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Essential oil & essential oil yielding plants

Contents----

- Introduction.
- Some important essential oil yielding plants.
- Short descriptions of some of the plants.
- Uses.
- Photos of plants with their products.

Essential oil & essential oil yielding plants

Introduction

1

- The essential oils or ethereal oils are **volatile and liquid aroma** compounds from natural sources, usually plants, evaporate in contact with the air. It is by-products of plant metabolism.
- The essential oils may be extracted from the plant tissues by various methods – as Distillation, Expression and by solvents etc.
- These oils are usually chemically complex mixtures of organic substances. Mostly they are terpene derivatives, phenylpropanoids, various hydrocarbons and straight chain compounds(seldom longer than 20 carbon atoms).
- Used extensively in perfumes, flavourings and medicines.
- All aromatic plants contain essential oils in oil glands. Over 3000 essential oils have been identified from a large number of plants belonging to some 87 angiospermic families, notably Asteraceae, Poaceae, Myrtaceae, Lamiaceae, Rutaceae, Geraniaceae and Apiaceae.

Some essential oil yielding plants with Botanical name and family

2

- 1. Rose Rosa damascena. Rosaceae.
- 2. Sandal (Chandan), Santalum album. Santalaceae .
- 3. Lemon grass. Cymbopogon flexuosus. Poaceae.
- 4. Vetiver(Khas). Vetiveria zizanioides. Poaceae.
- 5. Lavender. Lavandula officinalis. Labiatae .
- 6. Jasmine(Juhi). Jasminum officinarum.
- 7. Mint(Pudina). Mentha arvensis. Labiatae .
- 8. Mint (Peppermint). Mentha piperita. Labiatae .
- 9. Ylang-ylang. Cananga odorata. Annonaceae.
- 10. Neroli (Orange) . Citrus aurantium. Rutaceae .
- 11. Camphor(Kapoor). Cinnamomum camphora. Lauraceae.
- 12. Eucalyptus. Eucalyptus obliqua. Myrtaceae.
- 2900 Plants are known to produce essential oils.

Rose oil\ Otto of Roses

3

- Botanical name- Rosa damascena . Family – Rosaceae
- Bulgaria supplies most of the rose perfumes. It is also manufactured in France, Italy, North Africa, Asia Minor and India. A prickly **shrub**, cultivated chiefly in Aligarh, Ghazipur and Kannauj of Uttar Pradesh.
- The **flowers** are picked in the early morning just as they are opening and are distilled as soon as possible. The oil is colourless at first, but gradually turns a yellowish or greenish colour. 20,000 ib. of the flowers are required to make 1 lb. of the essence.
- 1.It is used in making **first class perfumery**.2. Also used in **soap and cosmetics** industry. 3.Large quantity of **Rose Water** are also made. This consists for most part of water left after distillation, which still contains some otto.

Rose plant and its products

4



Pure Rose
Rosa Damascena



Sandal wood \ Chandan oil

5

Botanical name-Santalum album . Family - Santalaceae .

- The sandalwood **tree** grows wild in India(native), cultivated in other parts of Southeastern Asia and many other countries. Karnataka is the biggest producers in India followed by Andhra Pradesh and Kerela.
- Sandalwood oil is obtained by distillation from the **wood** . It is produced in India on a factory scale, its annual production being 140-154 metric tonnes .
- Uses- **1.** The oil is used through out the world as **perfume.2.** Oil is active ingredient of several skin care products. **3.**In traditional medicine, used as an antiseptic and astringent, and for the treatment of headache, stomachache and urinary and genital disorder.**4.** May stimulate hair growth, may promote sleep, may reduce anxiety, may boost memory, may control blood pressure levels, could reduce stress, may reduce body odor, may boost immunity etc.

Sandalwood\ chandan

6



Camphor(Kapoor) & Camphor oil. 7

- Cinnamomum camphora. Family- Lauraceae.
- A tall evergreen **tree**, native of China and Japan. The plant has been grown in India at Dehra Dun, Saharanpur, Calcutta, Nilgiris and Karnataka. 50 years old trees are used.
- Camphor is a waxy, flammable, transparent solid with strong aroma. It is a terpenoid ($C_{10}H_{16}O$). Camphor and Camphor oil are obtained from wood (5%) and leaves (0.5%) on steam distillation. Both are separated by filtration and refrigeration.
- Uses-**1**.They are mainly used in the manufacture of celluloid (a type of plastic) and various nitricellulose compounds. **2**.They are widely used in the preparation of medicines. **3**.They are also used for making perfumes.

Camphor(Kapoor) 8



Lavender

9

- Lavandula officinalis . Family- Labiatae .
- Lavender is a very old perfume and was used by the Romans in their bath. It is native of Southern Europe. Grown mostly in France, Spain and England.
- It is a low shrub with terminal spikes of very fragrant bluish flowers. Lavender oil is made by distillation of its flowers.
- Uses- **1.**The oil is an important constituent of Eau de Cologne and other high- grade perfumes.**2.** It is also used in soaps, cosmetics and medicines as a mild stimulant.**3.**Lavender has clean odour and dried flowers are used in sachets and for scenting chests and drawers.**4.** Lavender water, a mixture of the oil in water and alcohol, is highly popular toilet article in England.

Lavender plant

10



Lemon grass

11

- Cymbopogon flexuosus. Family - Poaceae.
- It is indigenous to India and grown in Madras, Tamilnadu and Karnataka. Worldwide grown in Kambodia, Vietnam, Srilanka, Burma and Thailand. India is at present meeting about 80 % of the world demand of lemongrass oil. Almost 97 % of lemongrass produced in India is exported.
- Plant is a grass **herb** up to 2 m in height.. Its fresh **leaves** yield on **distillation** a reddish yellow oil with a strong **odour and taste of lemons**. This is due to high content of aldehyde(**citral**) 70 to 80 %. Among the essential oils produced in India, lemongrass oil ranks first in quantity and value.
- Uses- **1.** Lemongrass oil is extensively used in perfumes, bath salts, cosmetics, toilet soaps and as a flavouring substance.
2. The oil is used for the synthesis of Vitamin A.
3. The oil is used in many pharmaceutical preparations such as pain balm and disinfectants.

Lemon grass plant

12



Vetiver\ Khas oil

13

- Vetiveria zizanioides. Family- Poaceae.
- Khus oil or vetiver oil is obtained from the **roots** by the **steam distillation** of Khuskhus plant, a native of India . Chiefly cultivated in Rajsthan (Bharatpur), Uttar Pradesh, Punjab and West Coast. Plant is introduced in West Indies and Louisiana etc.
- Plant is a **perennial bunchgrass**, grows up to 5 ft high and forms clumps. The vetiver bunchgrass has a gregarious habit and grows in tufts. The root system is finely structured and very strong. It can grow 10 fts. deep within first year. **The roots are very sweet scented**. It has neither stolon nor rhizome. Stems are tall, leaves are long and thin. The leaves are odorless. The flowers are brownish-purple.
- Uses- 1. Khus oil is a valuable fixative and is used in perfumery, cosmetics, soaps and for flavouring sherbets.
- 2. Oil is diaphoretic, stimulant, refrigerant, used in colic, flatulence and obstinate vomiting.
- 3.The scented roots are used in making mats,fans, screens,awnings, sun-shades, baskets, sachet bags and pillows.
- 3. It affords relief when applied in rheumatism,lumbago and sprains.

Vitever/ Khas plant

14





THANKS EVERYONE.