

THE LEGEND AND LURE OF LAVENDER

By R.O.B.Wijesekera

Historical & General Aspects.

The story of lavender goes back in time to ages prior to recorded history itself. Its alluring perfume was matched by its reputed curative powers. The ancient civilizations of Greece, Arabia, and Rome, and right down through the middle ages, the periods of the Renaissance and even to modern times witnessed the lure of Lavender grow into the legend it has become today. Its romantic touch may have also been provoked by an ancient lyric which was symbolized by the modern song called "Lavender Blue". The classical Lavender is botanically identified as: *Lavandula angustifolia*, and also referred to as *Lavande officinale*. A related species has also similar characteristics and this is botanically identified as *Lavandula latifolia*, also called Lavande aspic or spike lavender. Both species possess spectacular purple flowers with the alluring fragrance.

History records that the flowers of Lavender were used by the ancient Egyptians for their traditional embalming processes and this has been confirmed by modern archeological research into the tomb of Tutankhamen. It was used in the Indian civilizations in Kashmir



as a scent. The Greeks followed the Egyptians and used it as a fragrance particularly for over-

coming unpleasant odors. The Greek Physician Theophrastus wrote a volume on the curative properties of scents in which Lavender was a significant extract for anointing the head and feet. The ancient Romans were aware of the healing properties of Lavender, as well as its usefulness as an insect repellent and antiseptic. A Greek military physician Dioscorides, (circa 77 AD) wrote a five volume treatise entitled: De Materia Medica, in which he extolled the efficacy of lavender. He wrote that when taken internally Lavender relieved indigestion, sore throats and headaches.

It was well known even in China where it was used as cure-all medicinal oil known as White Flower Oil. Externally it was a wound healer and was effective in combatting burns. The Roman soldiers took lavender with them to heal war wounds. Pliny the Elder the reputed Greek writer also noted the health benefits of Lavender on a wider scale in combatting stomach problems, menstrual disorders, kidney ailments and suchlike. It was also noted that women hung lavender next to their beds to incite their passions! So Lavender continued its dominant role throughout the ages and into the Middle Ages as well. In England, during the times of the Tudor Monarchs, Lavender, had a pre-eminent position. Its efficacy, in regard to countering ill odors, was well recognized; as well as its insect repellent properties. Lavender waters were a popular choice for herbal baths, both with the Romans as well as the Greeks since ancient times.

In France and in the area of Provence, Lavender was the foremost aromatic plant grown. Grasse now regarded as one of the world's centres of the perfumery industry, was even in the middle ages a prosperous town. It was well positioned for trade with Italian cities. The region of Provence was believed to have had a "rich endowment of fragrance and an incredible palette of colours and scents" throughout the year. Assorted fragrant flowers were in bloom from Violets in March, orange blossoms in May, Tube roses from June to September, and finally Jasmines from August to October, while all summer long there was Lavender. The lovely fragrances emanating from the hills and valleys of

Provence were termed: A Symphony of Perfumes.

However there was a period when the leather and Tanning Industry intervened. The industry although enhancing the prosperity of the region cast unpleasant odors in the region due to the offensive smelly wastes from the tanneries leaking into the nearby rivers. The citizens while temporarily faced with this danger soon utilized the properties of lavender to counter this, and developed a new trade too in scented garments and gloves.

Culpepper in his book (1652) wrote: "Lavender is so well known being an inhabitant of every garden, that it needeth no description." He summed up its value as: "Two spoonful's of the distilled water of the flowers taken helpeth them that have lost their voice; as also the tremblings and passions of the heart; and faintings and swounings"

Essential Oils and Distillation of Lavender

The Oils from the several species of Lavender have been since medieval times extracted by the method of steam distillation. This method overtook the ancient technique that was identified as enfluerage, where the fragrant component was absorbed into an oil or waxy substance. In the distillation method which is now universally used, the fragrant ingredients of the flowers being volatile in steam are taken along with the vaporized steam, and when the vapors condense the oil settles on top as a separate layer which can conveniently be removed. This is the principle of the methodology used in the processing of essential oils in commerce. (Vide LNP Digest 2010 Vol.5, issue 1, p 17, 24, for a detailed discussion on Essential Oils).



Sketch of ancient steam distillation



An Alembic : Home distillation unit



Loading Operation of the Distillation stills



A modern commercial Lavender Distillation Assembly.

The chemical composition of the essential oil varies with the particular species of Lavender. The species that are of commercial importance are native to the regions near the Mediterranean. The true lavender is botanically identified as *Lavandula angustifolia*, or *Lavande officinale*, and the variety Spike lavender is identified as *Lavandula latifolia*.

The comparative approximate composition is as follows:

Compounds	<i>L. angustifolia</i>	<i>L. latifolia</i>
Linalool	28-29%	49-50%
Linalyl acetate	33%	
Terpene alcohols	5-6%	2-3%
Terpene esters	6-7%	
Terpene hydrocarbons	7-8%	1%
Sesquiterpenes	7-8%	2-3%
Ketones	1-2%	13%

NB : The Above values are variable from one situation to another.

There are many cultivars of Lavender but in the main only three species are used for the production of the oil on a commercial scale. They are : *L. angustifolia*, *L. latifolia*, and the hybrid *L. angustifolia x L. latifolia*. What is termed "True Lavender Oil" is obtained from *L. angustifolia* syn. *L. officinalis* = *L. vera* = *L. spica*.

What is referred to as Lavandin Oil is distilled from the hybrid species *L.angustifolia x L.latifolia*. French Lavender oil is distilled from the species *L. dentata* and Spanish Lavender Oil from the species *L. stoechas*. The oil distilled from *L. latifolia*, syn *L. spica* is referred to a Spike Lavender Oil.

The world production of Lavender oil is around 200 metric tonnes per year and the production of lavandin is fivefold more. In price lavandin fetches a lower sum but the yield of oil is higher. True Lavender oil used mainly in the fragrance industry is mostly of French origin although Lavender is widely cultivated and the essential oils distilled in Bulgaria, USSR, USA, England, and the Balkan and upper Mediterranean regions and recently in Australia and South Africa.

Agronomic Aspects of Lavender

Lavender is a perennial bushy shrub and usually has a compacted bushy growth form.

The aromatic evergreen leaves are opposite and reaches up to around 5-6 cm in length. Lavender can be propagated by seed, cuttings, layering, tissue culture, and division of roots. Propagation by seed is not popular where genetic uniformity is a primary consideration. Cuttings are made from young top shoots of selected plants grown outdoors, and inserted into a growing medium of compost and sand. Once rooted the plants are transplanted onto prepared beds. High quality oils are generated by plants that are nursed on natural soils and such crops fetch the premium prices globally. Regular pruning and expert harvesting techniques are applied in the production of quality raw material for distillation of oils.

Lavender as a Fragrance

Lavender is one of the most widely used fragrance materials in modern perfumery. The complete bouquet of the essential oil of Lavender contains a myriad of fragrance notes which attract the olfactory senses. This is the reason that lavender has been used for centuries as a fragrance material in various forms.



A Lavender Balm

Today it is a constituent of a large number of commercial perfumes. Its perfume is acceptable to most and brings a sense of wellbeing and relaxation which had been recognized through the ages. Furthermore, in the modern milieu it is used for a variety of applications such as: deodorants, body lotions, scenting of linen, atmospheric sprays, colognes, massage oils, and has contributed towards this modern age lifestyles.

Lavender as a Therapeutic agent

Since medieval times Lavender has been systematically used for a variety of ailments. Published

recognized texts on what is this day termed "alternative medicine" mention the use of lavender to counter many ailments. Treatment of burns and scalds come down to us from ancient times when it was satisfactorily used for such conditions. It is deemed to be a natural antibiotic, an antiseptic, and anti-depressant, a sedative as well as a detoxifier. For all of these there is plenty of clinical evidence that comes through when it has been used with confidence by folk during the past several centuries. Recently there has been evidence that Lavender promotes the healing of wounds and prevents scarring by stimulating the immune system to contribute to the healing process. It causes the cells of the wound to regenerate swiftly. It's most popular use today is in its role as an agent that contributes towards combatting stress, allaying the effects of traumatic shock and bringing about psychological and mood balance. In this role it is a significant addition to the therapeutic armory of modern "Aromatherapy".

It is the French chemist Rene Gattefosse who is credited with having initiated the modern techniques of therapy now popularly identified as "Aromatherapy". In this the oil of lavender played a significant role as Gatefosse is supposed to have discovered at first hand the efficacy of the oil when he accidentally dipped a scalded hand into it and gained instant relief. In the new field of Aromatherapy, Lavender is one of the oils that is extensively used. It is credited with the attribute of combatting the symptoms of stress so common in modern day life. Several of the therapeutic oils, combinations of essential oils and fixed oils, do contain lavender as a constituent. The lavender scented waters too are utilized today as constituents of herbal baths. Lavender added to other constituents is believed to synergize the total curative effects of the bath.



A herbal bath in granite (Mihintale)

Herbal baths were a technique of therapy extensively employed in the older systems of medicine the world over. They are common to the Ayurvedic system as well, and with the renewed faith in these older systems, herbal baths with fragrant materials included in them have gained credence and popularity. They have become a component of modern therapy as well.

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A sustainable fragrance industry cannot add man made waste to the earth's crust, deforest its surface, harm its water supplies, nor rely indefinitely on petrochemicals. What the industry must do is to harness green chemistry to find new sustainable ingredients, improve yields in natural and synthetic ingredients production, and use less biomass to produce more material. Most of all a sustainable industry must meet the needs of the earth's people.

*Costino Policastro, Executive President,
Givaudan, Manhattan*