# THE IMPORTANCE AND CULTIVATION OF LAVENDER

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***Abstract.*** *Lavender, a precious medicinal plant, widely used in herbal medicine and aromatherapy. True lavender and lavandin are widely cultivated, the first for perfumery, the second for industry because of its slightly less delicate and more camphor perfume. Fine lavender offers a very good quality essential oil. The active ingredients of lavender Relatively different in terms of chemical composition (fine lavender essential oil contains no less than 300 components), each of these 3 lavenders has specific properties: Fine lavender EO consists mainly of linalool (a monoterpene) and linalyl acetate, which gives it antibacterial and antiviral properties. It is also antioxidant, anti-inflammatory, analgesic, antispasmodic, healing, anxiolytic, sedative and insecticide. Aspic lavender EO contains linalool, camphor and cineole. It is antitoxic, antiviral, immune system stimulating, fungicidal and analgesic. Lavandin EO is rich in linalool and linalyl acetate, with some camphor and cineole. Very effective antispasmodic, it is also a muscle relaxant, anti-inflammatory, healing and relaxing with sedative effects. Butterfly lavender EO is composed of 1,8-cineole and fenchone. It therefore displays antibacterial and antifungal properties against many pathogens. It also has recognized antioxidant effects. Like fine lavender, it shows significant anxiolytic effects. The cineole and camphor it contains also make it insecticidal. It is also anti-convulsant and has major positive effects on human health and care.*

***Keywords****: lavender, herbal medicine, aromatherapy, cultivation,*

## INTRODUCTION

Lavender in all its forms is present in our region, with different varieties.

Wild lavender

Lavender belongs to the botanical family of Lamiaceae. Like many members of this family, for example rosemary or thyme, it is an aromatic plant typical of rocky and arid landscapes around the Mediterranean. Lavandula is a genus that includes many species, 4 of which are present spontaneously in France, cultivated and used for their many benefits (UPSON, 2002).

- true lavender, also called fine or officinal lavender (Lavandula angustifolia syn. Lavandula officinalis),
- aspic lavender (Lavandula tenuifolia),
- lavandin, a natural hybrid of the previous 2 (Lavandula x intermedia),
- butterfly lavender (Lavandula stoechas).

These 4 species are physically very close: a bushy shrub with evergreen foliage, opposite gray-green leaves, more or less narrow depending on the species, fluffy. In summer, long, very fragrant purple-blue flower spikes form at the end of flower stems. However, slight differences make it possible to differentiate them quite easily:

- Fine lavender shows unbranched, single-spike flower stems, while aspic lavender and lavandin have branched flower stems.
- Fine lavender grows naturally from 800 meters above sea level, while lavender aspic remains on hills, and lavender can be found in plains and up to 800 meters.
- The butterfly lavender bears at the end of its spikes purple bracts that gave it its name. It does not grow in the same soils, preferring siliceous soils.
- Fine lavender shows narrower leaves and its floral spike is long and narrow. The floral ear of lavandin is pointed, while that of lavender aspic is rather short and stocky.

- The scent of each of these lavenders is very different, floral and sweet for fine lavender, green and camphor for aspic lavender, camphor for lavandin.
- The lavandin field shows during flowering a uniform hue because being a hybrid, it is sterile and each plant is a clone, flowering at the same time and in the same way. In addition, lavandin blooms earlier, between June and August, than fine lavender, which is also grown although in smaller quantities.

## MATERIAL AND METHODS

The research method used was analytical, including descriptive elements and studies from different periods of time, related to both growing technology and the way lavender is used in medicine, cosmetics and other industries. (CAVANAGH AND WILKINSON, 2002)
There are several methods for growing lavender, including:

- Planting in well-draining soil in a sunny location
- Pinching off dead blooms to encourage new growth
- Pruning back the plant in early spring to promote bushiness
- Applying a balanced fertilizer in the spring
- Watering deeply and infrequently, allowing the soil to dry out slightly between watering
- Protecting the plants from frost in the winter.

It's also important to note that Lavender is a Mediterranean plant, it is drought tolerant and it prefers dry, well-drained soil, so it's not a good idea to overwater it.

## RESULTS AND DISCUSSIONS

Water is essential for the growth and development of lavender plants. Adequate water is necessary for the plants to absorb nutrients, produce healthy growth, and maintain their characteristic fragrance. However, it is important to note that lavender plants are drought-tolerant and can survive with minimal watering (ȘMULEAC et all., 2020). Over-watering can lead to root rot and other problems. It is recommended to water lavender deeply and infrequently, rather than shallow and frequently. In general, lavender plants should be watered once or twice a week, depending on the weather conditions and soil type.

Irrigation is an important aspect of lavender cultivation as it ensures that the plants receive the necessary amount of water for proper growth and development. There are several different irrigation methods that can be used for lavender, including:

- Drip irrigation: This method uses a system of tubes or hoses that deliver water directly to the base of the plants. This method is efficient and can help to conserve water, as it delivers water directly to the roots where it is needed.
- Micro-irrigation: Similar to drip irrigation, micro-irrigation systems deliver water directly to the roots through small, low-pressure emitters. This method is particularly useful for lavender plants in raised beds or containers.
- Flood irrigation: This method involves flooding a field with water, which can be useful for large scale lavender cultivation.
- Sprinkler irrigation: This method uses a system of sprinklers to deliver water to the plants. This method is less efficient than drip or micro-irrigation, as it can lead to water loss through evaporation and runoff.

It is important to adjust the irrigation schedule depending on the weather conditions and the soil type. It is also important to avoid over-watering and water-logging, as they can lead to root rot and other problems (ȘMULEAC et all., 2013).

The benefits of lavender: a brief history

The Romans used butterfly lavender for its perfume, to perfume laundry or bath, it was then classified among the precious plants, especially by Pliny. In the Middle Ages, it is its therapeutic aspect that takes precedence (a good smell was then synonymous with health), moreover the name "lavender" dates from this time, coming from "lavare" to wash in Latin. The intense fragrance of lavender gave it virtues against infectious diseases. It was present in all the gardens of monasteries alongside other medicinal plants. It is the famous universities of Montpellier and Marseille, which developed from the thirteenth century, which really installed lavender in the pharmacopoeia. Researchers extracted the active ingredients and it was then used, in the form of essential oil, for many applications, especially during the plague epidemics that ravaged Marseille in the Middle Ages until the eighteenth century (LESAGE-MEESSEN et al., 2015). It was during the Renaissance that scientists officially recognized the medicinal properties of lavender. There are studies related to the importance of lavender, in several languages, translated and applied in our region also, pointing out also the importance that they have on nature protection and impact on the environment (PAȘCALĂU et all., 2020).

In the seventeenth century, lavender was also one of the so-called "cephalic" plants used to treat nervous diseases. Lavender baths were common, and are still advocated for their relaxing effects.

From 1759, date of the creation in Grasse of the corporation of master perfumers, lavender becomes again a plant used for its fragrant principles.

In the twentieth century, it is known to destroy the bacillus that causes typhoid, staphylococcus, the bacillus of diphtheria, as well as that of tuberculosis. Many of its components are now part of medicines, and herbal medicine and aromatherapy recommend it for many ailments.

Three species of the genus Lavandula are cultivated mainly for the commercial production of volatile oils, namely: Lavandula angustifolia Mill. syn. L. officinalis Chaix (true lavender or English lavender), Lavandula x intermedia Emeric syn. L hybrida L. (lavandin) and Lavandula latifolia Medicus (WERKER, 1993).These species are also found to be cultivated in Banat region, suitable plain area for the cultivation of several types of crops, an area with a very good soil and water resources.

The benefits of lavender will be lavished after preparation, from the infusion, the simplest, to the decoction, through honey, essential oil, and even soap. Each of these preparations will offer different applications, depending on the active ingredients extracted. These components are all present in the essential oil secreted by the flower. It is secretory hairs located on the plant that diffuse it. It serves to repel aggressors and attracts pollinating insects (APROTOSOAIE et al., 2017).

Lavender infusion

This preparation consists of leaving about ten minutes of lavender flowers, dried or fresh, in simmering water. The infusion of lavender has many benefits, just like lavender tea : it allows you to relax, because it slows down the activity of the nervous system, it promotes digestion, can calm migraines and stop angina if taken at the very beginning ( PRINS et al., 2010).

Lavender decoction

The decoction is prepared as follows: put lavender flowers (fresh or dry) in water brought to a boil and boil for 1 minute, then turn off the heat and let infuse for 10 minutes. It will be used in massage on sore muscles, contracted, on sprains or strains.

Lavender essential oil

There are several methods of making lavender essential oil, but it is with traditional extraction that the resulting product is of better quality, which is very important for medicinal use.

The plant is first put to dry, in order to lose the maximum water contained in its tissues. It is thanks to the water vapor diffused in the plants that the essential oil is recovered. This vapor charged with the totum (all the biochemical molecules that make up the plant) is then cooled to return to liquid form. The essential oil is not soluble in water, so it is then easy to separate the 2 liquids. An essential oil will contain all the volatile active ingredients contained in the plant and will therefore present in a concentrated way all the medicinal properties of the plant (LIS-BALCHIN, 2002).

Lavender essential oil is a benefit for the face, to sleep well, to treat inflammation and stress, for all other lavender prescriptions. Officinal lavender EO or asp calms the bites of mosquitoes and other insects.

Lavender honey

Lavender honey is produced thanks to the nectar of flowers. It offers the same aromatic hues as lavender, a delicate flavour, both floral and fruity. It has some interesting properties, in addition to those inherent to honey in general (antiseptic and antibacterial): lavender honey will have benefits for sleep, anxious states, rheumatism and it is antispasmodic (MACTAVISH AND HARRIS, 2002). Its antiseptic and anti-inflammatory actions are added to those of honey, making it very effective in calming sore throats.

Lavender soap

Embellished with lavender essential oil, lavender soap has the same benefits for the skin. It purifies and repairs it, and its delicate smell makes it particularly pleasant to use before bed thanks to the relaxing and soothing action of lavender (NIMET AND BAYDAR, 2013).

In addition, the active ingredients differ depending on whether essential oil, a decoction or an infusion are used (the components are more or less well extracted during preparation, except for the essential oil which, when well extracted, recovers all the components of the plant):

- The infusion of fine lavender flowers (internal or external) will be used for its antiseptic, antispasmodic, diuretic properties.
- Decoction of fine lavender flowers (internal or external) is hypotensive, antioxidant, anti-inflammatory, antiseptic.
- The essential oil of fine lavender internally has an action on the parasympathetic nervous system, is hypotensive, calming, antiseptic. In external use, it is calming, toning, stimulating, antibacterial, healing (CAMEN ET AL., 2016) .

Lavender, a magic potion for the skin

It will be prescribed to treat burns and small wounds, to improve acne and rosacea, to calm insect bites, to regenerate aging skin. Lavender also has benefits for the hair, soothing small ailments of the scalp.

Lavender, a source of well-being

Lavender is well known for its relaxing effects. It was also common practice to place a few ears in the bath to relax and prepare for sleep. But it is mainly in internal use that lavender is used as an anti-stress. It will be used in case of irritability, insomnia, hyper-emotionality, anxiety (MILL et al., 2019). Lavender can even be used to help a baby sleep, massaging essential oil diluted in vegetable oil.

Lavender good for health

Lavender has long been used as an analgesic, antispasmodic, emmenagogue, anti-inflammatory It calms cramps, nausea, regulates blood flow during menstruation, relieves colic, acts against muscle contractures and rheumatism. Anticoagulant and cardiotonic, it can be used against high blood pressure. Other prescriptions: migraines, infectious diseases, respiratory tract problems (asthma, bronchitis).

## CONCLUSIONS

Plants never cease to surprise us. Certainly many of them have always been used for this or that health problem, but these grandmother's remedies sometimes make you smile. And yet, scientific research shows that these plants have incredible resources. Lavender is one of the best known, but also the most recognized, having been the subject of many works. The multiplicity of its properties also gives us pause for reflection on the justification of such an uncommon use in many fields.

Lavender is an important plant for many reasons. It is widely used for its fragrant oils, which are used in perfumes, soaps, and other personal care products. The oils are also used in aromatherapy and have been shown to have a calming and relaxing effect on the body.

Lavender is also used in traditional medicine to treat a variety of ailments, including anxiety, insomnia, and headaches. In addition, it has antimicrobial properties and can be used to treat minor cuts and burns.

Lavender is also a popular ornamental plant, and it is widely used in gardens and landscapes. Its beautiful flowers and fragrant aroma make it a favorite among gardeners, and it is also a popular choice for dried floral arrangements.

In addition to its medicinal and ornamental uses, lavender is also an important crop for farmers and growers. It is grown for its essential oils, which are used in a wide range of products, and it is also used as a natural pest repellent in crops like fruits, vegetables and cereals.

Overall, lavender is an important plant that has many uses and benefits, both for people and the environment.

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