

Fragrance & Flavour Creation



Shakti Vinay Shukla

**Fragrance & Flavour Development Centre,
Kannauj**

Fragrance & Flavour

Magical & Evocative

They can bring to

- ✦ **life long – forgotten memories**
- ✦ **Influence perception of the present**
- ✦ **Conjure images of the future**



Raw Materials for **Fragrance & Flavour**

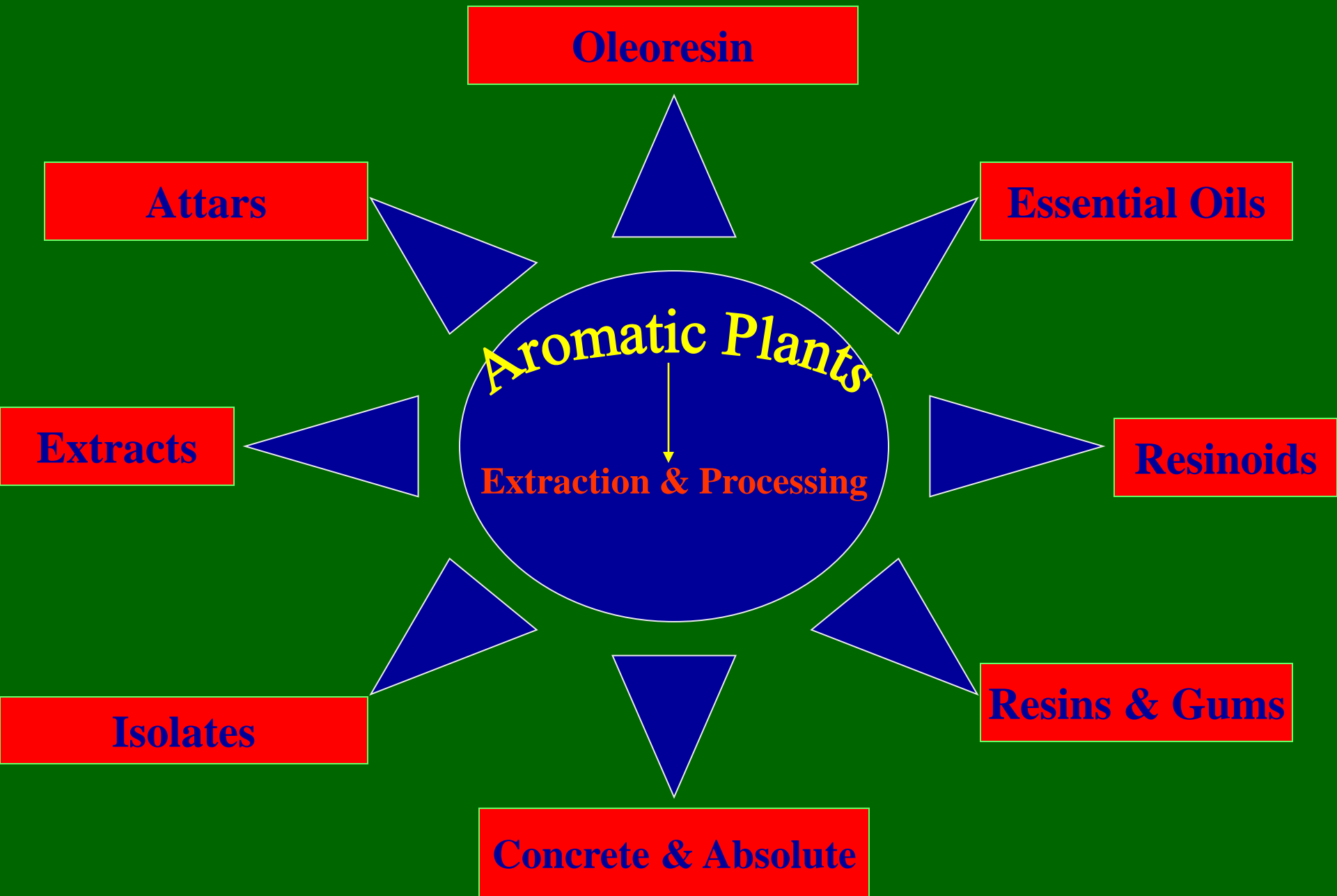
- *Natural*

Essential Oils	Oleoresins	Isolates	Resinoids
Absolutes	Concretes	Resins	Gums
Extracts			

- *Synthetic*

Aroma Chemicals
Specialties

Synthetic Essential Oil



Essential Oil

❖ *Odour/Aroma/Essence*

❖ *Natural/ Plant*

❖ *Oil*

e.g. Mustard Oil

❖ *Volatile*

e.g. Kerosene Oil

Concrete

- ✿ **Solvent Extraction of Flowers**
- ✿ **Oil+Resin+Gums+Waxes+Colour**
- ✿ **Intermediate Product**

Absolute

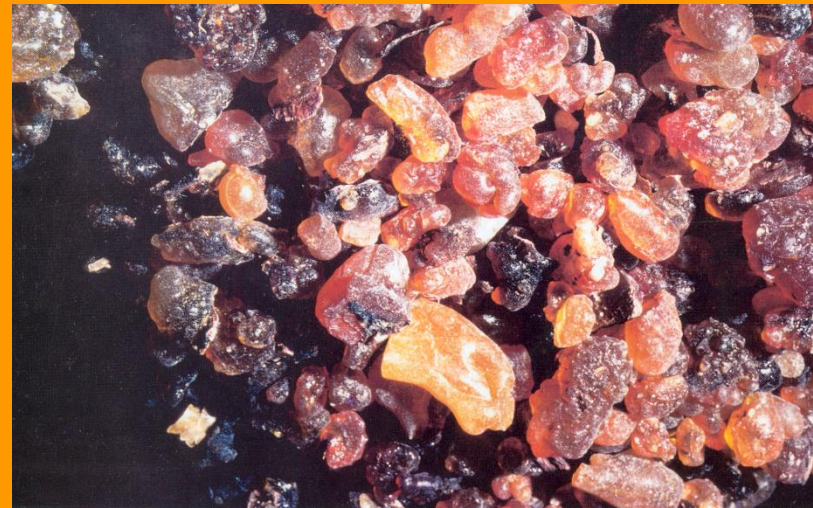
- **Extracted out of concrete**
- **Product of Direct use**
- **More strong & long lasting than Essential oil**

Oleoresin

- **Oil + Resin**
- **Solvent Extraction of Spices**

Resins & Gums

- ✦ **Natural Exudates from Plant**
- ✦ **Resin is Insoluble in water & soluble in organic solvents**
- ✦ **Gums are soluble in water**



Resinoids

- ✦ **Solvent Extraction of Resins & Gums**
- ✦ **Very long lasting**
- ✦ **Good for agarbatti & Dhoopbatti**



ATTARS

- ☀ Attars may be defined as the distillates obtained by the hydro distillation of flowers and/or herbs & spices over Sandalwood oil or other materials like DOP, DEP, Paraffin etc.



Isolates

- ❏ **Components Isolated from Natural Extract**
- ❏ **Simple Physical Means**

Solvent Extraction

Oleoresin

Concrete

Absolute

Resinoid

**Natural
Aroma
Extract**

*Are they
utilized as
such?*

NO

Processing

Blending

Product

What a good Fragrance is ?

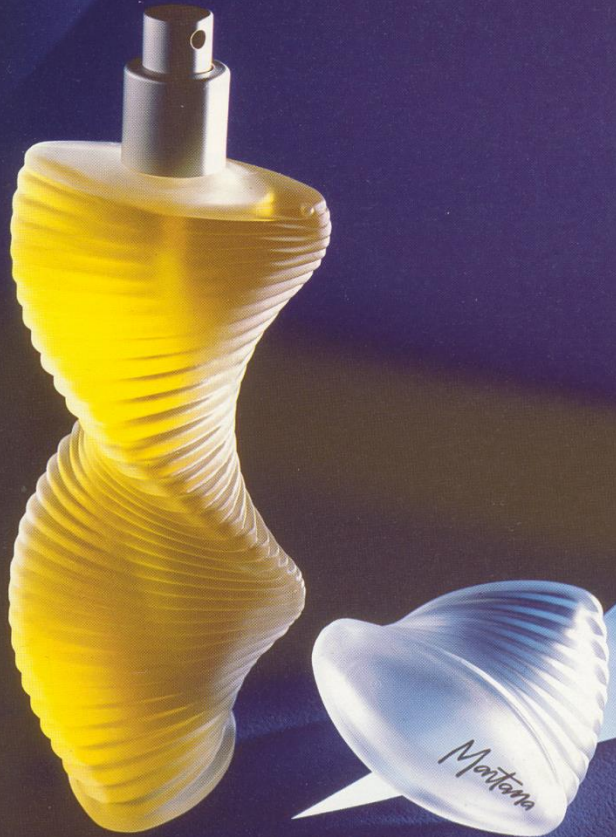
**It should Smell
without any
Smell**



Flavour = Fragrance + Taste

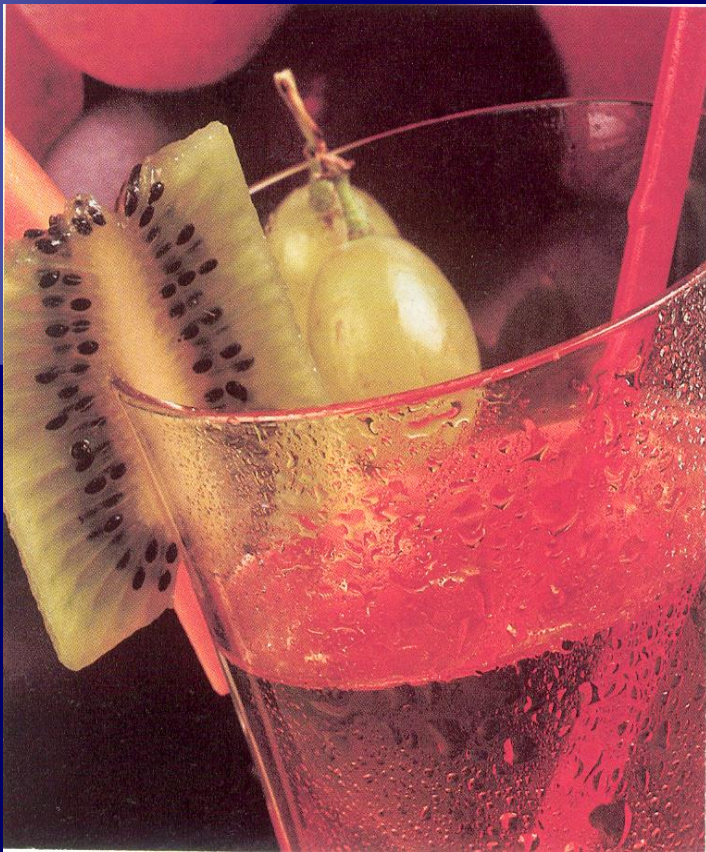


Fragrance



It is a harmonious combination comprising of natural and/or synthetic ingredients, with stability, diffusiveness and ability to get fixed in required cosmetic and other products.

Flavour



A combination of natural and /or synthetic ingredients with capability to get fixed in required product to give mingled but unitary experience which includes taste, smell and sensory perception, particularly mouth feel.

Classification of Fragrant Raw Materials



- ★ Based on Odour Group
- ★ Based on Volatility

Classification based on odour groups

Odour group	Examples
Rose	Rose
Jasmine	Jasmine
Orange	Orange Flower
Tuberose	Tuberose
Violet	Violet
Balsamic	Vanilla
Spicy	Cinnamon
Caryophyllaceous	Clove
Camphored	Camphor
Lemony	Lemon
Minty	Menthol
Anisic	Aniseed
Almondy	Bitter Almond

Classification Based on Volatility

Volatility	Note	Position on Poucher's Scale
High	Top	1-14
Medium	Middle	15-60
Least	Base	61-100

Study of Fragrant Raw Materials

- **Daily identity Parade- *Indispensable***
- **One nose can not be better than another**
- **It is the matter of olfactory memory**
- **Study with contrast in odour**
- **Study with similarity of odour**

■ ***Relatively***

■ ***Absolutely***

■ ***Actively***

A Note on Notes of Perfumery

Base Note

- Responsible for success of fragrance, if any
- Initially they give unpleasant note
- Subsequently they are good in odour
- Accords between bases leads to success in Perfumery

Middle Note

- *It helps to bind the base & top note together*
- *It acts as a modifier in the blend*

Top Note

- *It imparts very pleasant note on opening of bottle*
- *Responsible for diffusiveness of the blend*



Creation of Fragrance



Technical requirements

- ✦ Harmonious
- ✦ Stable
- ✦ Diffusive
- ✦ Capable to get fixed in required product
- ✦ Immiscible in Water (except in few cases)

Creation of Flavour

Technical requirements

- ✦ Harmonious
- ✦ Stable
- ✦ Capable to get fixed in required product
- ✦ Miscible in Water (except in few cases)

Modes of Fragrance & Flavour Formulation

- ✦ Existing formulation within the company.
- ✦ Technical literature on chemistry of raw materials like essential oils, oleoresins etc.
- ✦ Research reports on chemistry of fragrance & flavour components in target materials.
- ✦ Personal records and practical experience of fragrance & flavour profile.



General Guideline Fragrance Formulation

- ☀ ***Top Note*** ***20-25%***
- ☀ ***Middle Note*** ***20-30%***
- ☀ ***Base Note*** ***40-50%***

Safety & Regulatory aspects

Fragrance

IFRA

International Fragrance Association

Flavour

FEMA

Flavouring Extracts Manufacture's Association

Fragrance in Alcoholic Products

Product	Fragrance	Grade of Alcohol
<i>Perfume</i>	15-30 %	90-95%
<i>Eau de Perfume</i>	8-15%	80-90%
<i>Eau de toilette</i>	4-8%	~80%
<i>Eau de cologne</i>	3-5%	~70%
<i>Splash Cologne</i>	1-3%	~70%
<i>Eau Fraiche</i>	~3%	~80%



Thanks for patient hearing &
request for more questions.

Fragrance Creation

Ingredients	Percentage
Phenyl ethyl Alcohol	42
Citronellol	10
Geraniol	10
Phenyl Ethyl Acetate	5
Cinnamic Alcohol	5
Sandal Mysore Coeur	10
Fixolide	10
Clove Oil	3.7
Geranium Oil	4
Rose oxide	0.2
Aldehyde C11	0.1