

7.1.10. Tobacco

Tobacco plant (figure 7.10) is found growing mainly in warm climates. It is mostly used for the preparation of bidi tobacco, cigar tobacco, chewing tobacco and hookah tobacco. The tobacco leaves are picked, dried, ground, and then used differently. It is chewed (called smokeless tobacco or chewing tobacco), smoked (in a cigarette, pipe, or cigar) or inhaled (called snuff).



Figure 7.10: Tobacco Plant

Synonyms

Tabacco and Tambaku.

Biological Source

Tobacco is the dried leaves of *Nicotiana tabacum*.

Family

Solanaceae

Occurrence and Distribution

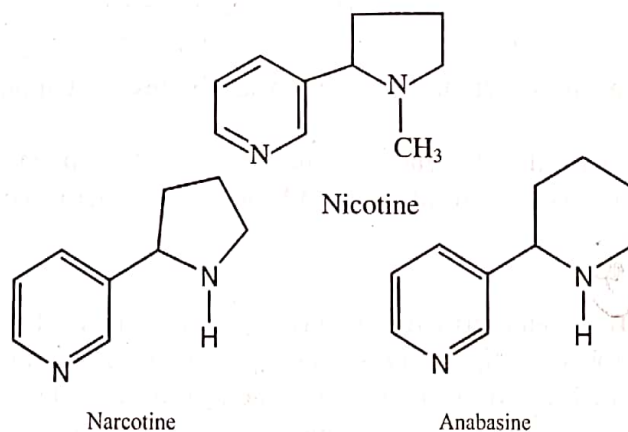
Tobacco plant is native to tropical America. It is commercially cultivated in China, India, and United States on a large scale. Brazil, Turkey, Russia, and Italy are a few more countries where it is cultivated for commercial purpose. Karnataka, Tamil Nadu, Andhra Pradesh, Orissa, Assam, Bihar, West Bengal, and Gujarat are the states in India where cultivation of tobacco is performed.

Organoleptic Evaluation

- 1) **Colour:** Green or slightly brown.
- 2) **Odour:** Characteristic to nicotine.
- 3) **Taste:** Bitter.
- 4) **Size:** 60-80cm in length and 35-45cm in width.
- 5) **Shape:** Ovate, elliptic, or lanceolate.

Chemical Constituents

Concentration of **nicotine** in all the varieties of tobacco is not similar and this concentration ranges between 1-10%. Nicotine alkaloid is pyridine-pyrrolidine type compound with pesticidal activity. In the tobacco leaves, few other important chemicals having insecticidal activities like **anabesine** and **narcotine** are also found.

**Chemical Test**

On treating an aqueous extract of tobacco with cyanogen bromide solution, an orange colour develops.

Therapeutic Efficacy

- 1) Nicotine has stimulant effects on nervous and cardiovascular system.
- 2) It is used in the synthesis of nicotinic acid and nicotinamide (vitamin B₃) on a commercial level.
- 3) It is used in the treatment of smoking withdrawal syndrome.
- 4) It has an antibacterial activity and its effectiveness increases against both Gram-positive and Gram-negative strains when used in combination with zinc.
- 5) Nicotine and other chemical extracts of tobacco (anabesine and narcotine) are used as antifungal.
- 6) Aqueous and ethanolic extract of *Nicotiana tabacum* is used as a medicinal plant extract in treatment of tuberculosis.
- 7) Tobacco is used as anthelmintic agent since it has been proved that both aqueous and alcoholic extracts of the medicinal plant are effective against nematodes.

- 8) Its extract increases the tone and motor activity of the bowel by combined activation of parasympathetic ganglia and cholinergic nerve endings.
 - 9) Nicotine causes an initial stimulation of salivary and bronchial secretions that is followed by inhibition.
 - 10) Extracts of *Nicotiana tabacum* decreases red blood cell count, packed cell volume, haemoglobin and platelet count, while increases mean cell volume and mean cell haemoglobin.
 - 11) Extract of *Nicotiana tabacum* improves memory and have anti-Alzheimer's activity. (20)
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