

ASPECTS OF THE AROMATIC AND MEDICINAL PLANTS PRODUCTION

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Abstract

This paper aims to analyze the data on the areas cultivated with medicinal, aromatic and culinary plants in the European Union, as well as the productions obtained on these cultures, during 2009-2017. The interest for these plants is due to the attention given lately to the healthy culinary products - which include in their recipe aromatic herbs - herbal teas, the various forms of herbal medicines, used in natural treatments. Bulgaria, France and Poland are the main aromatic, medicinal and culinary plants cultivators in the European Union. With the exception of Bulgaria and Romania, in other countries there is an increase in the areas cultivated with these plants. In terms of production, Bulgaria ranks first with 81.13 thousand tons, and in Hungary the highest average yield / ha is 5.75 tonnes/ha. In the analyzed period, the area of organic farms (total fully converted and under conversion to organic farming) whose activity is the cultivation of aromatic and medicinal plants is constantly increasing. Poland is the country with the largest area occupied with this category of plants - 21,756 ha.

Key words: aromatic, medicinal and culinary plants, surface, production, organic farm

INTRODUCTION

Known since antiquity for their properties, medicinal, aromatic and culinary plants have not yet revealed all their secrets and benefits. Whether they offer a special taste to culinary products treats or prevents certain diseases, these plants are indispensable in the human activity.

Cultivation technologies for medicinal, aromatic and culinary plants differ depending on the species, the type of crop (annual, biennial and perennial), the part that is harvested from the plant (herb, leaves, flowers, roots, etc.) and the cultivation zone for those species that have high ecological plasticity. (Good Practice Guide for Cultivation and Harvesting of Medicinal and Aromatic Plants)

These plants represent the raw material for the cosmetic and pharmaceutical industry and, more recently, the natural extract of certain medicinal and aromatic herbs is used in the insecticide compositions used in organic farming. (Ionescu-Mălăncuș I, 2013)

In the specialty literature dedicated to intelligent agriculture, medicinal plants occupy a leading position in the ranking of the most profitable 10 types of crops, which can be set up on small surfaces, taking into account the working time, the demand and the incomes obtained. (Galben Dorin, 2016)

MATERIAL AND METHOD

The data presented in this material has been taken from the European Commission / Agriculture and rural development - Eurostat - site. A number of indicators have been analyzed and literature material reviewed. Among the indicators analyzed we mention: the areas cultivated with medicinal, aromatic and culinary plants in the main cultivating countries of the European Union, the production obtained, the average production per hectare and the areas of the farms that cultivate these plants. The period for which this study was conducted is 2009-2017.

RESULTS AND DISCUSSION

The European Plant Conservation Strategy (EPCS) states that 90% of Europe's medicinal and aromatic herbs are still collected from the wild. Due to the lack of information, decision makers do not know much about the impact they have on natural habitats by collecting from the wild. (Barata, Ana, 2014)

Table 1 presents the areas cultivated with aromatic, medicinal and culinary plants in the main cultivating countries of the European Union. The largest area is in Bulgaria, 44.87 thousand ha, followed by France, 44.13 thousand ha and Poland 30.56 thousand ha. For the analyzed period there is a decrease of the cultivated areas in Bulgaria and Romania.

Table 1

The main cultivating countries of aromatic, medicinal and culinary plants in the EU
1,000 ha

Specification	2009	2010	2011	2012	2013	2014	2015	2016	2017
Belgium	0.20	0.10	0.08	0.10	0.10	0.10	0.11	0.14	0.16
Bulgaria	58.50	65.75	51.50	36.80	27.68	42.09	50.63	50.46	44.87
Czech Republic	5.70	7.86	8.59	7.23	5.66	5.57	5.18	5.30	7.46
Germany	5.70	6.84	7.40	-	6.30	5.90	7.10	7.10	6.80
Estonia	0.20	0.50	0.30	0.40	0.60	0.50	0.90	1.06	1.40
Greece	7.60	5.18	5.18	4.31	3.81	5.21	9.23	9.96	11.08
Spain	8.80	9.76	13.56	-	-	-	8.15	12.79	19.20
France	35.30	37.20	34.99	35.63	37.09	38.43	38.50	42.86	44.13

Croatia	2.77	2.51	3.16	3.20	3.22	4.12	5.26	6.62	8.37
Latvia	0.30	-	0.50	0.40	0.40	0.30	0.60	2.10	1.60
Lithuania	2.70	7.40	25.60	5.40	5.60	6.40	5.51	6.55	7.01
Specification	2009	2010	2011	2012	2013	2014	2015	2016	2017
Hungary	4.00	3.41	4.50	4.60	4.01	4.44	4.86	4.86	4.50
Netherlands	0.10	0.00	0.39	0.00	0.00	0.00	0.00	0.64	0.75
Austria	3.30	4.01	4.23	3.66	2.88	2.63	3.18	3.45	4.14
Poland	14.30	14.00	14.50	14.50	13.10	12.17	17.10	103.30	30.56
Romania	10.15	15.94	11.81	5.79	4.70	3.20	3.21	4.40	3.19
Slovenia	0.02	0.05	0.03	0.05	0.07	0.05	0.08	0.09	0.14
Slovakia	0.90	1.34	1.40	1.46	1.99	2.31	2.69	2.58	3.17
Finland	16.90	12.80	16.80	14.00	11.20	10.10	10.00	11.00	17.80

Source: Eurostat

The production of aromatic, medicinal and culinary plants grew in the period 2009-2017 for all the cultivating countries (Table 2). Bulgaria with 81.13 thousand tons and Poland with 44.12 thousand tons are the countries with the highest production values.

Table 2

Harvested production of aromatic, medicinal and culinary plants in the UE countries
1,000 t

Specification	2009	2010	2011	2012	2013	2014	2015	2016	2017
Bulgaria	48.30	65.14	49.40	40.40	39.71	56.07	72.53	74.48	81.13
Czech Republic	3.90	5.61	7.02	6.10	3.78	5.06	4.35	4.05	6.73
Greece	3.27	3.66	5.59	6.72	4.94	7.78	12.25	24.49	29.55
Spain	18.20	18.81	22.24	-	-	-	18.34	23.44	32.41
Croatia	1.61	1.34	2.62	1.92	1.58	1.98	2.80	5.18	7.45
Latvia	0.10	0.20	0.30	0.30	0.30	0.30	0.60	0.80	0.60
Hungary	25.00	15.11	26.97	-	-	30.59	30.26	30.47	25.87
Poland	17.40	19.31	-	-	-	18.10	21.20	34.40	44.12
Romania	7.06	15.83	11.16	4.29	4.40	4.22	4.23	5.63	4.08
Slovenia	0.01	0.03	0.05	0.13	0.00	0.00	0.11	0.06	0.19
Slovakia	1.50	0.96	4.20	5.38	2.35	7.31	3.91	3.35	2.34
Finland	3.30	-	10.40	8.20	-	-	7.30	6.40	11.80

Source: Eurostat

From the analysis of the data presented in Table 3 it is shown that the highest average production value is in Hungary of 5.75 tons/ha, followed by Greece 2.67 tons/ha. Only in Bulgaria, the Czech Republic, Greece and Poland there are increases in the period 2015-2017.

Table 3

Yield for aromatic, medicinal and culinary plants
tons/ha

Specification	2015	2016	2017
Bulgaria	1.43	1.48	1.81
Czech Republic	0.84	0.76	0.90
Greece	1.33	2.46	2.67
Spain	2.25	1.83	1.69
Croatia	0.50	0.80	0.80
Luxembourg	0.60	0.60	0.60
Hungary	6.23	6.27	5.75
Poland	1.24	1.64	1.44
Romania	1.32	1.28	1.28
Slovenia	1.41	0.69	1.35
Slovakia	1.45	1.30	0.74
Finland	0.73	0.59	0.66

Source: Eurostat

Table 4 shows the surface of farms that cultivate aromatic, medicinal and culinary plants. Analyzing the above-mentioned data, the surfaces are constantly growing, except for Greece and Lithuania. Poland has the largest area of organic farms, 21,756 ha.

Table 4

Surface cultivated with aromatic, medicinal and culinary plants - Total fully converted
and under conversion to organic farming
ha

Specification	2012	2013	2014	2015	2016	2017
Belgium	28	33	37	35	37	44
Bulgaria	3,378	6,536	5,577	11,456	18,089	16,859
Czech Republic	1,582	1,858	1,159	1,057	979	1,803
Denmark	29	181	139	150	57	54
Germany	600	1,000	900	1,373	1,219	1,646
Estonia	51	26	30	234	250	571
Ireland	-	0	3	3	3	3
Greece	2,141	2,233	843	1,056	1,070	2,095
Spain	1,671	1,782	1,961	2,489	4,877	9,169

France	4,806	4,737	5,072	5,880	7,085	8,082
Croatia	1,159	1,383	2,876	3,647	4,226	5,100
Italy	3,028	3,426	4,389	4,408	5,368	-
Cyprus	54	51	71	88	66	72
Specification	2012	2013	2014	2015	2016	2017
Latvia	191	100	129	839	4,287	3,038
Lithuania	6,848	5,760	6,360	3,376	3,223	2,095
Luxembourg	0	0	0	2	2	0
Hungary	413	276	520	753	609	747
Netherlands	50	56	10	-	137	183
Austria	666	584	726	931	977	1,171
Poland	744	1,203	1,893	2,772	6,949	21,756
Portugal	-	-	-	1,121	783	859
Romania	753	914	2,072	1,802	1,466	1,959
Slovenia	13	28	51	61	70	-
Slovakia	95	381	253	700	849	1,661
Finland	-	215	-	244	276	454
Sweden	12	16	19	18	25	32

Source: Eurostat

Today's natural products are considered good and safe, and the idea of returning to nature has been accepted worldwide. All this will lead to the growth of the role of medicinal, aromatic and culinary plants.

CONCLUSIONS

Medicinal, aromatic and culinary plants culture is important in human nutrition since ancient times and it represents raw material for the different branches of the industry nowadays, but we have to mention that these plants are collected more from the spontaneous flora.

In the European Union, the largest areas cultivated with these plants are found in Bulgaria, France and Poland. These countries record the highest production value, also the highest average production is in Hungary of 5.75 tonnes / ha.

The areas of farms total fully converted and under conversion to organic farming that cultivate medicinal and aromatic plants are increasing due to consumers' demands, and Poland has the largest area of organic farms, 21,756 ha.

Medicinal plants are a profitable crop, taking into account the working hours, demand and earnings, and it can be set up even on small surfaces.

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