

# NEEM AS AN ORGANIC PLANT PROTECTANT IN AGRICULTURE

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## INTRODUCTION

Neem for its exceptional uses is a super beneficial and the most accepted plant. As for organic farming, it is considered an auspiciously useful plant, either for its medicinal uses or environmental balancing purposes. Neem or Margosa is a botanical cousin of mahogany. It belongs to the family Meliaceae. The latinized name of Neem – *Azadirachta indica* – is derived from the Persian: Azad = Free, dirakht = Tree, Indian Origin which literally means ‘**The Free Tree of India**’. Neem is a natural herb that comes from the neem tree, other names for which include *Azadirachta indica* and Indian lilac. The extract comes from the seeds of the tree and has many different traditional uses. Neem is known for its pesticidal and insecticidal properties, but people also use it in hair and dental products.

The average height that a neem tree can grow up to is 15-30 metres (49-98 feet). The bark is thick and deeply furrowed, consists of a beautiful and attractive round shaped crown. The leaves are compound with toothed leaflets. These are typically evergreen but if encountered by extreme drought these drop off easily. The flowers are small, white coloured, bisexual or

staminate (male), with a magnificent fragrance. The flowers are borne in clusters in the axils of leaves. Bears fruits which are small, round shaped, yellow-green drupe when raw with sweet-flavoured pulp and red cherry type colour and appearance when ripened. The fruits are known to be useful for birds and insects but poisonous for human beings. Neem tree helps in the retention of water in water deficient areas, as of Rajasthan, India. It surprisingly, increases the water table and also provide shelter to animals and needy humans too.



General Characteristics of Neem



### Propagation of Neem tree and peoples' efforts

Neem is usually propagated through seeds (sexual) but can also be propagated from cuttings and rootstocks (asexual). The plant is hardy and resilient and grows well in poor, rocky soils. Neem tolerates a wide variety of environmental conditions but cannot survive freezing temperatures or being waterlogged. An exquisite example of enormous neem plantations till date is a business man named **Mr. Kishore Khimawat** who belongs to Pali district in Rajasthan. The Khimawat trust has planted 7.5 lakh trees on both sides of road covering a distance of more than 1300 km, in premises of educational institutes and various public engagement areas. There has been a 100% survival of the plants. Not to mention all these trees are precisely Neem trees. A village named Piplantri, located in Rajsamand district of Rajasthan, that has a tradition of planting a neem tree every single time when a girl child is born. This tradition has been going on in this village for a several years now.



LEGENDARY  
SHRI KISHOREMALJI KHIWAVAT  
(Chairman of Su-Raj Inter Gold Group)  
(8/2/1952 - 9/5/2012)

## CLIMATE AND SOIL REQUIREMENTS FOR NEEM TREE

Neem plant is a hardy plant as it thrives under adverse climatic and soil conditions. Neem has been adapted to wide ranges of climates. It thrives and flourishes well in hot weather conditions where the maximum range of shade temperature is of 49°C and can hold up to a minimum temperature of 0°C. The average altitude to which a neem tree can behold is 1500m. As of climatic conditions it is well settled in 30 countries world-wide till date consisted by Continents namely; Asia, Africa, Central and South America. As neem is an adverse conditions resistant plant, it can grow over every type of soil, i.e.; clayey, saline and alkaline, but it thrives best on well drained deep and sandy soils (pH 6.2-7.0), yet being the exception, it does not thrive well in black soil. Now, as compared to other trees under the scenario, dry stony saline soils with waterless sub-soils or hard calcareous or clay pans near the surface also turn out to be good settlements for neem trees. Since it is the most versatile and important tree in Indian subcontinent, it can grow on wide range of soils with up to pH 10. Neem plant is one of the mostly used trees for medical purposes all over the world. India is said to be the origin country of Neem (*Azadirachta indica*). Since it is known to have various medicinal values and is prominently used for cosmetics and daily use purposes;



Home remedies Utilized by Indians

the aqueous extract of neem leaves is believed to have anti- diabetic potential. Neem oil is used for dental care. Neem oil is used for cosmetics, acne treatment and maintaining skin elasticity. It comprises of anti- fertility properties. It holds the ability of anti- desertification too. The neem tree from leaves to roots is used, as each and every part of it is beneficial. This is the sole reason why in India, the tree is variously known as “Divine Tree”, “Nature’s Drugstore” and “Panacea for all diseases”. Neem seed cake is another profitable and beneficial product acquired from neem. It is the residue that is left after the oil has been pressed from neem seeds. It is used as an organic manure resulting in high yield of crops and plants. Chemical composition of neem seed cake comprises of; Azadirachtin, Phosphorus, Nitrogen, Potassium, Carbon, Sulphur, Calcium. It has some benefits as it is pest repellent and organic fertilizers. Different forms of neem seed cake, Neem cake granule, Neem cake powder, Neem cake manure, Neem cake bio- mix, Neem cake fertilizer.

In current scenario, the ‘Swadeshi Movement’ which is led by India to use Indian products with maximum organic capability especially in the field of Agriculture is, promoting “Neem coated Urea”. In countries like India, Pakistan and Bangladesh, the neem twigs are used for brushing teeth. In India, when a new born child is brought home, then the baby and the mother is made to take bath in Neem water prepare by boiling neem leaves in water. Still in some Indian villages and urban areas with native roots use hot boiled Neem leaves for drying up the incisions after child birth. The mother is made to sit over the hot leaves to make this work. As of Bengali culture in India, some particular dishes are made namely; Neem begun, Neem aaloo bhate, etc, which are consumed during changing weather conditions, as it contains anti- fever, anti- allergic and anti- oxidant properties.

