bronchitis, eye and ear infections, scurvy and catarrh.

- Leaves are thought to be able to kill intestinal worms.
- Leaves are used as an irritant and as a purgative.
- In Nicaragua, Guatemala and Senegal, leaves are applied as a poultice on sores and skin infections.
- In the Philippines, eating leaves is believed to increase a woman's milk production and is sometimes prescribed for anaemia.

Flowers

- Flowers are traditionally used as a tonic, diuretic, and abortifacient.
- Flowers are considered to be anthelmintic.
- They are used to cure inflammations, muscle diseases, tumours and enlargement of the spleen.
- In India, juice pressed from the flowers is said to alleviate sore throat and catarrh.
- In Puerto Rico, an infusion of the flowers is used as eyewash and a decoction from the flowers has been used to treat hysteria.

Pods

- Pods are believed to be anthelmintic
- Pods are used for infections of the liver and spleen and in treating pains in the joints.

Roots

- In India, roots are used as a carminative (promotes gas expulsion from the alimentary canal, against intestinal pain or spasms) and as a laxative.
- Roots are considered useful against intermittent fevers and are sometimes chewed to relieve cold symptoms.
- Juice from roots is applied externally as a skin tonic, counterirritant or vesicant (agent to induce blistering).
- Roots are used as an abortifacient, diuretic and a cardiac and circulatory tonic.
- Roots are used to treat epilepsy, nervous debility and hysteria.
- In Senegal and India, roots are pounded and mixed with salt to make a poultice for treating rheumatism and articular pains. In Senegal, this poultice is also used to relieve lower back or kidney pain.
- Roots are used as a purgative.
- In India, Indochina, Nicaragua and Nigeria, a root poultice is used to treat inflammations, especially swelling of tissues in the foot (pedal edema).
- A decoction of roots is used to cleanse sores and ulcers.
- In India and Indo-China roots are used to treat cases of scurvy.

- Root juice mixed with milk is considered useful against hiccups, asthma, gout, lumbago, rheumatism, enlarged spleen or liver, internal and deep-seated inflammations and calculous affections. Crushed root mixed with rum has been used as a liniment on rheumatism.
- A snuff made from roots is inhaled to relieve earache and toothache.
- A juice made from a combination of fresh roots, bark and leaves is inserted into the nostrils to arouse a patient from coma or stupor.

Root Bark and Stem Bark

- In Senegal, root and tree bark are used to treat sores and skin infections.
- Bark is regarded as useful in treating scurvy.
- In India, stem and root bark are taken as appetizers and digestives.
- In Senegal, a decoction of root bark, roots, leaves and flowers is used to treat epilepsy, hysteria, and intestinal spasms.
- In India, a decoction of the root bark is used as a fermentation to relieve intestinal spasm and is considered useful in calculous affections (mineral build up/kidney stones).
- Stem bark is used to cure eye diseases.
- In India, stem and root bark are believed to be aphrodisiacs and anthelmintic.
- In India, root bark is said to prevent enlargement of the spleen and formation of tuberculosis glands of the neck, to destroy tumours and to heal ulcers.
- Juice from root bark is put into the ear to relieve earaches and also placed in a toothache cavity as a pain killer.
- Bark is used as a treatment for delirious patients.
- In the Philippines it is believed that roots chewed and applied to snakebites will keep the poison from spreading.
- Bark is used as a rubefacient and as a vesicant.
- In India, bark is sometimes mixed with peppercorns and used as an abortifacient (although often with fatal consequences).

Gum

- Gum, mixed with sesame oil, is used to relieve headaches. This is also poured into ears for the relief of earache.
- In Java, gum is given for intestinal complaints.
- In India, gum is used for dental caries.
- Gum is considered to be diuretic.
- In India and in Senegal, gum is considered useful in treating fevers, dysentery and asthma.
- Gum is used as an astringent and rubefacient (skin tonics).

- In India, gum is sometimes used as an abortifacient.
- In India, gum is used to treat syphilis and rheumatism.

Seeds

- Seeds are used against fevers.
- Flowers, leaves and roots used as remedies for various tumours, and the seed for abdominal tumours.
- In Aruba, a paste of crushed seeds is spread on warts.

Seed Oil

- In India, seed oil is applied externally to relieve pain and swelling in case of gout or rheumatism, and to treat skin diseases.
- Oil is used to treat hysteria and scurvy.
- Oil is applied to treat prostrate and bladder troubles.
- Oil is considered to be a tonic and a purgative.

Supporting Research

Some of the above traditional remedies have been supported by recent laboratory studies. Among these:

- Moringa leaf extract has been shown to be effective in lowering blood sugar levels within a space of three hours, albeit less effectively than the standard hypoglycaemic drug, glibenclamide.
- An extract taken from dried leaves showed an impressive ability to heal ulcers in laboratory animals. Administration of daily doses by injection caused a very significant improvement in the healing rate in induced gastric ulcers.
- An extract made from dried powdered leaves was shown to have a very potent depressive effect on the central nervous system, resulting in significant muscle relaxation, decreased body temperatures and increased sleep time among laboratory mice. Subjects receiving the highest dosages spent twice as much time asleep as the control group.
- An extract from dried roots, applied orally to laboratory mice, demonstrated clearly that the roots possess anti-inflammatory properties. In another study, infusion of seeds, roots and flowers significantly inhibited the formation of pedal edema, although the authors concluded that the seed infusion may be the only one worthy of further investigation.
- An infusion made from seeds demonstrated an ability to inhibit intestinal spasms, as well as some diuretic activity. However, other plant parts (leaves, roots, stalks and flowers) showed no significant antispasmodic or diuretic activity.
- An in vitro study showed that an aqueous extract made from seeds is effective against Pseudomonas aeruginosa, Staphylococcus Aureus and Escheridia coli. This study showed the seed extract to be equally effective as

Neomycin against Staphylococcus Aureus. Similar results were obtained with aqueous extracts from the roots.

- Fresh leaf juice has showed some positive inhibition of Pseudomonas aeruginosa and an extract from leaves was found to be effective at inhibiting the growth of the fungi Basidiobolus Haptosporus and Basidiobolus Ranarum. The in vitro anti-fungal effects of the extract compared favourably with the effects of some conventional drugs used to treat zygomycotic infections.
- Aqueous extract from stem bark was shown to increase heart rate. Moringinine from root bark acts on the sympathetic nervous system and acts as a cardiac stimulant relaxes bronchioles and inhibits involuntary intestinal tract movement. Anthonine, also found in root bark is highly toxic to the cholera bacterium.

Spirochin, found in the roots, is anti-gram bacteria, analgesic, antipyretic, affects the circulatory system (by raising or lowering heartbeat, depending on dose), and affects the nervous system. In high doses it can paralyze the vagus nerve. Also found in roots and seeds, benzyl isothiocyanate (which works against fungi and bacteria) may be even better than medicinally utilized benzyl isothiocyanate and other isothiocyanates.