THE SCIENCE WORLD
A Monthly e Magazine
ISSN:2583-2212
June, 2023; 3(06), 1138-1140

Popular Article

Neem and Its Importance

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https://doi.org/10.5281/zenodo.8080645

Neem has also been called "Heal all", "Divine Tree", "Village Pharmacy" and even "Nature's drugstore". The ancient Indian found many therapeutic uses for the tree and also observed that the tree could survive in very dry and arid conditions. In due course of time, the name and fame of neem spread, not only in the remote areas of the Indian subcontinent but also in the adjoining countries in Asia, now known as Sri Lanka, Malaysia, Indonesia and Thailand. Since ancient times, India has had cultural and commercial relations with the people of these countries. Whereas in folklore mainly the leaves and to some extent the oil was used in Ayurveda (the Indian system of medicine), Siddha (the system of medicine practiced in some parts of south India) and Unani Tibb (the Greco-Persian system of medicine), polyherbal preparations containing one, two or all five parts of the plant, i.e. leaves, bark, flower, fruit and root, called *panchang* in Ayurveda, were used. In the traditional systems of medicine, some of the preparations were for internal administration, while others such as nasal drops, medicated oils or fats were for external application.

European colonizers, on their arrival in India in the sixteenth century, also noticed this important tree and they called it *Margosa*. This term has been widely used in the subsequent literature and until recently neem was called *Margosa indica* and neem oil was known as *margosa* oil. European physicians in India, as well as Indian physicians trained in the orthodox system of medicine (allopathy) and in homoeopathy, saw great virtues in the nineteenth century in the bark of neem both from the stem and the root, but mainly stem bark was used, because of its easy accessibility. The

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Published 26.06.2023

bark was considered a substitute for cinchona, widely prescribed for malaria and other fevers at that time. Neem bark was included in the Indian Pharmacopoeia, the Indian Homoeopathic Pharmacopoeia and even in the British Pharmaceutical Codex.

At one time it was in the US National Formulary, but it is doubtful if the source of this drug was neem or the closely allied *Melia azedarach,* also called China berry, with which neem has very often been confused. Keeping in view the importance of neem in Indian culture, some studies were carried out in the earlier part of the twentieth century to establish the therapeutic efficacy of the various claims made about it in the traditional systems of medicine. The researchers showed that neem lacked profound pharmacological activity, which was considered important at that time for a herb to be a source of a drug. Neem was also not found effective against any disease, as compared to the other drugs available at that time. The oil with its foetid odor was not acceptable in any form, even for external application.

During the Second World War, because of the scarcity of various raw materials and war needs, research work on the industrial utilization of neem oil started again. These workers filed patents for the pharmaceutical use of neem bitters and for refining the oil.

Ketkar (1976) in the organization Neem Mission, tried to popularize neem products, keeping in view the large number of trees growing in India, and the amount of oil and seed cake they can yield. The Neem Mission propagated the idea of making neem soap from the oil at the village level as a small-scale cottage industry, and the utilization of seed cake, left after the extraction of oil, as a manure and as a denitrifying agent for nitrogenous fertilizers. Due to this effort and that of other agencies, neem soap for toilet purposes became a household name in India.

It was well known to Indian farmers that during invasion avoid the neem tree and that it has an antifeedant property. The research on neem got a new stimulus, when out of 2000 plants investigated for their action against insects, only neem gave promising results. It was found that it was not only effective against insects but also quite safe for human beings and other warm-blooded animals. The active compound was later isolated and identified as azadirachtin. Azadirachtin attracted the attention of workers all over the world, and various studies were published on it.

The commercialization of azadirachtin under the trade name *Margosan*-O and its clearance by the Environmental Protection Agency (EPA) of the USA (Larson, 1987) started a new era of non-hazardous insect controlling agents from plants. It was observed that neem could adapt itself to a dry, harsh and hostile climate and degraded soil, particularly in the dry arid regions of the world, where availability of water is quite poor. It could also be planted for soil reclamation. The tree could provide

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Published **26.06.2023**

much-wanted shade to cattle and man in scorching heat and support undergrowth vegetation. The leaves could be used as fodder for ruminants, particularly at times of scarcity. During a recent drought in Gujarat, a west Indian state, a large number of cattle were saved by feeding them neem leaves. It acts as a wind-breaker, an avenue tree, and the dry leaves that fall on the ground provide organic matter for the soil to support vegetation. The wood can be used as fuel, so scarce in arid regions, and also as timber for household furniture, and for agricultural implements. The seed can provide oil for use in household lamps for illumination, as a lubricant for agricultural machinery, against various pests and diseases and for soap. The oil when applied to leather goods prolongs their life and is also useful as a first-aid medicine for healing wounds and skin diseases of man and domestic animals. The seed cake, after washing, can be used in small amounts in poultry and cattle feed. It may be used as such as organic manure. It not only provides nutrition to plants, but helps in the conservation of nitrogenous fertilizers and the elimination of nematodes.

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Published **26.06.2023**