

The Neem tree (*Azadirachta indica* A. Juss.) has been known as the wonder tree for centuries in the Indian subcontinent.

Neem is a medium sized to large tree characterized by its short, straight bole, furrowed, dark brown to gray bark, and dense rounded crown of pinnate leaves. The Neem seeds, Barks, Leafs, are the sources of various Neem extracts.

Neem has been in use for centuries in the Indian Agriculture as Best Natural Bio Pesticide and organic fertilizer with pest repellent property. The Indian Medicinal field has also been using Neem for various types of diseases to be cured. Neem is also used in manufacturing Natural Herbal Cosmetics.

Neem comprises of 40 different active compounds called Tetranortriterpenoids, or more specifically liminoids. These liminoids create hormonal disruptions and prevents the insect from **Feeding, Breeding or Metamorphosing.**

The Chief ingredient of Neem is Azadirachtin, a tetranortriterpenoid. It exhibits antifeedant, insect repellent and insect sterilization properties. The Azadirachtin works not on the digestive or nervous system, it acts on the hormonal system of the insect pests and thus does not lead to development of resistance in future generations.

Chief Ingredient : Azadirachtin  
Empirical formula : C<sub>35</sub> H<sub>44</sub> O<sub>16</sub>  
Molecular weight : -720  
Chemical family : Tetranortriterpenoids

#### **Pests Controlled By Neem**

Insects belonging to Blattodea, Caelifera, Coleoptera, Dermaptera, Diptera, Ensifera, Hetroptera, Homoptera, Hymenoptera, Isoptera, Lepidoptera, Phasmida, Phthiraptera, Siphonoptera, and Thysanoptera, on species of ostracod, several species of mites and nematodes, and even noxious snails and fungi, including aflatoxin-producing *Aspergillus flavus* are affected by Neem.

#### **Applications in Medicinal and Cosmetic Fields**

Pure Neem barks, Neem leafs have found various applications in producing natural medicines and Neem oil has also found its application in manufacturing Neem based Natural Herbal Cosmetics.