European Medicinal and Aromatic Plant (MAP) Farming, Processing and Training Alliance

‘Market Analysis on Wild MAP’

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Introduction

Medicinal and aromatic plants (MAPs) have been used in traditional medicine, food preparation, and preservation, rituals and cosmetic purposes for thousands of years. MAPs are referred to with various names including medicinal plants, spices, herbs, etc.[1]. MAPs can be either wild harvested or cultivated. Wild harvesting is the collection of different parts of MAPs grown wild. These parts can be the leaves, bark, herbs, fruit flowers, wood or roots and they may be collected from various locations, such as forest land, mountain, agricultural land, gardens, the roadside etc.[2]. It has been estimated that currently more than three quarters of the world's population uses some form of MAPs[3]. Approximately 60% of the modern pharmaceuticals and commercial drugs contain plant-derived active ingredients[3]. The MAPs are important parts of ecosystems, hence the sustainable harvesting practices of wild MAPs should be used to ensure the compromise between sustainable management and commercialization in order to protect and sustain the biodiversity[3].

According to FAO, the worldwide production of medicinal and aromatic plants is estimated to 330 million tons from a total area of 77 million ha[4]. The USA, Japan, and Europe are the major MAPs consumers of the world, while China and India are the most important MAPs suppliers in Asia; Egypt and Morocco are the most important MAPs suppliers in Africa; Poland, Bulgaria, and Albania are the most important MAPs suppliers in Europe; Chile and Peru are the most important MAPs suppliers in South America[5]. The current report aims to understand and discuss the supply chain of MAPs in selected countries and identify issues impacting the development and growth of the sector.

Type of medicinal and aromatic plants (MAPs) used for trading

MAPs are either wild harvested or cultivated. MAPs can be sold in different forms, such as fresh, dried, teas, while they are also used for the extraction of high value compounds such as

[1] I. Giannenas, E. Sidiropoulou, E. Bonos, E. Christaki and P. Florou-Paneri. In: Feed Additives, edited by P. Florou-Paneri, E. Christaki and I. Giannenas. Academic Press 2020. Chapter 1 - The history of herbs, medicinal and aromatic plants, and their extracts: Past, current situation and future perspectives.
[2] TRADE IN MEDICINAL PLANTS. Food and Agriculture Organization of the United Nations. Rome. 2005.
[3] Chandra, P. The medicinal and aromatic plants business of Uttarakhand: A mini review of challenges and directions for future research. Nat Resour Forum. 2020; 44: 274– 285. https://doi.org/10.1111/1477-8947.12208
[4] EIP-AGRI Focus Group Plant-based medicinal and cosmetic products. D. Argyropoulos. University of Hohenheim, Research Center for Bioeconomy Wollgrasweg, Germany.
[5] Vasisht K, Sharma N, Karan M. Current Perspective in the International Trade of Medicinal Plants Material: An Update. Curr Pharm Des. 2016;22(27):4288-336. doi: 10.2174/1381612822666160607070736. PMID: 27281331.

essential oils. Fresh MAPs due to their high moisture content that affects their physical, chemical, and nutrient quality, they have a short self-life. Therefore, fresh MAPs can be sold in small retailers or supermarkets, but cannot be exported (Figure 1). Drying is an important process that is often used as a final production step before packaging and selling of MAPs. In general, the processors or the farmers sell the dried MAPs in wholesalers that distribute MAPs to different industries (i.e., bioproducts, pharmaceutical, etc.) or retailers. Dried MAPs due to their low moisture content can be stored for a long period and also can be exported. MAPs can also be used for the production of high value products such as essential oils and extracts that are used for medicinal or beauty purposes.

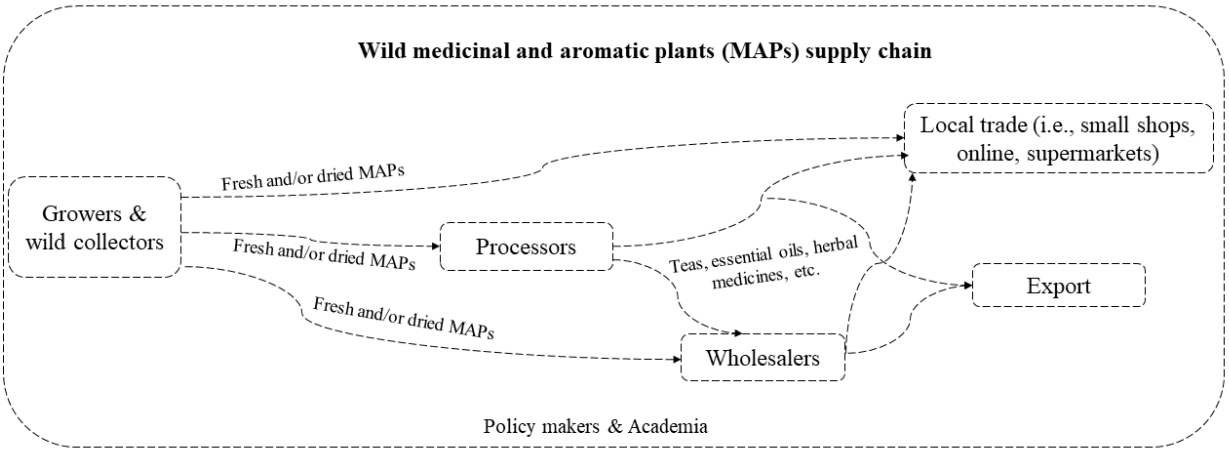

Figure 1. Steps in medicinal and aromatic plants (MAPs) supply chain.

Stakeholders involved in MAPs sector

Several stakeholders are involved in MAPs sector including growers/collectors, retailers/wholesalers, processors, herbalists funding agencies, policy makers, educators, and consumers (Figure 2). In general, MAPs are produced or collected by small or large scale farmers, while they are traded by retailers and wholesalers. Processors process the fresh MAPs for either prolonging their shelf life (i.e., drying) or extraction of active ingredients for the preparation of high value products. Policy makers set the regulation and directives for the different steps of the supply chain (i.e., production, collection, trading, etc.). Funding agencies financially support the different stakeholders through different schemes.

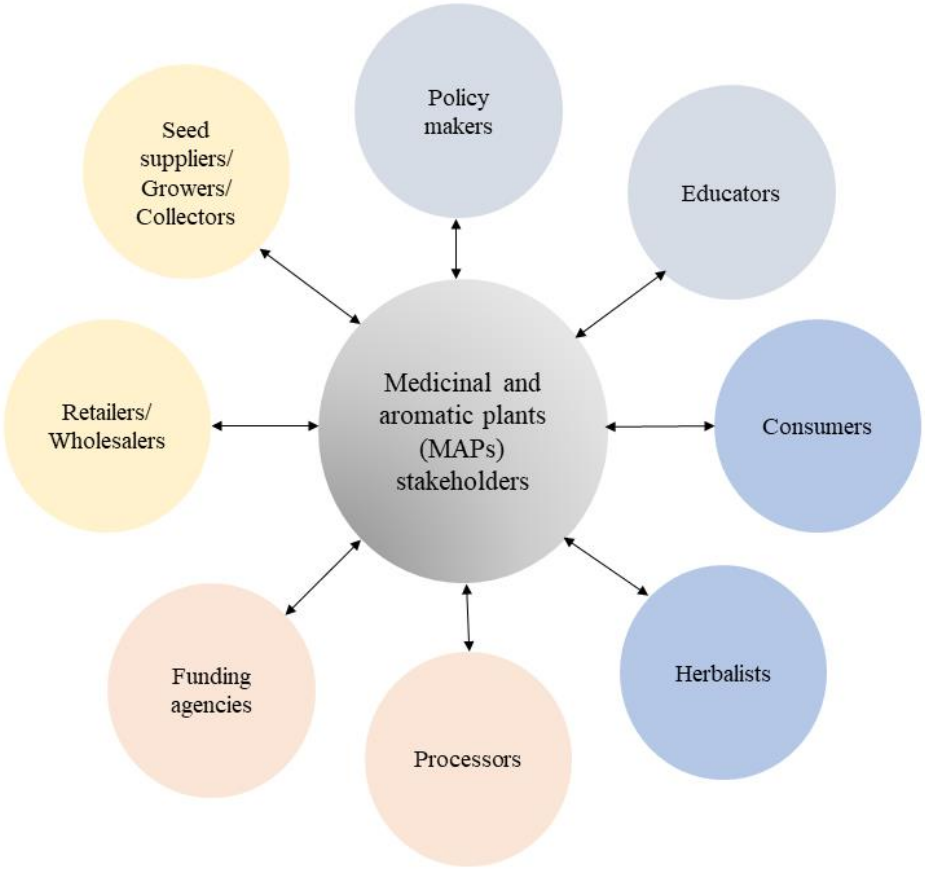

Figure 2. Stakeholders in the medicinal and aromatic plants (MAPs) supply chain.

Medicinal and aromatic plants (MAPs) sector in Ireland

The Irish agri-food sector, one of Ireland's most important indigenous manufacturing sectors, in 2016 generated 7% of gross value added (€13.9 billion) and provided 8.5% of national employment[6]. The medicinal and aromatic plants (MAPs) industry based on 'high value' botanical plant parts and chemical compounds grown and processed for the medicinal, pharma, food, and body-care industries, is a new agriculture field for Ireland. Therefore, currently, the data related to Irish trading of MAPs are not enough. Irish MAPs sector produces little or no crops for further processing for compounds' uses in food, flavourings, drugs, medicines, cosmetics and many more

[6] https://www.teagasc.ie/rural-economy/rural-economy/agri-food-business/agriculture-in-ireland/

primary products and relies on imports from other countries (i.e., Germany, Great Britain, Poland, Spain, India among others). Based on the National Field Vegetable Census 2015, the hectares of parsley cultivation were higher in 2014 than in 2008, while there was a significant decrease in the hectares of thyme and other herbs Table 1[7]. A significant increase in the value per hectare was recorded for the parsley and other herbs, while there was a decrease in the value per hectare for the thyme for the same period. Some of the most common MAPs cultivated in Ireland are parsley, basil, thyme, lemon balm, nettles, among others. The most reported wild MAPs species that have been described as traditional medicines in Ireland include *Rumex obtusifolius*, *Hedera helix*, *Menyanthes trifoliate*, *Prunella vulgaris*, *Fraxinus excelsior*, *Rorippa nasturtium*, *Senecio aquaticus*, *Allium ursinum*, *Taraxacum officinale*, *Cytisus scoparius*, *Plantago lanceolata*, *Ulex gallii*, *Geranium robertianium* among others[8].

In Ireland, MAPs are trading as fresh or dried for the extraction of essential oils or as teas. MAPs are mainly produced or collected by small scale farmers who supply other stakeholders such as processors, wholesalers, retailers, herbalists etc. Given that in Ireland there already exists an established market for MAPs and their active ingredients especially for food, flavourings, drugs, medicines, cosmetics etc., small scale farmers should be financially and educationally supported for the sustainable production or collection of MAPs, for the processing of MAPs to prolong their self-life and produce high value added products. Small scale farmers could be financially supported by banks, the Department of Agriculture, and the European Union. For prolonging the shelf life of MAPs and create value added products focus should be given on teaching farmers about the importance and use of post-harvest technologies for drying MAPs or extracting active ingredients. The training of farmers could be done through the collaboration with universities (University College Dublin, Trinity College Dublin, etc.) as well as through private educators with experience on post-harvest technologies.

Medicinal products cannot be placed on the Irish market (either directly or via the internet) without either a marketing authorisation or (in the case of THMPs) a certificate of traditional-use registration from the HPRA. The Health Products Regulatory Authority (HPRA) is the competent authority/regulator in Ireland for medicinal products for human and veterinary use, for medical

[7] National Field Vegetable Census 2015, https://www.bordbia.ie/globalassets/bordbia.ie/industry/irish-sector-profiles/horticulture-censuses/national-field-vegetable-census-2015.pdf
[8] Ethnopharmacology in Ireland: an overview. Y. Coady and F. Boylan. Revista Brasileira de Farmacognosia 2014 Vol. 24 Issue 2 Pages 197-205

devices, for cosmetics and for other health products. Specifically, the HPRA regulates the licensing and sale of medicinal products for human use in Ireland in accordance with the requirements of the Medicinal Products (Control of Placing on the Market) Regulations (S.I. No. 540 of 2007), as amended, and relevant EC Directives, in particular Directive 2001/83/EC as amended by Directive 2004/27/EC and Directive 2004/24/EC. Directive 2004/24/EC inserted a new chapter (chapter 2a). This chapter contains specific provisions applicable to traditional herbal medicinal products (THMPs) in articles 16a-h. The definition of a medicinal product, as listed in Article 1 of Directive 2001/83/EC as amended, is as follows:

(i) Any substance or combination of substances presented as having properties for treating or preventing disease in human beings; or

(ii) Any substance or combination of substances which may be used in or administered to human beings either with a view to restoring, correcting or modifying physiological functions by exerting a pharmacological, immunological or metabolic action, or to making a medical diagnosis.

A product can be classified as a medicinal product if it falls within either part of the above definition. In general, the application to obtain a product licence (a marketing authorisation or a certificate of traditional-use registration) is submitted by an applicant to the HPRA. This applicant is generally the authorisation/registration holder and is the proprietor of all the information relating to the product. However, an application can be submitted by a third party acting on behalf of the authorisation or registration holder. When an application for an authorisation or registration is received, the HPRA assess all of the product data to ensure it meets the appropriate quality, safety and efficacy/evidence of traditional use standards to be granted a licence. If the application process is successful, the licence is granted.

Table 1. Field herb in 2008 and 2014[7].

	2008				2014			
Herbs	Growers	Hectares	Total Farmgate Value (€m)	Value Per Hectare	Growers	Hectares	Total Farmgate Value (€m)	Value Per Hectare
Parsley	19	58	0.91	€ 15,746	16	112	4.66	€ 41,777
Thyme	10	8	0.16	€ 20,221	3	1	0.01	€ 12,197
Other herbs	9	8	0.16	€ 18,939	3	2	0.06	€ 29,847

Medicinal and aromatic plants (MAPs) sector in Italy

Italy has the most developed MAPs processing industries in Europe. The last available data indicate that in Italy there are about 3,300 ha cultivated, of which half are herbaceous species, cultivated in the south region of Italy[9]. In Italy the demand for MAPs has increased in the last 10 years and the turnover is estimated at 100-200 million euros annually. Even though, the most popular MAPs species in Italy are chamomile, mint, hyssop, lemon balm, sage, valerian, lavender, and rosemary, Bergamot orange (*Citrus bergamia*) occupies half of the national cultivated area of MAPs in Italy followed by menta of piedmont (*Mentha piperita* ssp. officinalis)[10]. The production of MAPs in Italy is quite significant but is lacking in variety. About 70% of the needs of MAPs in Italy are imported.

The country ranks in the fifth row in the introduction of aromatic herbs in Europe. Its main supplier in the previous years was America, but between 2006 and 2010 imports from America decreased by 20% while imports from France and Germany rose instead. Italy is a medium-sized exporter, holding 4.8% of Europe's total exports which is equal to approximately 16.4 million euros or 2,800 tones per year. Exports over the last few years have increased in value but have been reduced in volume; the main destination of Italy's exports is France and Germany. In Italy there are a number of important local companies working on MAPs field including Aboca, Ulrich, Minardi, Carlo Sessa, and Dr Taffi. Moreover, Italy has a strong extraction industry and herbal medicines[9].

Medicinal and aromatic plants (MAPs) sector in Spain

In Spain, there are more than 1,000 autochthonous plants compared to the more than 8,000 species of plants present on the territory, which at the European level is an exceptional case. The vast majority of these plants are considered medicinal plants, however, many of them are hardly known. Being a rich country in native aromatic-medicinal flora and the growing interest of consumers in natural products were identified as strengths for the sector, although the dependence of the Spanish market on imports of raw materials and the high global competence threatens the

[9] Nicola, Silvana & Hoeberecht, Jeanet & Fontana, Emanuela & Saglietti, Daniela. (2004). Medicinal and Aromatic Plants in Italy: Situation and Perspective for the Piedmont Region. Acta horticulturae. 629. 375-382. 10.17660/ActaHortic.2004.629.48.
[10] https://nurservicio.com/the-most-popular-aromatic-plants-used-in-italy/

sector's potential yield[11]. In Spain, the MAP sector is complex and that makes it difficult to accurately quantify the cultivated areas and the productions obtained. This complexity is present due to several characteristics such as the previously mentioned wide diversity of botanical species, as well as production models, products and final markets. Although the commercialization of MAPs in Spain is less than other crops, these products have a high market value and a great capacity to generate employment through the cultivation, packaging, and marketing procedures. Spain is in a relatively well-positioned place in terms of European trade, although there are deficiencies in the import/export balance. In the MAP sector, imports from the international market have a great influence on purchase prices, since we are in the context of a free market. In 2020, it was estimated that 12,011 Spanish ha that have been dedicated to the cultivation of aromatic plants (i.e., lavender, etc.). However, there are many other species that are probably not included. If we count spices (i.e., saffron, anise), we are talking about 23,652 ha[12]. This indicates a growth in the cultivated area for commercial purposes since in 2016, when it was reported only 12,910.24 ha (including spices). The most productive regions are Castilla y León (lavender and lavandin), Castilla-La Mancha (lavender, lavandin, sage, thyme and saffron), Navarre (lavender, lavandin, and chamomile), Murcia Region (lavender and sage), Catalonia and Comunidad Valenciana (several crops). When it comes to high levels of commercialization, the list of the large productions of cultivated MAPs is quite short. The most commercialized species are hop (*Humulus lupulus*), red peppers for paprika (*Capsicum annuum*), *Pavaper somniferum*, anise (*Pimpinela anisum*), saffron (*Crocus sativus*) and lavender and related (*Lavandula x hybrida*, *L. angustifolia*, *L. latifolia*), *Aloe vera*, mint (*Mentha sp.*), chamomile (*Matricaria chamomilla*), chicory (*Cichorium intybus*), and licorice (*Glycyrrhyza glabra*), among other[13]. These are the most exported species, but of course, there are many other species farmed on smaller areas with important relevance on the national market. From 2016 to 2019, the Spanish production of aromatic, medicinal and condiment plants have been constantly increasing, with a growth rate of almost 36% per year on average, which reveals a great increase in the importance of this market. Even after the COVID-19 pandemic, its retail sales grew almost 19% in value and 16% in volume[14]. If we focus on the

[11] ANIPAM, National Interprofessional Association Of Aromatic And Medicinal Plants. Information collected from their official website: https://www.anipam.es/
[12] Ministerio de Agricultura, Pesca y Alimentación, 2020. ESYRCE, Encuesta sobre Superficies y Rendimientos. Resultados 2020. © Ministerio de Agricultura, Pesca y Alimentación, Gobierno de España.
[13] Eva Moré, 2009. *Mercado y comercialización de plantas aromáticas y medicinales.* INTRADER, Innovación y Transferencia para el Desarrollo Rural.
[14] Alimarket, 2021. Informe 2021 sobre el sector de Especias y Condimentos.

cultivation of medicinal plants, Spain has become the world's leading power in the production of morphine for the pharmaceutical industry. The country tripled the production of opiate raw materials rich in morphine in 2019 after increasing the area harvested with opium poppy, royal poppy or Papaver somniferum by 589%. It is followed by Turkey, Australia, France, India and Hungary, the six countries that account for 96% of global manufacturing. There are many Spanish growers dedicated to this crop, but only one manufacturer (i.e., Alcalíber SA.). The pharmaceutical sector is highly regulated thus this company is the only having authorization to manufacture opiates for the pharmaceutical Spanish industry. In Spain, during the COVID-19 pandemic, the natural category in the pharmacy increased by 28%, reaching extraordinary figures in some segments such as immunostimulants (+ 288%) and plants for stress and insomnia (+ 30%)[15]. This is aligned with the presence of *Valeriana officinalis* as one of the main plants in products of the home market, surpassed by mint and followed by plants with laxative properties, i.e., Cassia angustifolia[13]. In 2015, the production of essential oils accounted for 65% of the production volume, followed by the food industry with 20% and the pharmaceutical and diet industries with 15%. However, as mentioned above, exports are more relevant to the Spanish market than imports. The 2019 Spanish report on exports reports a 22% increase in value and a 38% increase in volume for "plants, seeds and fruits for perfumes, medicines or insecticides." On the other hand, imports in the same category registered an increase of 8.4% in value and a decrease of 8% in the volume produced. There are other MAP species not included in this category with similar trends[16]. Finally, there is an increased interest in wild edible plants collection, including MAPs. However, at least for commercial purposes (and harvest of big quantities of MAPs), it is necessary to have the relevant authorizations. These are normally local or regional and follow national and European laws for the protection of the environment and spontaneous flora. In general, it is necessary to make the request to the competent authority on environmental matters at the local level[11]. Andalusia, Aragon, Comunidad Valenciana, Castilla y León, Castilla-La Mancha, and Murcia Region are main wild MAPs production areas. Most of the collected wild MAPs are usually used for the productions of products based on plant extracts and dried herbs. The most important species among the wild MAPs collected for commercial purposes are: white thyme (*Thymus mastichina*)

https://www.alimarket.es/alimentacion/informe/326102/informe-2021-sobre-el-sector-de-especias-y-condimentos
[15] Mª Luz García Toro, 2020. Los retos de la "nueva normalidad" para la medicina natural en la farmacia. Farmaventa.
[16] Ministerio de Agricultura, Pesca y Alimentación, 2019. Informe anual de comercio exterior agroalimentario pesquero y forestal 2019. © Ministerio de Agricultura, Pesca y Alimentación, Gobierno de España.

and other thyme species, white hawthorn (*Crataegus monogyna* L.), Rosemary (*Rosmarinus officinalis*), lavender (*Lavandula latifolia*), gum rockrose (*Cistus ladanifer*), bearberry (*Arctostaphyllos uva-ursi*), white savory (*Satureja fruticosa*), and gentian (*Gentiana lutea* L.)[17] (Moré, 2013).

Medicinal and aromatic plants (MAPs) sector in Greece

The plant biodiversity of Greece is among the richest in Europe and is included in the "hot spots" of biodiversity of the planet. Greece's indigenous plant genetic resources include more than 6.000 self-cultivated taxa (plant species and subspecies), which make up almost 50% of native plants throughout Europe. A large proportion of these (approx. 13-15%) are endemic plants of Greece (they do not respond anywhere else on the planet) and many are rare or are characterized as endangered. The main species grown in Greece and are of a commercial use include oregano, thyme, savory, sage, anise, fennel (marathosporos), chamomile, laurel, mint, spearmint, fliskouni, lavender, lemon balm (melissochorto), and unique local products of some regions of Greece, such as the mastic of Chios, the crocus of Kozani, diktamo of Crete, and the mountain tea (Sideritis).

In Greece, all operations for the production and processing of MAPs must be carried out according to the Good Agricultural Practices (GAP). Especially for the exportation of MAPs products, each batch is required to be accompanied, in addition to the debugging protocol for the dry action, and by a complete chemical and microbiological analysis.

The main importing European countries, such as Germany, France, England, Switzerland and Italy, are intensely looking for Greek organic products and offer very satisfactory prices. Thus, the wholesale prices for the dry drogue range from 5 to 10 euros per kg. With yields from 100 kg/acre up to 400 kg/acre of drogue, depending on the species and the part of the plant, we notice that the gross area earnings amount from 960 (oregano, mountain tea) up to 4.000 euros (*Melissa officinalis*) (Table 2). If we consider that apart from the installation of the multiannual – usually – plantation, which does not exceed 300 – 600 euros/acre, the other expenses for cultivation care (lubrication, irrigation, rinsing) are relatively small, then the net earnings, in comparison to other agricultural products, are much higher.

[17] Eva Moré, 2013. Wild harvesting businesses of Medicinal and Aromatic Plants in Spain. Centre Forestal Tecnològic de Cataluña, Plant Wild project.

Table 2. Indicative dry action prices and yields of cultivated aromatic plants**.**

Plant	€/kg	Plant part	Yield kg/Acre	Gross income €/acre
Melissa officinalis	10	leaf	400	4.000
Rosmarinus officinalis	5	leaf	300	1.500
Origanum vulgare	8	leaf	120	960
Ocimun basilicum	7,5	leaf	400	3.000
Chamomilla matricaria	10	Blossom	100	1.000
Salvia officinalis	7,5	leaf	400	3.000
Mentha piperita	10	leaf	300	3.000
Sideritis sp.	8	leaf	120	960
Lavandula angustifolia	10	Blossom	200	2.000
Origanum dictamnus	8	leaf	200	1.600
Thymus vulgaris	7,5	leaf	400	3.000
Satureja hortensis	6,5	leaf	400	2.800
Origanum majorana	7	leaf	200	1.400

Medicinal and aromatic plants (MAPs) sector in Turkey

In Turkey, use of MAPs as food and medicine has a history of millennia. However, the use of these plants as a commercial commodity is quite new. This can be understood more clearly when the production areas over the years are examined. Turkey due its natural wealth that enables the collection and cultivation of various MAPs species, has become one of the leading countries in the trade of MAPs. Geographical location, climate and plant diversity, agricultural potential, and large area are the determining factors. Herbal medicine, plant chemicals, food, and additives, cosmetics, and perfumery are some of the industries that the MAPs are used for. MAPs are mainly collected from Aegean, Marmara, Mediterranean, Eastern Black Sea and Southeastern Anatolia Regions. In Turkey, 347 species are traded and 139 species are exported. Turkey exports MAPs to

approximately 100 countries around the world. A significant part of its exports are made to North America, European Union, Latin America, Far East and North African countries. Among these countries, the USA, Germany, Vietnam, Netherlands, Poland, Brazil, Canada, Italy, Belgium, Greece, France and Japan are at the top of the list. The most common MAPs exported by Turkey are fennel seeds, juniper bark, mahaleb, fenugreek, rosemary, licorice root, mint, sumac, sage and linden flowers, along with thyme, laurel leaves, cumin and anise.

Agricultural studies have started in parallel with the increasing importance of these plants, especially in recent years, an increase has been observed in breeding studies aimed at developing varieties for these plants. Standard varieties have been developed in many medicinal and aromatic plants such as thyme, anise, coriander. Developing improved varieties for quality and standard products that meet the demands of consumers and industrialists, determining appropriate ecological conditions, timely collection of natural plants without harming nature, determination of post-harvest processes, and processing technology will increase production and market opportunities in MAPs. Turkey implements support, incentive, and grant programs that increase both the production and added value of MAPs and also provide new employment. MAPs producers within the scope of good agriculture and organic agriculture are supported by 4.1 euros per acre individually and 2.1 euros in group certificates. Especially in recent years, the scope of this support has been expanded, namely, since 2008, within the scope of good agricultural practices, 71 million liras of support has been paid on an area of approximately 696 thousand decares. Since 2013, organic agriculture support of 2.7 million TL has been given to the producers who grow these products as organic agriculture on an area of 58 thousand acres. In the last 2.5 years, approximately 1.5 million liras have been paid to 810 Turkish farmers for 22 thousand acres of land. Within the scope of rural development supports, significant grants have been provided for processing, storage, and packaging of MAPs. Specifically, to date, 30 million TL (turkish lira) has been paid to 104 projects, 6.3 million TL has been paid to 209 MAPs projects and also to the Young Farmer project. In order to increase the production of medicinal and aromatic plants and to turn biodiversity into an advantage in international markets, the "Project for the Development of Itri and Medicinal Plants and Dye Plants Cultivation" was expanded in 25 provinces in 2015. In addition, the Ministry of Agriculture has announced that projects of MAPs will be supported in all provinces.

Medicinal and aromatic plants (MAPs) sector in leading countries

France, Bulgaria, Romania, and Poland are some major productive countries in the EU which traditionally cultivated MAP plants. *Bulgaria*: Bulgaria's production is 73.960 hectares in coriander (*Coriandrum sativum*), 3.959 hectares in lavender (*Lavandula angustifolia*), 3.530 hectares in fennel (*Foeniculum vulgare*), and 1.750 hectares in rose (*Rosa damascena*). From these crops, the rose and lavender are intended for cosmetics and perfume companies, while coriander and fennel are available both on the border market and on exports. Other aromatic plants grown in Bulgaria are the Melissochorto (*Melissa offi cinalis*), the Mint (*Mentha x piperita*). There is also a recent increase in sage cultivation (*Salvia offi cinalis*). *Romania:* The most important produced species in Romania are: coriander (*Coriandrum sativum*), fennel (*Foeniculum vulgare),* anise (*Pimpinella anisum*), Melissochorto (*Melissa offi cinalis*), mint (*Mentha X piperita*), Sage (*Salvia offi Cinalis*), which occupy a total area of 10.176 hectares. *France:* France's first position in the production of pharmaceutical products in Europe makes it a very promising market for aromatic plants, especially organic. However, France's imports are mainly increased for the already processed products of aromatic plants such as distillates and extracts. Poland: The market for aromatic plants in Poland is one of the largest in Europe and the largest among the countries of Eastern Europe. The aromatic plant processing industry in Poland is in constant development, while many companies in this sector are working exclusively for similar companies from Western European countries (Germany). The most widely extracted aromatic plants in Poland are mint, thyme, chamomile, Melissochorto, sedge, Sage and Calendula. Poland is the eighth largest importer in Europe and holds 3% of Europe's total imports. Between 2006 and 2010 imports increased by 1.9% in value and decreased by 4.3% in volume per annum, corresponding to 14 million euros or 6 thousand tones in 2010. The largest supplier was Germany but mobility for imports is found from other countries in Eastern Europe such as Bulgaria and other Baltic countries Germany: It occupies the first place in the aromatic plants market and in the aromatic plant processing industry in Europe. The German market shows great interest in many species of aromatic plants, but quality and reliability play a big role in all commercial transactions. *France*: France's first position in the production of pharmaceutical products in Europe makes it a very promising market for aromatic plants, especially organic. However, France's imports are mainly increased for the already processed products of aromatic plants such as distillates and extracts. *England*: England has very important imports of aromatic plants. The aromatic plant processing industry is in full development and provides lucrative land for producers/traders of aromatic plants

and processed products. England's attention also turns to exotic plant species, in addition to the traditional aromatic plants of western medicine.