

## Monitoring of food supplements in Romania Note II. Food supplements in Muntenia region

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### Abstract

Food supplements and the issues related to them are important due to their current use for health maintenance and optimizing. Nowadays the foods that comprise the human diet is more often depleted of the normal levels of micronutrients and therefore cannot maintain the physiological balance, most rigorously the «biochemical homeostasis» which defines the health status. Therefore food supplements can be used to complement the normal diet and insure the necessary levels of nutrients. Food supplements are also administered in order to optimize health status in convalescence. A general study regarding the manufactured and marketed food supplements in Romania was performed in each county and grouped on historical regions: Banat, Moldavia, Muntenia, and Ardeal. This paper will present data regarding food supplements status in Muntenia region which comprises the counties: Argeș, Brașov, Brăila, Buzău, Călărași, Constanța, Dâmbovița, Dolj, Giurgiu, Gorj, Ialomița, Ilfov, Mehedinți, Olt, Prahova, Teleorman, Tulcea, Vâlcea and the capital Bucharest. The food supplement providers from the Muntenia region were identified and some of the supplements were selected for this study.

**Keywords:** food supplements, monitoring in Muntenia region

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### 1. Introduction

Food supplements are concentrated sources of nutrients or other substances with a nutritional or physiological effect, whose purpose is to supplement the normal diet. The most common food supplements have as ingredients vitamins and minerals. Others contain botanicals and/or other nutrients with nutritional or physiological effects, e.g.: essential fatty acids, coenzyme, probiotics a.o.

Domains like human nutrition, are very important in establishing the nutrient composition of the diet and the need of food supplementation (Hamilton et al., 1988; Macrae et al., 1992; O'Dell and Sunde, 1997). Also one must take into account the fact that food processing, use of additives, i.e. artificial colors, preservatives etc. determine the loss of essential nutrients. Of minerals, vitamins and other nutrients.

Also, stress depletes the vitamin and mineral stores of organism rapidly. Various studies reveal the importance of food supplements in completing the dietary nutrient intake and to ensure the nutritional requirements in some particular cases: e.g. pregnancy, lactation; age (infant, children, etc.) and physical activity: e.g. athletes, work places needing physical effort a.o. (Mogoș, 1999; Webb, 2006).

In the context of Romania adhesion to European Union, the regulations regarding general problems of food supplements, e.g.: the used raw materials, the processing, composition, admitted concentrations, administration etc. were changed, and the EU directive was transposed.

The Directive 2002/46/EC of the European Parliament and of the Council, amended by Directive 37/2006, was the base for the new national

Regulation 1069 /2007 of the Ministry of Health which permits the free circulation of goods.

Due to these reasons the monitoring and inspecting of food supplements at national level became a necessary step, in order to identify the manufacturers, importers and distributors in this section.

According to the EU Directive and national Regulations “food supplements are foodstuffs the purpose of which is to supplement the normal diet and which are concentrated sources of nutrients or other substances with a nutritional or physiological effect, alone or in combination, marketed in dose form, namely forms such as capsules, pastilles, tablets, pills and other similar forms, sachets of powder, ampoules of liquids, drop dispensing bottles, and other similar forms of liquids and powders designed to be taken in measured small unit quantities”. The nutrients that are present in food supplements can be vitamins, minerals and various biologically-active substances (Cupp and Tracy, 2003; Reilly, 2004; Garban, 2008b).

The aim of this study was to identify the manufacturer, importers and distributors of food supplements in the counties of Muntenia and from Bucharest, to register their composition; to verify labeling requirements and to verify the hygienic conditions in factories, stores and warehouses in order to assure safe products for consumers.

## 2. Materials and Methods

In Romania the Ministry of Health transposed the EU Directive regarding food supplements and consecutively the health authority started in 2005 the monitoring and inspecting of food supplements at national level (Garban 2006, 2007, 2008a).

The general presentation of the statistical region Muntenia with its component counties was evidenced in the administrative map of Romania - Fig.1.

In the present paper we refer to «Muntenia» region in the southern part of Romania and includes three areas: Oltenia, Muntenia and Dobrogea.

The necessary methodology for the monitoring of food supplements was elaborated by specialists from the Institute of Public Health Timișoara and covered a number of 41 County Directorate of Public Health and to the Directorate of Public Health of Bucharest. There

food supplements manufacturers from Romania, the food supplements importers and the special stores where food supplements are sold were identified and the most representative ones were selected for this study.



Figure 1. Map of Roumania with the administrative region of Muntenia

Food supplements and the problems related to them were also debated by the Codex Alimentarius Commission which in the frame of the Common Program WHO/FAO on the XIX Session in 1995 established the directory lines concerning similitudes and discrepancies between food, drugs and food supplements (for more details see Garban and Garban, 2004; Garban, 2006).

The quantitative and qualitative composition of nutrients used in food supplements and the issues related to food safety, traceability (e.g. avoidance of chemical xenobiotics) are the main studied subject of the United States Food and Drug Administration (USFDA) and European Food Safety Authority (EFSA) (Pomerantz and Meloan, 1971; Rannert and Chan, 1981).

Food supplements are designated by definition for oral administration. Utility of their use is underlined by their trophic value and their importance in health maintenance. Trophic values are estimated as a complementary intake beside naturally consumed foods (Brody, 1994; Braun and Cohen, 2005; Skidmore, 2006).

Specific Guides were elaborated for each type of units and the specialists verified the hygienic conditions in the selected factories, stores and warehouses. Labeling

requirements of food supplements were also verified and their composition recorded. Data were centralized in the Institute of Public Health Timișoara (Garban, 2008a).

In the present paper there are discussed data referring to food supplements situation in Muntenia region (located in the South of Romania) which comprise the counties: Argeș, Brașov, Brăila, Buzău, Călărași, Constanța, Dâmbovița, Dolj, Giurgiu, Gorj, Ialomița, Ilfov, Mehedinți, Olt, Prahova, Teleorman, Tulcea, Vâlcea and the capital city Bucharest.

### 3. Results and Discussion

According to the data reported by the Public Health Directorates, there were identified a number of 629 food supplement providers and 93 were selected for this study (3 manufacturers, 82 distributors and 8 warehouses).

The situation for the Muntenia region is shown in table 1, evidencing the number of identified providers and of the ones selected for inspection and monitoring.

As it can be observed, food supplements marked in Muntenia region come mostly from distributors and less from manufacturers. Also, from table 1 we can see that only a small number of providers were selected for study.

During the study the composition of each food supplements were recorded in order to permit their categorization: simple one with vitamins and minerals in their composition and complex one having beside vitamins and minerals vegetal extracts or various other biologically-active substances. The nutrients from food play an important role in the organism and have well defined roles: morphogenetic, energogenetic, effector (activator/inhibitors) in metabolic processes, informational (nucleic acid macromolecules), physico-chemic (maintenance of homeostasis).

The low dietary levels of some nutrients can cause disturbances in the normal functioning of the organism. In such cases food supplements are recommended.

The safe use of supplements is conditioned by the implementation of the principles of a good manufacturing practice by the manufacturers and also

by rigorous controls regarding their composition and the hygienic conditions in which the supplements are kept.

After the phase of identification and selection of the providers from Muntenia, in order to be studied by the specialists, a hygienic control was performed focusing on labeling aspects, storing conditions a.o. – table 2.

Most of the controlled objectives presented no risk for health, excepting one distributor from Dâmbovița, five from Ilfov, one from Prahova and four from Teleorman which presented minor risk.

In table 3 there are depicted the number of food supplements identified in each county and type of provider.

In all 18 counties of the Muntenia region and in Bucharest there are a large number of distributors (60) compared with the number of manufacturers (2) and warehouses (7). The manufacturers are present only in Buzău county and Bucharest.

Food supplements may improve, support or optimize the normal functioning of the organism.

Mineral and trace element insufficiency as well as vitamin insufficiency occur frequently nowadays due to the various stress factors. People who eat low-calories diet, the elderly, pregnant women, people taking certain drugs (e.g. diuretics), vegetarians and those living where the soil is deficient in certain minerals are some of the high risk categories to such insufficiencies. As noted above, minerals and trace elements can be scarce in the soil of certain regions and rich in those of other regions influencing the content of foods produced in those

regions (Brueckner, 1986; O'Dell and Sunde, 1997; Williams, 2001; Merian et al, 2004; Garban and Garban, 2005).

### 4. Conclusions

In Muntenia region there were identified two food supplements manufacturers – one in Buzău county and one in Bucharest.

The controls regarding hygienic conditions in the selected units did not reveal problems which could lead to restrictions.

According to the food supplements types they are mostly of complex composition, containing not only vitamins and minerals but also other ingredients.

**Table 1.** Food supplement providers in Muntenia region of Romania

Nr	County	No. of identified providers				No. of studied providers			
		Manu- factu- rers	Distri- butors	Ware- houses	Total	Manu- factu- rers	Distri- butors	Ware- houses	Total
1.	Argeş (AG)	-	-	5	5	-	-	5	5
2.	Braşov (BV)	-	27	-	27	-	4	-	4
3.	Brăila (BR)	-	7	-	7	-	1	-	1
4.	Bucureşti (B)	1	-	-	1	1	-	-	1
5.	Buzău (BZ)	1	-	2	3	1	-	-	1
6.	Călăraşi (CL)	-	40	-	40	-	6	-	6
7.	Constanţa (CT)	-	18	5	23	-	2	-	2
8.	Dâmboviţa (DB)	-	112	-	112	-	18	-	18
9.	Dolj (DJ)	-	-	20	20	-	-	2	2
10.	Giurgiu (GR) *	-	-	-	-	-	-	-	-
11.	Gorj (GJ)	-	30	-	30	-	5	-	5
12.	Ialomiţa (IL)	-	76	-	76	-	2	-	2
13.	Ifov (IF)	1	94	1	96	1	5	1	7
14.	Mehedinţi (MH)	-	61	2	63	-	6	-	6
15.	Olt (OT)	-	2	-	2	-	2	-	2
16.	Prahova (PH)	-	17	-	17	-	16	-	16
17.	Teleorman (TR)	-	57	3	60	-	5	-	5
18.	Tulcea (TL)	-	47	-	47	-	10	-	10
19.	Vâlcea (VL) *	-	-	-	-	-	-	-	-
Total		3	588	38	629	3	82	8	93

\* Counties that have reported no data

**Table 2.** Hygienic inspection at the selected providers

Nr	County (County capital)	No. of identified providers				Results
		Manu- factu- rers	Distri- butors	Ware- houses	Total	
1.	Argeş (Piteşti)	-	-	5	5	No problems
2.	Braşov (Braşov)	-	4	-	4	No problems
3.	Brăila (Brăila) *	-	-	-	-	-
4.	Buzău (Buzău)	1	-	-	1	No problems
5.	Bucharest	1	-	-	1	No problems
6.	Călăraşi (Călăraşi)	-	6	-	6	No problems
7.	Constanţa (Constanţa)	-	2	-	2	No problems
8.	Dâmboviţa (Târgovişte)	-	2	-	2	No problems - 1 Minor problems - 1
9.	Dolj (Craiova)	-	-	2	2	No problems

**Table 2.** Hygienic inspection at the selected providers (*continuare*)

Nr	County (County capital)	No. of identified providers				Results
		Manu- factu- rers	Distri- butors	Ware- houses	Total	
10.	Giurgiu (Giurgiu) *	-	-	-	-	-
11.	Gorj (Târgu Jiu) *	-	-	-	-	-
12.	Ialomița (Slobozia)	-	2	-	2	No problems
13.	Ilfov (Buftea)	-	7	-	7	No problems - 2 Minor problems - 5
14.	Mehedinți (Drobeta Turnu Severin)	-	6	-	6	No problems
15.	Olt (Slatina) *	-	-	-	-	-
16.	Prahova (Ploiești)	-	16	-	16	No problems - 15 Minor problems - 1
17.	Teleorman (Alexandria)	-	5	-	5	No problems
18.	Tulcea (Tulcea)	-	10	-	10	No problems - 6 Minor problems - 4
19.	Vâlcea (Râmnicu Vâlcea) *	-	-	-	-	-
Total		2	60	7	69	No problems - 58 Minor problems - 11

\* Counties that have reported no data

**Table 3.** Food supplements types according composition

Nr Crt	County	No. of food supplements types			
		Manu- facturers	Distri- butors	Ware- houses	Total
1.	Argeș	-	146	-	146
2.	Brașov	-	29	-	29
3.	Brăila	-	10	-	10
4.	Buzău	71	-	-	71
5.	București *	-	-	-	-
6.	Călărași *	-	6	-	6
7.	Constanța	-	2	-	2
8.	Dâmbovița	-	69	-	69
9.	Dolj	-	-	411	411
10.	Giurgiu *	-	-	-	-
11.	Gorj	-	47	-	47
12.	Ialomița	-	2	-	2
13.	Ilfov	57	-	-	57
14.	Mehedinți	-	38	-	38
15.	Olt	-	3	-	3
16.	Prahova	-	96	-	96
17.	Teleorman	-	86	-	86
18.	Tulcea	-	189	-	189
19.	Vâlcea *	-	-	-	-
Total		128	723	411	1262

\* Counties that have reported no data

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5	Bucureşti *	-	-	-	-
6	Călăraşi *	-	6	-	6
7	Constanţa	-	2	-	2
8	Dâmboviţa	-	69	-	69
9	Dolj	-	-	411	411
10	Giurgiu *	-	-	-	-
11	Gorj	-	47	-	47
12	Ialomiţa	-	2	-	2
13	Ilfov	57	-	-	57
14	Mehedinţi	-	38	-	38
15	Olt	-	3	-	3
16	Prahova	-	96	-	96
17	Teleorman	-	86	-	86
18	Tulcea	-	189	-	189
19	Vâlcea *	-	-	-	-
Total		128	723	411	1262

\* Counties that have reported no data

**Note:** This study was performed at the Public Health Institute Timisoara in the framework of the National Health Programme 4 of the Ministry of Health (program coordinator: Gabriela Gârban). The study is based on the European Directive 46/2002/EC and 3 Romanian regulations: Regulation No. 1228 / 2005 / 244 / 63 /2006 of Ministry of Agriculture, Forestry and Rural Development, Ministry of Health, National Sanitary-Veterinary; Food Safety Authority and Regulation No. 244 / 401 / 2005 of Ministry of Health and Ministry of Agriculture, Forestry and Rural Development and Regulation nr. 1069/ 2007 of the Ministry of Health - which transposes the EU Directive 46/2002.

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