



Case Report

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Lavender - Perfume and Business in Romania



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Abstract

In the past lavender oil, obtained by processing lavender, have been used in perfumes and cosmetics to manufacture soaps, detergents, lavender scented Eau de Cologne (cologne). Lavender oil is also used to improve the odor of ointments, creams or even medication. Nowadays, lavender oil can be used both internally, being antiseptic, slightly antispasmodic, carminative, calming, diuretic, and externally, being analgesic, healing, soothing and it is indicated in colds, flus and febrile states. It can also be used in therapeutic baths, a procedure often used in natural therapy centers.

Nowadays, the amount of new research done on this plant is constantly increasing due to its lack of toxicity and the complexity of its components which are found in a multiple synergism. Aromatherapists are aware of the fact that lavender oil is the most relaxing essence available to the public and especially to the commoner. Lavender oil helps with regulating the cardiac function and provides comfort and relief in cases of overwork and irritability, especially as a result of intellectual overload [1].

Lavender is seen as a beautiful garden plant with a delicate scent, on top of that, scientific studies have shown that it is actually a plant with complex qualities. The first domain in which lavender has been successfully used is aromatherapy. Japanese companies even add lavender oil in the air conditioning units of their offices. In conclusion, lavender is a robust, beautiful plant with great economic potential, an intense, health-enhancing fragrance and not only. In order to have a quiet and restful sleep, it is enough that at night, before bed, to smell a blooming plant, crumble a few dried flowers between the fingers, or apply a few drops of essential oil on a handkerchief that can be placed in the pajamas pocket. The lavender will give us dreams, and those who will learn to enjoy its virtues will regret not having discovered it earlier. Lavender-based products can be found from both well-known and less known cosmetics companies at acceptable and even low prices in relation to the benefits they provide and, moreover, lavender oil is cheaper than any other essential oils, due to its method of obtaining. Lavender is a miracle for our physical and mental health, so under pressure today.

Keywords: Lavender; Toxicity; Essential oils; Cosmetics; Lavender cultivation; Agriculture

Introduction

The interest in lavender cultivation has increased a lot since the fact that the profit that can be gained through cultivating a hectare of lavender reaches up to 8.000 EUR got known. Those who engage in business with "the purple gold" in agriculture are generally Romanians who have areas smaller than a few hectares and have a certain amount of money available to invest. Cultivation of lavender has become very popular in Romania after 2010, but few lavender growers manage to reach the planned profit. Based on our data, less than 5-7% of lavender cultivators in Romania have enough sales to make profit after paying the culture maintenance, marketing and amortization expenses.

The Purpose

This article is to structure information for future lavender cultivators. This way, the new generation of farmers has all the chances to get the desired profitability from their new lavender

cultures. The point of departure when it comes to investing in lavender must be, as in any business, the way of capitalization. This involves analyzing market demand, the target group, the estimated market size, the size of competition on the chosen segment and the pricing policy. It's not easy to analyze, but, with a little effort, it can be done without having to resort to a specialized company.

Technology

Planting the cuttings

If done in the spring, starts after the soil defrosting, which usually happens in the beginning of March. If the weather is warm, the planting can begin even at the end of February, early March. Lavender is a very resistant plant that is not affected by temperatures as high as 40° Celsius or as low as 20° Celsius. Shortly after planting, the first signs that the cuttings have taken

root show air: "In March - April, in Romania, new buds are coming out and the plant starts growing fast, the flowers appear from the first year, in the summer. It is recommended for those who want to start a lavender plantation to buy cuttings from farmers, not from the big DIY centers. There's not just the quality difference, but also the price one. We sell the cuttings for 1-2 RON, while in the stores the price is up to 10 RON. It's true that we only sell at least 25 pieces. Cuttings are sold in small pots or with the root in the air "[2].

The beginning of the year is the best period to make cuttings purchases, with top-of-the-year offers which bring important discounts. For example, some farmers offer a package of 20.000 lavender cuttings at the price of 1.5 RON/cutting of "Lavandula Angustifolia Sevastopolis". The promotion also includes the documentation for preparing a business plan, analyzing the initial and recurring investment costs, as well as analyzing selling methods and prices. As a bonus, customers receive consultancy during the first year of culture.

Some tips for choosing lavender "babies" are given by the entrepreneur, who says that the plant from pot should be about 10cm, and the one with the "root in the air" should have the stem partially wood like, a root that is 10-15 cm long, and the pant should reach 30cm. "If the cuttings are high quality ones and all the indications are followed, 90-95% of the plantation will grow," promises [2], who delivers cuttings with documentation about how to take care of the plants and provides advice in the first year of planting.

The pests that attack the lavender are near nonexistent. Only the animals are "attacking", but they only bite the plant, but because of the taste they abandon the "prey". The weeds are a problem without herbicide or pulling them by hand, they smother and suffocate the purple flowers. However, if getting bio certified is desired, using chemicals is not recommended. Lavender harvesting can be done manually, with a garden strimmer or with a special harvesting machine that can be attached to a tractor that costs about 27,000 RON. For smaller surfaces, manual work is more profitable.

The sale of lavender

It can be delivered fresh for oil production, for example, or after drying in special spaces. "Lavender needs a lot of space for drying. It is not sun dried, but it is dried in a special place in the dark. The crop per hectare needs about 900 cubic meters for drying (Tudor Panait). If three years ago domestic demand was high compared to the supply, things have recently begun to change because of the large number of farmers interested in growing lavender. The domestic demand tends to be satisfied for the next three to four years. However, there are a lot of deals coming from: France, Germany, Switzerland or USA, where the Romanian lavender is sold easily because the prices are lower. The workforce in Romania is cheaper. For export, to cover transportation costs, we recommend a partnership of manufacturers. A great advantage of this partnership is that, this way, you can get in contracts with

big customers, ensuring a significant quantity", the owner told us. From the calculations made by Agointeligența along with the minimum cost of setting up a hectare of lavender in 2014 is about 8000-8500 EUR.

The technical requirements

Needed to establish a new lavender culture, but many sources provide contradictory information that misleads future farmers. Many farmers find themselves in a situation where, after 2-3 years of investment, they cannot harvest due to technical incompatibility between the soil type, the species and the variety of lavender and the method of capitalization. We will try to clarify all the unclear aspects in this article and make available an action plan to future lavender cultivators that will help them decide if it is appropriate or not to establish a lavender culture.

Drip irrigation

Drip irrigation is very important for the cultivated area. It is essential for the plantation to have a nearby source of water: river, reservoir or irrigation channel, because drilling a well drives an initial high cost, [3]. It takes a lot of attention in choosing the place for lavender because it is very vulnerable to moisture and can rot if the soil is soaked in water. The cost of an irrigation system per hectare of lavender is 6000 RON. = ..Euro

Planting lavender

Planting lavender can be done mechanically or manually, most of the Romanian farmers choose the last choice, which is cheaper if done with friends or family. "One hectare can be grown with four days workers in about 10 days. If a planting machine is used, the entire hectare is planted in no more than three days, but these machines prices start from 2000 RON. " Some farmers bought lavender cuttings for 10 Ari at first, which is 2000 pieces and they rooted really well.

Characteristics of lavender cultivated in Romania

Lavender cuttings, which grow the best in Romania, are "Lavandula angustifolia Sevastopolis". This lavender variety is the result of 7 years of Lavandă de România internal research and have been declared the winner between more than 30 varieties of lavender that have been tested, [4].

- a. Shrubs with a diameter of 50-60cm.
- b. Purple-violet inflorescences, with very strong smell.
- c. Flowering in early June in the plains.
- d. High productivity: 80-150kg of essential oil/ha.
- e. High quality essential oil without post processing: 25/33.
- f. Lavender variety suitable for: landscaping, floral and handicraft decorations, essential oil and floral water.

This lavender variety is the result of 7 years of internal research done by Lavandă de România and the researchers

from this company have declare it the winner after testing over 30 varieties of lavender, [5]. The products delivery is done in bouquets of 50 cuttings and when the quantity is chosen, it must be taken into account that it represents the number of bouquets! Example: To order 100 cuttings, choose 2 for quantity (2 bouquets of 50 cuttings). Variations can occur from farm to farm depending on the applied crop technology (organic, conventional, irrigated, etc.), soil type, irrigation degree, natural precipitation, solar radiation, etc.

Lavender Production can be Organized According to

The methods of processing

The methods of processing which lead to the following products: fresh lavender flowers with the whole stem, dry lavender flowers all with the stem, fresh lavender bouquets, dry lavender bouquets, dry lavender buds, lavender powder, lavender essential oil, lavender floral water or processed products that contain, besides lavender, other raw materials that are not a product of a lavender culture (tinctures, cosmetics, medicines, food supplements, etc.)

Volume

We have the possibility to sell the above-mentioned products en-gross or en-detail items. Business type, you can sell in bulk (bulk sales without a brand), branded and authorized/notified on certain target markets, or as a private label/white label/etc. There are many possibilities to combine above mentioned criteria, and each business will have a specific, personal footprint. The most common combinations should get analyzed from the point of view of the required investment, work and profit effort, return of investment (ROI) are described below: At the market price the amount needed to set up a hectare of lavender costs about 30,000 RON = 6520 EUR. It depends on the chosen variety and the way it gets harvested. If done manually, more cuttings can fit. If it is harvested with machines, a specific space is needed between the layers, which reduce the number of cuttings, [2].

Technical Aspects

To be studied prior to setting up a lavender culture.

Technical feasibility of land

The first step any farmer has to do before setting up a plantation is a soil analysis. In the absence of this analysis, the chances that the future lavender culture can be redeemed at the initial expectations fall to an average of 60-70%. The most important element specific to the future place of the plantation is the soil pH. An unsuitable soil pH has many negative effects on lavender, including the slow growth (permanent or temporary) of lavender plants, high plant mortality (both at setting up and annually), low efficiency on essential oil production and / or lower quality essential oil found in the lavender flower (decisive factor in setting the sale price of lavender flower, in some cases the clients refusal to buy the flowers can occur).

The effect of pH on the quality of lavender flower is mainly due to the low values of linalyl acetate and thus the degradation of odor of lavender oil extracted by the processor. In order to make a realistic pH test, it is necessary to take soil samples from a depth of 70cm. It is important to take soil profiles from several different places of the ground, scattered all over the surface and zigzagged to avoid level or uniform curves. For each extracted profile, it is enough to extract two samples, one from 30cm deep and another from 70cm deep. In practice, if we relate to 1ha, a future lavender cultivator will choose around 3 areas from the ground, and from each area will be extracted two samples, one 30cm deep and another 70cm deep.

Each sample will have to be labeled appropriately with its area and depth and will be taken to a laboratory that can analyze soil pH (either agronomic or pedological institute, or private lab). "Lavandă de România" company interprets the results of the pH analysis as the first step in offering a potential customer a technical approval. Analyzing the pH in the soil from a single place is not relevant enough, so the variation of the horizontal and vertical is used in order to get soil staples that get tested by the client. Thus, it divides the tested areas in 3 categories: Technical OK Field, Inappropriate but Correctable Land, Inappropriate and Unrecoverable Land. Potential customers that fall into the last category are advice not set up a lavender plantation on the tested field.

Choosing the species and variety of lavender

There are 30-40 globally approved lavender species, but we focus only on *Lavandula angustifolia* (synonymous with *Lavandula officinalis* or *Lavandula vera*). Lavender essential oil that considered having a superior quality is extracted only from certain varieties (varieties, cultivars) of these species. Several thousands of varieties of the species *Lavandula angustifolia*, each with its own purpose: essential oil, food spices, teas, decor, etc. are homologated globally. Each future farmer will have to choose the desired commercial destination for future lavender culture. A lavender cultivator who wants scalability or wishes to work with large fixed surfaces will focus on varieties intended for the production of essential oil. A cultivator who wants to work with small surfaces will generally prefer varieties used for decoration. There are also middle cultivators who have a try with several types of lavender varieties to diversify their products [6].

Preparing the land

For the future lavender cultures, it is relatively simple, but some aspects regarding agricultural experience will make a difference between a well-prepared land and poorly prepared land. Usually, it is advice to scale the drainage of the flat land or the usual scarification of the tested lands. After this first optional step, follows the very deep ploughing for soil aeration. The next step is to shred the soil in order to obtain a finer granulation (ideal for vegetable growing) and this can be done with a wider range of machines depending on the type of soil, the post-plowing degree

of erosion or the machine availability (usually combinations and variations between disc, vertical milling cutter or horizontal milling cutter, combine, crushing roller, harrows, etc. will be used). For planar plots where there is a risk of flooding we also recommend planting on ridges [7].

When establishing a lavender culture

A future farmer must take into account the technology through which it will set up the future lavender culture. There are several degrees of mechanization, depending on the budget and the availability of the machines. 100% manual planting requires a minimum initial investment, but the actual cost of setting up is high. Going through several degrees of mechanization, maximum mechanized planting is reached, this requires an initial investment in planting equipment (purchase or rent) but the actual cost of setting up is minimal.

The maintenance and harvesting of lavender culture

Harvesting of lavender culture can be done in various degrees of mechanization, starting with a minimum of mechanization up to a mechanization level of up to 95%. There are many types of machines, each with its own purchase cost and its own efficiency, and a future farmer needs to analyze the market options in order to be able to pick the choice that suits the farmer's needs and budget.

Return of Investment

Branded products, authorized/notified products sold directly

Most new growers probably choose this combination because of the high value added on the sold product. But most of them make a big mistake that leads to their failure - they do not consider a sufficient budget for sales and marketing. The fact that sales are done directly to the final consumer imposes a high percentage of the sales price to be allocated to product promotion (it is the price to pay for the target market to hear about the products and want to buy them). This percentage may vary anywhere between 5% and 90% depending on the marketing model of each business, so it can be said that it is the key to success in the business. Advantages: over time, it will bring great added value; it can get started with a smaller surface. Disadvantages: it involves a large initial capital for marketing, processing, operations and a work crew (hired or contracted). It is generally good to consider an external budget to support sales and operations for the first year.

Branded, authorized/notified products sold en-gross

This method is very similar to the previous method. The difference is that the products will be sold to an intermediary (reseller, distributor, importer, etc.) Advantages to the previous method: the initial capital required for marketing is slightly lower, the search for direct customers costs are lower, but brand promotion costs are maintained to which are added the costs of creating and maintaining the partnership network, which are lower.

Disadvantages of the previous method: less added value due to the sale with discounts to partners. Finished products, similar to those that are branded, get sold to third parties (supermarkets or other types of businesses) under private/white label contracts.

This method implies that the producer

Procedure will only deal with the production (lavender culture, processing line and usual operations). All marketing efforts will be taken over by a third party who will sell the products offered by the manufacturer under its own brand (for example, take the Billa Clever brands, Piros from Lidl, etc. - all are products contracted in a private label system). Advantages: very small initial capital, only the budget for the establishment and maintenance of culture and processing line (if not contracted). The production can be started with a medium size area. Disadvantages: the value added will be small (slightly higher than the value added in the bulk, non-branded)

Non-branded products, sold in bulk

This form of capitalization is the most handy to start a lavender business because it does not require a large initial capital, nor much know-how in marketing and sales and it does not necessarily require a personal processing line. Basically, the new farmer will only invest in lavender culture, its maintenance, harvesting and/or processing (we recommend processing until lavender essential oil is obtained as raw material because it is not a perishable product compared to the rest of possible materials) and in search of customers to sell all the quantity to at once. Advantages: minimum initial investment capital, no marketing know-how is not needed, nor a dedicated marketing/sales team in this case compared to the other methods. Disadvantages: little added value - it is necessary to set up a larger area to counterbalance [5].

Lavender Products

High quality lavender essential oil, 100% natural, 100% pure. Distilled in the Banat region, west of Romania, from lavender plants grown in a historical area where lavender cultivation is a tradition that began back in the 70's [8].

Lavender oil

Distilled from organic grown lavender, it is 100% pure and natural, no post-processing, no dilution, no alteration, no GMO and no pesticides are used in our farms.

Lavender water

Similar to our lavender oil, it is 100% pure organic and natural lavender hydrosol is carefully stored cold, without any preservatives so it can be shipped fresh and in a natural form [9].

Made with Love

Our oil and hydrosol are distilled in a family-owned business with lots of care and love for nature! Lavender oil can be used in combination with other oils, specialists know which the most beneficial combinations are, especially because some people may

be allergic to some of them, and in some diseases, aromatherapy is not recommended. The lavender and its benefits have entered in all people's homes. Thanks to its virtues, lavender is considered a blessing. It can be appreciated both as a medicine and as an ingredient in the cuisine [10].

The multitude of diseases in which lavender is useful is impressive. Lavender products can be used by both women and men, influencing in a beneficial way: the blood circulation, digestion, nervousness, gynecological problems, insomnia, muscle, skin, breathing, sweating and it started to be used more and more in fighting stress.

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