



Article : NATURE'S DRUG STORE: NEEM: A REVIEW

Author : Anuraj Kshirsagar [Yashavantrao Chavan Institute of Science, Satara] and Vaishali Dhanwe [Yashavantrao Chavan Institute of Science, Satara]

Abstract-

Azadirachta indica known as a neem in the Indian subcontinent is widely grown all over the tropic. It is the most useful traditional medicinal plant in India. Each and every part of neem has diverse applications due to presence of many biologically active ingredients such as Nimbidin, Nimbin, Nimbolide, Gedunin, Azadirachtin, Mahmoodin, Gallic acid etc. Neem compound belong to natural products which are divided in to isoprenoids and nonisoprenoids. Different neem products containing different neem compounds are having various applications including antialergic, anti-inflammatory, insecticidal, nematocidal, spermatocidal, antidermatic, antiviral, antifungal, anti AIDS, anticancer, antimalarial, antipyretic and many other biological activities. This review gives clear idea about chemistry of neem including its wide medicinal, industrial and agricultural applications.

Introduction –

Neem is a native tree of India found in every part of India especially in semi-arid conditions. Incredible plant of incredible India is the, "Neem" which has been declared the, "Tree of the twenty first century" by United Nations. Neem tree also known by other names include, Nim (Bengali), Nimm (Panjabi), Azad Dirakht (Persian), Dongo Yaro (Nigeria), Vepa (Telugu), Bevu (Kannada), Kadu nimb (Konkani), Kohomba (Sinhala), Vembu (Tamil), Indian Lilac (English), Muarubaili (Swahili). In India the neem tree known as, "Divine tree", Life giving tree, "Natures drug store", Village pharmacy and panacea for all diseases because it is one of the major part of Ayurvedic medicine. Every part of the tree has been used as traditional medicine for house hold remedy. The Sanskrit name of neem tree is "Arishtha" meaning reliever of sickness and hence it is considered as "sarva roga nivarini". In ancient time neem was most used medicinal plant of India and

found different notes in number of Puranic texts like Atharva veda, Amarkosha, Ghrysutre and vpanivahed which explains the outstanding qualities of neem tree. The importance of neem tree has been underlined by US national academy of science by publishing a report 'Neem tree for solving global problems' in 1992.

Taxonomical classification of neem tree –

Order	Rutales
Suborder	Rutinae
Family	Meliaceae
Subfamily	Melioideae
Tribe	Melieae
Genus	Azadirachta
Species	Indica
Latin	Azadirachta Indica
Hindi	Neem
Sanskrit	Aristha

Botanical description –

Neem is a fast growing tree with straight trunk that can reach a height of 15-16m (50-65 feet). It is evergreen tree with widely spread branches. The flowers are abundant, sweet smelling, arranged axillary. The tree start fruits in about 4 years. Green colored fruit of neem becomes yellow when it ripe. The fruit is a smooth olive like drupe varies in shape from elongate oval to roundish. The exocarp (fruit skin) is thin while mesocarp is yellowish and 3-5 mm thick. Endocarp of fruit is white and hard which encloses one or two seeds having brown colored coat.

Biological importance of neem –

Biologically neem has various bioactive ingredients with diverse applications. These bioactive ingredients are known to have anti-inflammatory, antiallergic, insecticidal, nematicidal, spermatocidal, antidermatic, antiviral, antifungal, anti AIDS, anticancer, antimalarial, antipyretic, antiarthritic, hypoglycaemic, antigastric ulcer, immunomodulatory, antihistamine, antitubercular, antiprotozoan, insect repellent, antifeedant, antihormonal and some other biological activities. Each and every part of neem tree known to possess biological activity. The biological activity depends upon the ingredients present in that particular part. More than 135 compounds have been isolated from different parts of neem. The different compounds of neem divided in to two major classes as shown below,