

## THE EVOLUTION OF NON-ANIMAL FOOD PRODUCTION SECTOR IN IASI COUNTY UNDER THE EUROPEAN NORMS ON FOOD QUALITY AND SAFETY

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### Abstract

The paper aims to review the development of non-animal foodstuff processing units from Iasi County and their capacity to make safe and quality foods in according with European norms, transposed into national legislation of our country. Methodological, were processed, analysed and synthesized information gathered after controls made by DSVI Iasi inspectors during 2007 – 2010 period, in over 120 non-animal foodstuff processing units. The input and processed data from the current study refers at the number and field of activity of the economic operators and also at the stage of implementation of quality and food safety management systems in according with European regulations. The obtained results points the fact that during the analysed period the number of non-animal foodstuff processing units recorded an increase of around 36%. Regarding implementation status of management systems for food safety we observe that even European and national regulations oblige economic operators to this approach, from 176 units at the beginning of 2011, only 46% had a full system implemented and only 17.6% had a certification in this way; the other companies having implemented a partial system or were in the stage of realization of documentation (35%) and the rest of around 19% did not have any system implemented. Failure to comply with specific legislation requirements could lead anytime at losing control of a hazard (biologic, chemical or physical) and in the end at appearance on the market of non-safety foodstuff products for consumers. In conclusion the paper, propose taking a set of measures also by the decisional factors for the processing units and also by the Authorities for sanitary-veterinary control in order to have safety food.

**Key words:** quality, food safety, European norms

Policy of European Union in Quality Management (which is a priority of EU) establish the necessary global framework to improve the quality of products and services, competitiveness of organizations and quality of human life, addressing both to enterprises, public authorities and consumers. In this general framework on addressing quality food plays a particularly important role in EU policy; quality requirements imposed on these products are due to the increasing number of consumers (and thus the volume of trade in food) and manifested in food crises (BSE, bovine spongiform encephalopathy crisis, the myco-toxins, hormones, etc.) has jeopardized confidence food quality and safety from the EU market. As such, the European Union monitoring phase from obtaining food and raw materials to final consumer. This strategy aims to protect and regain consumer confidence by adopting specific legislative actions that are founded on the precautionary principle. One of the key instruments for practical realization of this strategy by companies that produce, distribute or sell food is HACCP (Hazard Analysis and Critical Control Points).

Starting with 1<sup>st</sup> of October 2006, in Romania, a governmental decision states that every organization within the food chain should implement a food safety management system, according to the HACCP (Hazard Analysis and Critical Control Points) principles (HG nr. 924/2005). The decision transposes the requirements of the European Parliament and of the European Council regulation no. 853/2004/CE (The Hygiene of Foodstuff); certification of these systems is ISO 22000 standard referential (ISO 22000:2005).

The HACCP is a scientific system for the management of food safety. The system is used for the planning and insertion of the procedures necessary for the prevention, elimination or reduction to acceptable levels of the risks that could affect food safety (any biological, chemical or physical agent that in certain conditions may produce negative effects on the health of the consumer) (Chira A., 2005).

The application of HACCP system is compatible with the implementation of quality management systems, such as the ISO 9001 referential. Associating HACCP principles with

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quality systems according to ISO 9000 standards is a characteristic feature of application of total quality systems in alimentary production in the countries of the EU (Pop Cecilia, Pop I.M., 2006).

The current paper deals with the evolution of production activity of non-animal foodstuff in Iasi County after the joining of Romania to European Union, its actual structure of this sector and also its capacity to provide safety and quality foodstuff in according with European rules and national legislation.

## MATERIAL AND METHOD

Methodological, was processed, analysed and synthesized information gathered after the controls effectuated by the DSVSA Iasi inspectors in period 2007 – 2010, in over 120 production units from non-animal sector. Data gathered and processed in the current study are dealing with the evolution of processing activity of non-animal foodstuff during 2007 – 2010 and its structure at the beginning of 2011 on categories of activities and also the done analyse target the stage of implementation of foodstuff safety and quality management systems in the production units from non-animal sector in according with European rules and national legislation.

The used data base was formed by the Annual activity reports of DSVSA Iasi and especially by the activity of Inspection and Control Bureau, foodstuff safety department, during years 2007, 2008, 2009 and 2010. This data were adapted, ordered, grouped and presented in various tables and graphics, being expressed both in values and in percentages, to be more easily compared and analysed.

Data interpretation was completed with an analyse of the causes which were at the base of different fluctuations and deviations; this analyse leads to conclusions and recommendations both for decisional factors from the production units and also for the Authorities for sanitary veterinary control and for food safety.

## RESULTS AND DISCUSSIONS

In period 2007 – 2010 the structure of activities types from non-animal foodstuff processing was almost the same, with the exception of some traditional activities of Iasi County (beer processing, salad oil processing) which disappear from local economy after Romania joint to European Union.

Numerical evolution of different types of units with activity in non-animal sector in the analysed period was in general ascendant, recording a significant increasing (around 36%). This general evolution was strongly influenced by

the evolution of bakery units which recorded the most significant fluctuations (tab.1).

So, if at the beginning of Romania joint to European Union in Iasi County were legally in function 68 units, especially bakeries, after the first year from integration, by applying the new legislative demands in food safety and quality the number of those units decrease to 62; in the second part of year 2009 start a slow increase, which continued in 2010 with a real boom of small bakery units (with around 60% more than the previous year).

The increase was due especially to establishment of pretzels processing units with selling at the production place, on the background of financial crisis respectively to decrease of the populations' purchasing power. This situation took place only to the end of year 2010, when the number of those pretzels processing units had a slow decrease. At the beginning of year 2011 in Iasi County were 116 bakery units, which represent around 66% from the total of the units with activity in non-animal sector. From bread and fresh bakery products processing units the great share is owned by bakeries (65%), followed by pretzels processing units (26%) and pastries (9%).

A positive evolution was put in light also in the case of preserved pastry processing units. This phenomenon could be explained by the extinction (bankruptcy) of some old firms and appearing of new ones, the total number at the beginning of 2011 was of 6 units. Numerical increases recorded in the case of units for processing wine, sour soup respectively for the ones for processing/packaging of non-animal foodstuff (salt, sugar, different ingredients for foodstuff industry, dried yeast, seeds for consumption etc).

From the non-animal sectors which recorded decreases of the production units in the investigated period we mention: milling activity, vegetable/fruit processing, coffee processing, non-alcoholic and alcoholic beverages processing.

During 2009, processing activity for non-alcoholic beverages type coca – cola was relocated in Republic of Moldova; in Iasi city remains only storage and distribution activity for these products.

As it is shown by the present research, the ascendant trend of non-animal foodstuff processing industry development in Iasi County was slowed by the global financial crisis at the beginning of year 2009. Virtually the turn off of the "engines" of this sector was caused due to the cut of funding of many grants and modernization projects, and also due to the stop of construction of new units (units for vegetables/fruits processing, wine processing/bottling, milling, bakery etc.).

Table 1

**Numerical evolution of the units with activity in non-animal foodstuff processing during 2007 - 2010**

No.	Activity category of the unit	Number of the existed units in year:			
		2007	2008	2009	2010
1	Units for bread and fresh bakery products processing	68	62	72	116
2	Units for biscuits, pastry and cookery processing	4	4	3	6
3	Units for pasta processing	1	1	1	1
4	Units for mill processing	17	17	15	13
5	Units for sugar products processing	2	1	2	2
6	Units for fruit and vegetables processing and preservation	2	1	1	1
7	Units for wine processing	7	8	10	9
8	Units for mineral water bottling	1	1	1	1
9	Units for non-alcoholic beverages processing	6	5	3	3
10	Units for distilled alcoholic beverages processing	3	3	2	1
11	Units for sour soup processing	4	4	6	6
12	Units for coffee processing	3	3	2	2
13	Units for tea processing	1	1	1	1
14	Units for spices processing	2	1	2	2
15	Units for flavours, essences, topping, pastry ingredients processing	2	2	2	3
16	Units for yeast processing	1	1	1	1
17	Units for frozen foodstuff processing	1	1	1	1
18	Units for dried/dehydrated products processing	2	2	2	2
19	Units for packaging and/or bottling of non-animal products	2	3	3	5
	<b>TOTAL</b>	<b>129</b>	<b>121</b>	<b>130</b>	<b>176</b>

On the other hand the decrease of populations' purchasing power and relocation of foodstuff market (orientation to cheap products) lead to a limit of production of some assortments and finding new solutions for a financial balance of the units from this sector.

Romania joint to European Union at the beginning of year brought to our country not only advantages but also a series of major duties, in all fields of activities, including foodstuff processing one. So, appearing the requirements of applying and respecting the community legislation which determine the economic operators form foodstuff processing to start the action of implementation of a system for food safety based on HACCP principles. Even if the national legislation, actualized with the new European demands, requires the implementation of these management systems in the units involved in foodstuff processing chain starting with October 2006, the application rate was quite slow. This thing was due to the low financial power of the economic operators (the great majority of the units being small and medium) and also due to lack of

training in food safety sector of the top managers and also of the personnel directly involved in implementation of HACCP systems. Also must be mentioned the difficulties registered by control authorities who were "discovered" regarding the way of counselling of economic and control agents regarding the function of HACCP systems.

At the beginning of 2007, HACCP system was implemented only in few units from non-animal sector, in the rest being unimplemented or in the way to be implemented. For the units which function in old buildings, the implementation of the new legislative demands involved substantially investments necessary to modify the flows, endowment with installations and equipments, staff training, consulting etc. Some units succeeded to obtain European funds and built new production spaces in according with the legislative demands where the systems for food safety management could be easily implemented or even certified in according with ISO standards. Unfortunately were also operators which have a great desire to answer to the new demand at a very high qualitative level and made huge

investments and at the beginning at the financial crisis they couldn't sustained it so they enter in bankruptcy. So, the unfavourable economic situation in the past two years leads to a slow rate of implementation of food safety management systems.

At the beginning of year 2011, from 176 functional units in non-animal sector, the management system for food safety based on

HACCP principles was complete implemented in 81 units(around 46% from total); from these, 38% had HACCP systems certificated after ISO 22000: 2005 (31 units). The other economic units which are smaller had the management system for food safety partially implemented or at the stage of documentation (35%), and 19% didn't have any implemented system (tab. 2).

Table 2

**Stage of implementation of HACCP system in the units with activity in non-animal foodstuff sector**

No.	Activity category of the unit	Total number of the units at 01.01.2011	Număr unități			
			System HACCP unimplemented	System HACCP documentation	System HACCP implemented	System HACCP certificated
1	Units for bread and fresh bakery products processing	116	29	41	46	11
2	Units for biscuits, pastry and cookery processing	6	-	1	5	3
3	Units for pasta processing	1	-	-	1	1
4	Units for mill processing	13	2	5	6	2
5	Units for sugar products processing	2	-	-	2	2
6	Units for fruit and vegetables processing and preservation	1	-	-	1	-
7	Units for wine processing	9	-	5	4	4
8	Units for mineral water bottling	1	-	-	1	1
9	Units for non-alcoholic beverages processing	3	-	1	2	2
10	Units for distilled alcoholic beverages processing	1	-	1	-	-
11	Units for sour soup processing	6	3	3	-	-
12	Units for coffee processing	2	-	1	1	-
13	Units for tea processing	1	-	-	1	-
14	Units for spices processing	2	-	1	1	1
15	Units for flavours, essences, topping, pastry ingredients processing	3	-	1	2	1
16	Units for yeast processing	1	-	-	1	1
17	Units for frozen foodstuff processing	1	-	-	1	1
18	Units for dried/dehydrated products processing	2	-	-	2	-
19	Units for packaging and/or bottling of non-animal products	5	-	1	4	1
	<b>TOTAL</b>	<b>176</b>	<b>34</b>	<b>61</b>	<b>81</b>	<b>31</b>

In units with certified HACCP system, with trained and responsible staff, in which the monitoring are made daily and corrective and preventive actions, are efficient, after the controls made by DSVSA Iasi inspectors there were no deficiencies.

In the units in which the HACCP system is implemented but not certified by a certain board usually happens that economic operator not to made the right daily recordings, not to respect the staff training programme, the frequency of

gathering samples for analyse (self-control) or not to effectuate the necessary calibration at measurements and control apparatus.

EC 852/2004 regulation regarding the hygiene of foodstuff products, (taken also in our legislation by HG 924/2005) permit a certain flexibility in application of HACCP principles to be implemented in any situation including at the level of small enterprises. So, in the case of small size units, which made products for a small number of consumers (e.g. small bakeries with

direct sell at production place, pastries, pretzels processing units, sour soup processing units or for processing and packaging of seeds), management of food safety refers only at implementation of preliminary programmes (PRP) and to respecting of the guides for good hygiene practice (GHP) and production (GMP). With the occasion of periodical evaluation many of the units from Iasi County were included in the category of the ones with a high or medium risk degree for food safety. From this reason, in parallel with the above mentioned internal measures, official controls were made with a greatest frequency for a strict monitoring of the way in which is kept under control the eventually dangers of contamination of foodstuff products.

Flexibility of the application way of HACCP principles is necessary also in the usage of traditional methods of production, processing and distribution of foodstuff products.

There are also numerous cases in which the units are not able to assure even the necessary minimum, respectively the implementation of the preliminary programmes regarding the hygiene of the spaces, pest control, staff hygiene, control of technologic flow etc.; in these situations, control authorities applied sanctions or even close the production units.

The most observed deficiencies after the official controls realised in period 2007-2010 by DSVSA Iasi inspectors, were due in great majority to the non-application of preliminary programmes with direct connection to hygiene and maintenance of the spaces, equipments and apparatus, pest control, assure of microclimate conditions, training and education of the staff involved in foodstuff processing, inadequate manipulation of foodstuff processing, etc.

Existence of these differences reveals failure of the general demands for hygiene, requirements which are status in CE 852/2004 Regulation.

## CONCLUSIONS

Romania joint to European Union had a favourable effect on the development of foodstuff processing industry from non-animal sector from Iasi County, revealed both by ascendant evolution of the number of production units, and also by imposing their alignment to the new legislative demands regarding food safety and quality. We mention that regarding the last aspect, the process has a slow evolution (even if HG 924 is valid since

1<sup>st</sup> October 2006, but still exist many units which didn't have any implemented HACCP system) and the relevant advantages is manifested only in the firms which have a right food quality and safety policy and unconditionally sustained by the top management of them.

The presence of the sanctions and implicit of deficiencies at the level of production activities for non-animal foodstuff show the fact the struggle

for safe and quality foodstuff products continues. If control authorities adapted quite easily to the new changes from legislation regarding food safety and understood their purpose in relation with economic operators, the last ones have still many problems to solve for safety and quality foodstuff.

In this way the decisional factors form the production units must have in mind how to solve the problems such as: permanent training and education of staff, modernization of the existed spaces or building new ones, in according with the European demands; endowment with modern equipments, installations and apparatus which will assure both the increase of the productivity and also of safety and quality of the product; managers hiring or training (for all levels) able to understood and to apply the new demands regarding food quality and safety; realization of a self-control as rigorous as possible which could permit to take rapid and efficient decisions in the case of appearing some nonconformities; collaboration with competent authorities in dealing with some crisis situations (e.g. retry of some bad products from the market).

As regarding the application of the legislation, as an important factor in assuring food safety and quality, this one must be adapted to the conditions (social, economic, geographic) from our country, capitalizing in this way the flexibility of European legislation.

In the investigated period, at the level of DSVSA Iasi were resolved over 100 alerts (entered through System Rapid for Alert for Fodder and Food - SRAFF) which notified as dangers diverse contaminations of non-animal foodstuff products provided from country and abroad. Must be mentioned that any alert did not have as subject a foodstuff product made in Iasi County. This fact is another reason to offer us confidence that in general non-animal foodstuff products made in Iasi County present a high degree of food safety.

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