



EXTRACTION OF AZADIRACTIN FROM NEEM SEEDS

Introduction:

The Indian Neem Tree (*Azadirachtin Indica, Aturs*) has attracted the attention of many chemists and biologists all over the world because of its biological active compounds; Azadirachtin is one of the most interesting constituents of Neem because of its influence on insect feeding behavior and insect developments. Azadirachtin is used to manufacture Eco-Friendly Insecticides.

Raw Material and its Availability:

According to a rough estimate made in a quick survey conducted, India has around 140 Laks neem trees and only 20 % of seeds crop is harvested due to scattered growth. India produces approximately 8300 tonnes of Neem Oil and 3, 32,000 tonnes Neem cake annually.

The distribution of Neem trees in India is given in given in Table 1.

Table 1: The distribution of Neem trees in India

S.No	State	No. of Trees (000 Nos.)	Total Seeds Potential (000 T)	Total Oil Potential (000 T)	Actual Collection (%)
1	Andhra Pradesh	653.9	12.2	2.5	27.0
2	Gujarat	636.2	21.0	4.2	1.0
3	Madhya Pradesh	735.6	18.2	3.6	2.0
4	Tamil Nadu	2544.1	57.1	11.4	29.0
5	Maharashtra	710.1	28.2	5.6	1.0
6	Karnataka	790.6	20.1	4.0	20.0
7	Orissa	48.7	1.2	2.4	NA
8	Punjab	391.3	12.0	2.4	NA
9	Rajasthan	183.8	3.9	0.8	NA
10	Uttar Pradesh	7972.6	265.9	53.2	NA
11	West Bengal	273.0	2.5	0.5	27.0
Total		14939.9	442.3	90.6	107.0

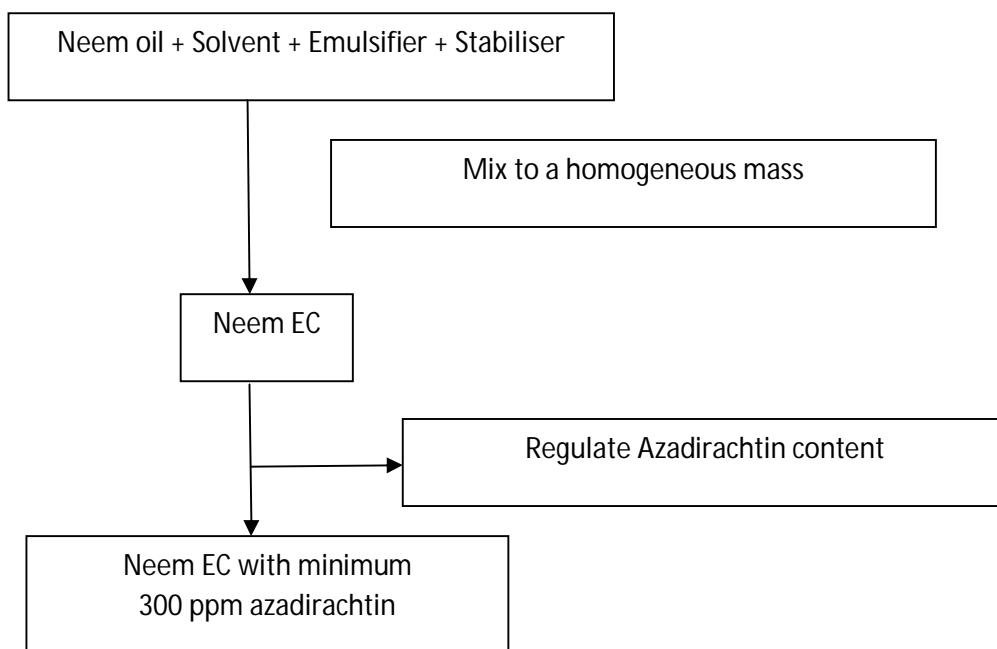


PROCESS:

The process developed has several advantages over other processes, one of the major advantages is that the azadirachtin is separated out by precipitation instead of concentrating the solution by evaporation and recovery of the solvent.

The process of extraction of azadirachtin from the neem seeds kernels involves the following major steps:

1. Cleaning and decortications of neem seeds
2. Powdering/crushing the kernel
3. Deoiling/defatting of kernel
4. Isolation of azadirachtin
5. Storage of final product





PROJECT AT A GLANCE

CAPACITY OF PLANT

Capacity	:	3000 Kg/Day (Neem Seeds)
Azadirachtin Production	:	18 Kg/ Day (0.25%)
Shift per Day	:	2 (8 Hrs.)
No. of Working Days	:	300

PROJECT DETAILS

Products	:	TPA
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Basis: Average Azadirachtin content in Neem Seed Kernel assumed to be 0.25%

Azadirachtin (100%)	:	1.35
Oil	:	180
Cake	:	270
Seed Cake	:	450

LAND AND BUILDING

Land	:	2.0 Acres.
Building Area	:	0.75 Acres.

MANPOWER REQUIREMENT

Total	:	36 Nos.
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