

Neem Plant Review: A Comprehensive Guide to Its Benefits and Care

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Abstract: *Neem, also known as azadirachta indica, has gained international attention recently due to its many therapeutic uses. Neem has become a contemporary medical cynosure and has been widely employed in ayurvedic, unani, and homeopathic medicine. Neem is a beautiful evergreen tree with wide leaves that may reach heights of 30 m and girths of 2.5 m. Its straight stem is between 30 and 80 centimeters in diameter. Its spreading branches grow up to 20 meters across, forming a rounded crown of deep-green foliage and honey-scented blossoms. Although azadirachtin is frequently utilized as a raw material to make biopesticides, it has been shown to have other qualities, most notably antimalarial and anticancer effects. Azadirachtin may be extracted using a variety of techniques, such as solid-liquid extraction as well as solvent extraction at either high or low temperatures. Alcohol-based solvents are recommended for the separation of azadirachtin from plant components since they are linked to greater extraction yields. In most cases, extracts must be cleaned in order to undergo further purification. Neem seeds have the greatest amounts of azadirachtin, however concentration values vary greatly across batches. As a result, regular techniques for azadirachtin identification and quantification must be established in addition to extraction processes. For the identification and measurement of azadirachtin in plant matrices, chromatography-based methods are preferred. All things considered, this procedure will ensure a future consistent, secure, and efficient usage of the extracts in commercial formulations.*

Keywords: taxonomy, morphology, pharmacological use, and macroscopical characteristics