

## "SYNTHETIC FRAGRANCES BOON OR BANE? " - A DEMONSTRATION

Sitaram Dixit and G. S. Ranade, jointly gave a demonstration titled " SYNTHETIC FRAGRANCES BOON OR BANE? " Sitaram Dixit commenced the presentation, comprising of four parts, Introduction, Demonstration, Analysis, and Conclusion.

Introducing the subject to the audience, Sitaram explained how, fragrance an item of luxury and refinement was used from the time the human race was evolved. The use of natural products such as floral concentrates, absolutes, resinoids, essential oils, in perfumery originated many years ago. Perfumery was an art and not an organised industry as it is today.

In early 19th century distillation and extraction, techniques were developed marking the start of this Industry. Production of essential oils through steam distillation and extraction of various plant materials like wood, leaves, twigs, flowers and fruits began at that time. Fragrances became popular leading to reduced availability of natural products for use in Fragrance creation. Natural Ingredients became expensive making perfumers look for cheaper alternatives in fragrance creation.

Natural Essential Oils contain some major odour components in addition to a large number of trace components. Natural essential oils are creations of Mother Nature. Sitaram emphasised that Mother Nature's masterpieces are unique and impossible to replicate by humans. Fragrances made using natural essential oils were used in fragancing Personal care products in olden times.

Mass production of personal care and household products increased the consumption of fragrances enormously. Fragrances are now present throughout all levels of product right from an expensive product to the cheapest. This led to a disproportionate supply against demand of natural essential oil for fragrance creation. Immediate target of the industry was to reduce cost of the most expensive natural essential oils.

The synthesis and production of an increasingly large number of synthetic perfumery chemicals during the early 20<sup>th</sup> century introduced newer fragrance substances giving entirely new odour effect marking the beginning of modern perfumery industry. The technological development seen in the past century has changed fragrance creation from a pure work of art to a combination of art and chemical science.

Rapid progress of various analytical techniques and instrumental methods led to closer construction of natural fragrance ingredients. This resulted in addressing the demand of natural ingredients with stretched, doctored, sophisticated synthetic materials. Synthetic products are manufactured by analysing corresponding natural material.

General performance and stability properties of synthetic ingredient are normally comparable to natural ones, as the main components are chemically similar in types and quantities present. However natural products contain trace components at levels 0.001 to 0.05% that contribute the main characteristic odour profile that are decidedly **MARKERS** normally absent in synthetic ingredients.

Sitaram then listed and explained the advantages and disadvantages of synthetic fragrances.

### **Advantages**

- ◆ Better control and monitoring of price and availability.
- ◆ Consistency in quality.
- ◆ Stability of price.
- ◆ Cost effective - can be used in a variety of products.

### **Disadvantages**

- ◆ Unfavourable in the eyes of Environmentalists and Naturalists.
- ◆ Devoid of naturalness.
- ◆ Price a major parameter for fragrance approval.
- ◆ Easy accessibility and availability can make naturals extinct even for perfumers.

The demonstration started with three case studies of fragrance evaluation of products using prototype consumer panels. Sitaram informed the audience that the presenters endeavour in the session was to stimulate ones thinking by getting to smell, prefer, and select the fragrance in the end product.

The methodology used consisted of a panel of ten people. One of them was to co-ordinate as the panel leader. Three such panels were used. All others present were observers. Time allotted per panel was 5 minutes.

**Case 1: Flavoured Drink.**

Two Flavoured Drink Samples “Sun” & “Moon” was given. The Panellists were asked to give the order of preference by smell and taste only.

**Case 2: Toilet Soap.**

Two Soaps “Jupiter” & “Venus” were given. Out of these two Soaps panellist were asked to give the order of odour preference.

**Case 3: Fine Fragrances.**

Two Fine Fragrance Samples “Neptune” & “Uranus”. As in the other two cases, the order of odour Preference was asked.

The entire panellists were asked to give their individual opinions and comments on the samples and submit their results in 5 minutes. The Panel leader collated and compiled the data for expert analysis by Mr. G. S. Ranade.

On analysis, it was found that in the first two cases, Flavoured Drink and Toilet soap, 80% of the panellists preferred the synthetic fragrance in comparison to the natural flavour and fragrance used. However, in the third case 60% of the panellists preferred the natural variant in favour of the synthetic fragrance.

It was a revelation for the audience when Sitaram shared the comparative cost of natural and synthetic flavour & fragrances used in the demonstration.

<b>Cost Per Kilogram</b>	<b>Natural Product</b>	<b>Synthetic Product</b>
Vanilla Flavoured Milk	Sun Rs. 3,500.00	Moon Rs. 350.00
Saffron Chandan Soap	Jupiter Rs. 41,000.00	Venus Rs. 2,200.00
Rose Fine Fragrance	Neptune Rs. 45,000.00	Uranus Rs. 4,000.00

The presenters emphasised that Enjoyment of natural Flavours and fragrances was and is a prerogative of a very few rich class of individuals. Environmentalists and Naturalists may claim that synthetic fragrances are a curse to all of us. However Synthetic Flavours and fragrances with COMPARABLE SAFETY NORMS as in naturals permits the common folk the same enjoyment one derives while using naturals.

Sitaram concluded the demonstration by questioning the house as to whether the above were not sufficient reasons to justify that synthetics are a boon and not a bane to society?

The demonstration and the response received to Sitaram, question aptly proved that in today’s circumstances, synthetic fragrances are indeed a boon and not a curse. The presentation was very much appreciated as an extremely interesting learning experience for all present.