

## Historical perspective

# The Indian Essential Oil Industry

A culture steeped in fragrance traditions offers a basis for India's success today

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Sit by the ruins, and the inscriptions in the caves, and listen. Listen to the seers and the folklorists, to the waters of the perennial rivers and the echoes from the immortal gigantic mountains. Look at the personifications of prayer carved out of marble or stone, and lie under a banyan tree, and listen. Listen to India, a country with 5,000 years of history, the largest democracy in the world today, and the world's most ancient civilization.

Nowhere on earth can you find such a rich and multi-layered tradition that has remained unbroken and largely unchanged for at least 5,000 years. A civilization united by its diversity, India has always been known as a land where history echoes itself with all its wonders in every piece of stone and every particle of dust. This spirit has been wonderfully captured by the words of the French philosopher Romain Rolland, who lived in the early 20th century. He said, "If there is one place on the face of this Earth where all the dreams of living men have found a home from the very earliest days when Man began the dream of existence, it is India."

India has been blessed with a wide variety of climates and soil types, with temperatures ranging from 0° to 45°C, relative humidity ranging from 20-90 percent, rainfall varying from 40-2000 mm per year, soils from rocky to sandy and alluvial to sedimentary, permitting the growth of many unique earthy roots, precious woods, balsamic resins, potent herbs and scented grasses.

### A Rich Tradition

Fragrances, flavors, essential oils and plant extracts have always been an integral part of the lives of people on the Indian subcontinent. The tradition of beauty and personal care with use of saffron, tumeric and sandalwood in the form of a paste, prepared by applying these ingredients along with rose-water on the forehead during prayer or even on the entire body before a bath, has been a common phenomenon. Today, the industry has come full circle, with these oft-forgotten ingredients once again being used in western cosmetology.

The Greek historian Strabo mentioned the practice of shampooing in India in the 4th century B.C. The use of amla for strength, aritha as shampoo, henna and brahmi as conditioner and natural colorant, and

coconut oil for growth is practiced even today. Decorating one's hair with fresh flowers to entice the senses with its pleasant aromas is a common sight among Indian people to this day. An attractive woman's apparel is hardly complete without buds, flowers, wreaths, blossoms and tendrils.

Flowers were used not only to decorate individuals but also chariots, roads, houses, palaces and even cities. Even today the beauty of traditional floral adornments on the gods and goddesses invoke a sense of wonder and devotion. Fragrant woods like sandalwood



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and agarwood, roots like spikenard, costus and vetivert, and gums like myrrh and frankincense were put in fire to generate scented spiraling fumes, ascending heavenwards in what is known as a yagna; this was as much a means of invoking the gods as were chants and mantras. Pleasing gods with fragrant materials like camphor and coconut has been a regular practice ever since. A similar method for prayer and reverence is the use of incense sticks, a tradition which is 5,000 years old.

### Enhanced Production Techniques

The Moghuls brought a greater sensitivity to the use of fragrances and exotic oils. These oils were a sign of nobility and taste, patronized by the royals, coveted by the nobles and aspired to by the commoners for greater beauty and pleasure. During the Moghul dynasty, Kannauj, in the state of Uttar Pradesh, was the center of the indigenous perfume industry with the production of what are known as “attars.” Attars are produced by hydro-distillation of single botanicals like khus (*Vetiveria zizanioides*), gulab (*Rosa damascena*), chameli (*Jasmine glandiflorum*), zafri (*Tagetes patula*), or a combination of herbs, spices, woods or roots which may include saffron (*Crocus sativa*), agarwood (*Aquilaria agallocha*), nagarmotha (*Cyprus rotundus*), gallangal (*Alpinia gallanga*), jatamansi (*Nordostachya jatamansi*) and mukhbala (*Valeriana jaamansi*) to produce attars of amber, zaffran, heena, shamama, and other products.

Unlike the modern steam-distillation process in which there is a separate condenser, in the production of attars the aroma-laden steam passes directly from the still into the bamboo pipe. The pipe conducts it into the receiver sitting in a cool water bath where it condenses and mixes with sandalwood oil, which has excellent absorption and fixation qualities. One possible benefit of this method is that the most volatile constituents, the so-called “headspace constituents,” are not lost as often occurs in steam distillation. The resultant product is a high odor and therapeutic value oil, while the condensed water is re-circulated again to avoid loss of any water-soluble component. Once the distillation process is complete, the concentrated oils are poured into leather bottles and allowed to mature, the membrane of leather allowing any possible excess water to evaporate while keeping the oil intact.

Floral waters of rose, keora (Pandanus), sandalwood, costus, vetivert, camphor and basil produced by hydro-distillation are widely used in the country for medicinal purposes, in confectionary and sweets, as room fresheners, and for sprinkling on guests on auspicious occasions. Perfume virtuosity of lotus, jasmine, champak, ketaki, mallika, rose and other flowers is written about in ancient Sanskrit literature, and a large variety of essential oil bearing plant mate-

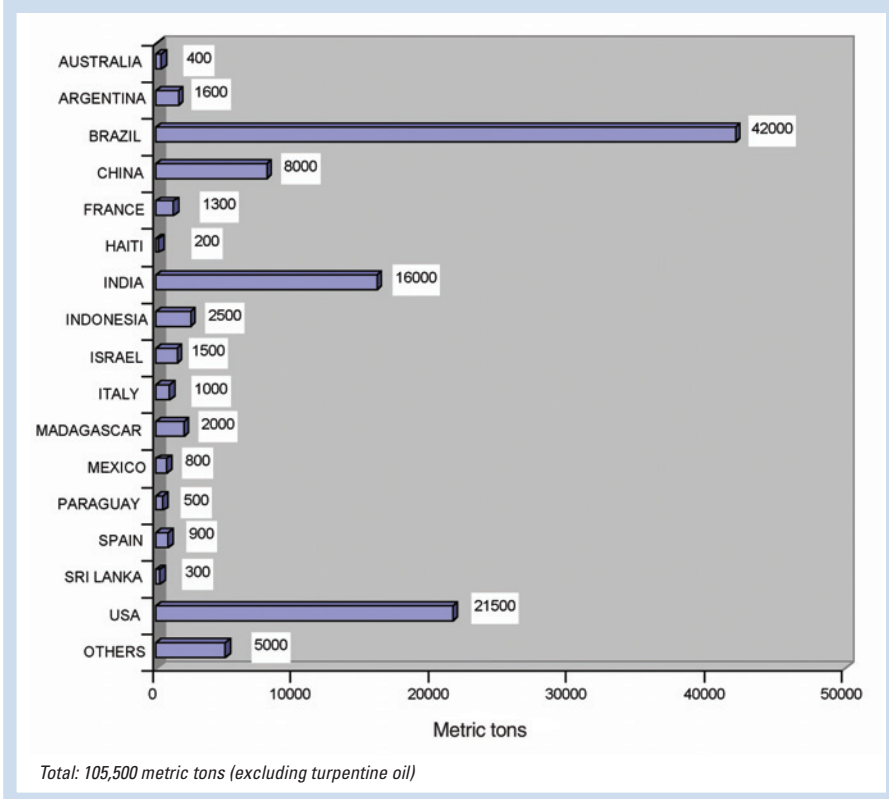


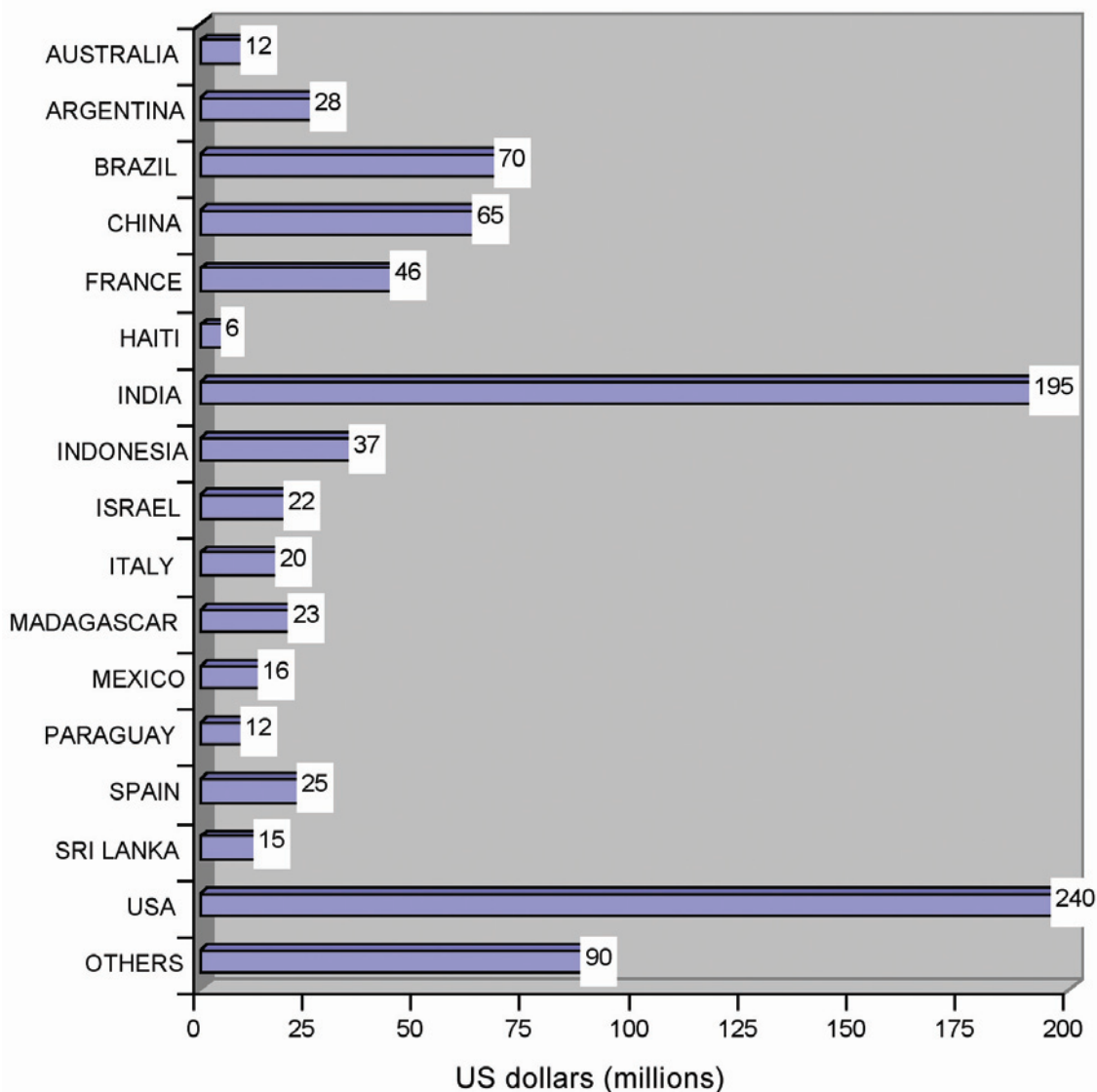
The use of incense sticks in prayer is a 5,000-year-old tradition.

rials find application in the Ayurvedic system of medicine.

Betel leaf roll (paan) and after-mint (Mukh sudhi), usually taken with areca nut and burnt lime paste, has been used by Indians for centuries, and produces a deep red color in the mouth. In a different form, it is also known as "Paan Masala," in which the commonly used aromatics were clove, menthol, camphor, nutmeg and cardamom. Musk, sandalwood oils, saffron, rose oil, geranium and various attars are also increasingly being used in them. Paan Masala premixed with zarda (chewing tobacco) is sold as a combination product known as "Gut-

## Estimated global production of essential oils in metric tons

**F-1**



Total: \$922 M (turpentine oil not included) source: Varshney, S.C. (2000): Vision 2005

kha,” although chewing tobacco is also sold separately. This industry is a very large and important consumer of essential oils in India.

The famous 14th century tour of Vasco da Gama, in which he searched for the “riches of the east,” led him to Cochin, the center of the spice trade, opening a new trade route between India and Europe. Spices perform a vital role in the flavor industry of India and form the heart of oriental perfumery.

### Growing Leader in Essential Oils

It is estimated that total global production of essential oils is about 110,000-120,000 tons; India holds the number three position with a share of 18-20 percent (see F-1). In terms of value, India’s position is second, with a 21-22 percent share (see F-2), thanks to the

mint revolution in North India. The history of mint (pudina) in India dates back to 2000 BC. It was used for its medicinal qualities and finds mention in ancient ayurveda texts. Over the centuries, mint has been used in cooking and traditional ceremonies. However, India’s significance as a major global origin for *Mentha arvensis* oil and of its isolate, menthol, is comparatively recent.

*Mentha arvensis* was introduced to India in the mid-1960s, and production of menthol for the domestic market commenced in the late 1970s. By 1987, India became a net exporter of *M. arvensis* products and started competing on a global

level with China, then the major producer. The international market price for menthol moved up and down like sea waves, and was subject to strong speculative influences. Competition from synthetic menthol also played its part. The combination of these market price fluctuations and the impact of the new economic reforms in China led to a severe reduction in planting by its newly independent farmers. This led to India becoming the world's major supplier of *M. arvensis* oil and menthol.

If one needs proof that history is a mirror to the future, the rich heritage of India in the field of essential oils, spice oils and floral absolutes is an ample justification of the adage. Today, India is a force to reckon with in the rapidly expanding horizon of the international F&F trade and commerce, and is poised to play an ever more important role in the future.

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