

This report on lavender oil is the seventh in a series of reports being produced by the IFEAT Socio-Economic Sub-Committee on the importance of specific naturals to the livelihoods of those involved in their production. Previous reports have covered the production, processing and marketing of patchouli, cornmint, citronella, jasmine, geranium and petitgrain. The twelve products chosen for analysis by the committee have been picked because of their high impact on the lives of those involved in producing them and the large number of people affected.

IFEATWORLD will continue to give updates on the work of the Socio-Economic Sub-Committee, chaired by **George Paul**, over forthcoming months and will publish reports on the other five products that are included in the committee's remit. This is an important study for IFEAT, as the information gathered could help to reinforce Federation views in future legislative/regulatory discussions.



## AN OVERVIEW OF SOME IMPORTANT ESSENTIAL OILS AND OTHER NATURALS

# LAVENDER

*Lavandula angustifolia* Mill.

### INTRODUCTION

Lavender essential oils can be extracted from the plant by steam distillation which is the most common method of isolation of the scent of lavender. Lavender concretes and absolutes are produced by solvent extraction.

On steam distillation of the *Lavandula* species, more than 1,300 tonnes of essential oils are produced annually. The main production areas are the Haute Provence (France), Bulgaria, Ukraine, Australia and Spain.

All *Lavandula* species and hybrids are highly aromatic, but only 3 taxa are important in the commercial production of essential oils for use in the perfume and cosmetic industries: *Lavandula angustifolia*, *Lavandula latifolia* and *Lavandula x intermedia* which produce lavender oil, spike lavender and lavandin oil respectively. For this socio-economic impact assessment, and due to the characteristics of the production areas, we are going to concentrate on the first of the three; *Lavandula angustifolia*.

### USES

Lavender oil distilled from *Lavandula angustifolia* is somehow the quality standard for lavender fragrance in the contemporary perfumery industry, as it was the variety traditionally used in old time perfumery, with roots in Grasse and Provence, and was a healing agent in folk medicine. Although it is not the most commonly used of lavender species, it is widely cultivated for its unique, irreplaceable odour, as well as for use in aromatherapy. It appeared in famous "English Lavender" by Yardley in 1770, followed by "English Lavender" by Atkinsons in 1910, and again "Old English Lavender" by Yardley in 1920. With all its variation, lavender fragrance has a very strong position on the market, especially in products for men, but is widely used as an important top floral-herbal note of numerous fragrances in perfumes and cosmetics for women. It is also

popular in air fresheners and insect (especially moth) repellents.

Essential oil of lavender is listed in most Pharmacopeia including EUP. Its name has a source in the Latin "lavare" - wash, as it was a very popular oil used in ancient Rome for baths. The Romans introduced lavender into Britain and in 1665 citizens of Bucklesbury, known for lavender production, avoided the plague by using lavender soaked masks. In natural medicine and aromatherapy essential oil of lavender is one of the most important components due to its extremely wide spectrum of healing properties. A strong antiseptic and pain killer, it has the unique ability to heal burns of all kinds (including those caused by radiation) and various skin problems including acne, dandruff, mycosis, eczema, irritation, inflammation etc. It is also used in respiratory tract infections and inflammations. It is a very efficient sedative, calming irritation, excitation and hysteria and is excellent against insomnia (without side effects), depression and fears. It can be applied in cases of some kinds of allergies, high blood pressure, problems of menopause and andropause.

The main producers are Bulgaria and France, but for the purpose of this study we will concentrate on **Bulgaria**. Greater detail on current French lavender and lavandin production will be available in the book, currently being produced, on the IFEAT France Study Tour 2015.

Lavender plantations in Bulgaria total about 4,500 hectares. Between 2009 and 2011 Bulgarian farmers increased the national lavender area by around 2,500 hectares. Large spaces were planted in areas where lavender was earlier an unknown product (ie North Bulgaria). Nowadays, around 50% of Bulgarian lavender oil is produced in North Bulgaria.

In 1984 world production of lavender oil exceeded 200 tonnes annually. Bulgaria was by far the major producer, with lavender

cultivated in the Valley of the Roses around the towns of Kazanlik, Karlovo and Kilsura. However, Bulgarian production has decreased over the years and in 2004, Bulgaria and France produced 50 and 60 tonnes of lavender oil respectively. According to Lawrence (2009), French lavender oil production is now estimated at 50 tonnes per year; and according to Ognyanova (2007) annual production in Bulgaria varies between 50 and 55 tonnes, reaching a maximum of 70 to 75 tonnes in a good crop year. However, since at least 1,500 hectares were planted in 2011 and 2012, the production of lavender oil in Bulgaria may reach 150-180 tonnes per year in Bulgaria in the next 2-3 years.

At one time, France was the major producer of lavender oil, but when lavandin was brought into cultivation, the production of true lavender gradually decreased. Nowadays, lavandin oil is among the top ten most important essential oils by volume, with France being the major producer (around 1,200 tonnes per year) (Bosilcov, 2010).

### PRODUCTION AND PROCESSING CHARACTERISTICS

The first crop is generally harvested in the second year of cultivation, while maximum production is reached in the third and fourth years. Yield usually starts decreasing by the eighth year. The flowering period is usually from late June to mid-July, and the best harvest time is typically from mid-morning to mid-afternoon. The average annual production of lavender oil is 40 kg/ha. Today there are around 30 distilleries functioning across Bulgaria. The capacity of essential oil production from various distilleries starts from 1-2 tonnes and extends to large volumes.

### SOCIAL AND ECONOMIC CHARACTERISTICS

It is difficult to give precise information on the number of people involved in this business now. However, the number of farmers who started producing lavender flowers increased by 100% in the last 3 years. New operators built a large number of distillation units (from 10-12 in 2005 to around 30 today). In 2007, there were around 2,000 hectares planted, about 600-700 farmers involved in this agricultural activity and around 150-250 persons involved in the processing units for production of the essential oil. In 2013, these figures increased to around 1,200-1,300 farmers growing lavender flowers and at least 300-350 persons engaged in the production of the essential oil.

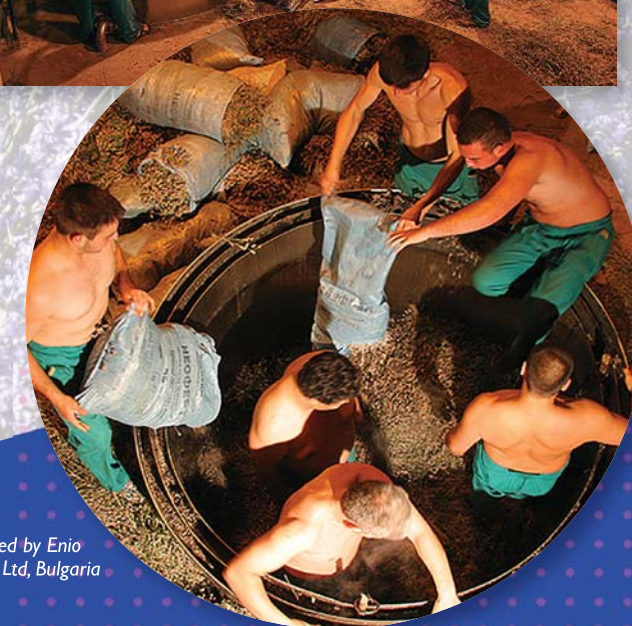
**In total, it can be estimated that the livelihoods of 8,000 to 10,000 people in Bulgaria depend on the lavender oil business**, including not only farmers and processors/workers and their families, but also the producers of seedlings, agronomists, suppliers of fertilisers, agro machines and other inputs.

### REFERENCES:

- **Bosilcov, A.** 2010. Essential Oil Profile: Lavender: A Key perfumery material. *International Centre for Aroma Trade Studies: Diploma in Aroma Trade Studies*. ICATS. This paper is included in the IFEAT Barcelona Conference Proceedings 2011, pp 309-391.
- **ISO 3615:2002**. Oil of lavender (*Lavandula angustifolia* Mill.)
- **ISO 4720:2009**. Essential oils. Nomenclature.
- **Lawrence, B. M.** 2009. A Preliminary Report on the World Production of Some Selected Essential Oils and Countries. *Perfumer & Flavorist*, January 2009, 34, pp.38-44.
- **Ognyanova, J. K., and Konakdriev, A. N.** 2007. Recent Developments in the Bulgarian Essential Oils Industry. In: IFEAT International Conference 2007. Budapest, Hungary 23 - 27 October 2007
- **M.Krausz**, "Lavender and lavandin: world production, strengths and weaknesses". IFEAT Conference, Rome, 2014

### CONCLUSION

*Lavandula angustifolia* has been considered as the true lavender with its botanical origin and it is one of the most popular essential oils in the world. Lavender formulations have been used as part of fine fragrances over centuries as well as in making aromatherapy blends. A large group of cultivators has been growing the sea of purple (lavender blossoms) in the optimal geographic location. The highest concentration of essential oil is recovered throughout the optimised distillation processes. European countries such as Bulgaria and France play a key role as the largest volume producers of lavender oil. The above nations pioneered the generation of lavender oil with skilled farmer communities, favourable climates and unspoiled fields. With these precise skill sets from cultivation to distillation they now successfully produce consistent quantities and qualities of this important essential oil for today's F & F industry.



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