TRENDS REGARDING THE LEVEL OF THE PROCESSING, 
ASSORTMENT STRUCTURE AND THE QUALITY OF THE 
FOOD PRODUCTS

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ABSTRACT: Foods differ qualitatively depending on the range part. Commodity 
classification of food products can provide us important information about their composition, 
their inclusion in one group or another being made according to their origin (vegetable 
origin, animal origin or mixed), chemical composition and inside group depending on the 
measure of processing, consumer destination, stability, method of packing, etc. The rapid 
development of science and technology, increasing concern for consumer safety and concern 
for innovation in order to streamline production processes and diversification of food supply 
have contributed to the emergence of mutations in production, quality and assortment 
structure. All these things will be presented in this paper.

KEY WORDS: foods quality; health; packing methods; biotechnologies; biological foods

JEL CLASSIFICATION: D18, I18, L66, Q18

1. INTRODUCTION

The food products differ from a point of view of the quality according to their 
sort. The commodity classification of the food products can show us important 
information about their composition, their inclusion in a group or another being done 
according to their origin, their chemical composition, and within the group according to

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the measure of processing, the consumption destination, the stability, the manner of packaging etc. The commodity scientific classification, internationally accepted, orders the food products as follows (Diaconescu, 2005, pp.13-14):

- grains, vegetables and products resulted from their processing;
- vegetables, fresh fruit and products resulted from processing;
- sugar products (sugar raw materials and products resulted from processing);
- gustative products: spices, stimulants, non-alcoholic beverages and alcoholic beverages;
- vegetable, animal and mixed food fats; milk and products resulted from the processing of milk;
- eggs and egg products; meat and products resulted from the processing of meat.

We notice the fact that the first four groups of products have a vegetable origin, the next being of animal origin (partially groups 5 and 10, these being mixed). The practical classifications used at a microeconomic level, in the majority of the cases, are non-systematic classifications (the products are introduced in the order of their appearance), following the efficient solution of the merchandise codification, according to the own informational systems of the companies.

Also, we notice that the products from groups 1-3 are characterised by a high content of carbohydrates, mineral salts and vitamins (especially those from groups 1 and 2), the gustative products (group 4) are mostly missing the nutrients, and the products from group 5 are rich in lipids, and the products from groups 6-9 are characterised by a high content of proteins (especially complete proteins, amino acids) and in small quantities in lipids.

2. TRENDS REGARDING THE PROCESSING, THE ASSORTMENT STRUCTURE AND THE QUALITY OF THE FOOD PRODUCTS

The rapid development of science and technique, the more intense preoccupation for consumers' safety and protection, the preoccupation for innovation in order to simplify the production processes and to diversify the food product offer have contributed to the occurrence of some mutations within the production, assortment structure and quality.

The tendencies from production and the food product offer take into account a wide series of specific phenomena of both the production and the food sector, among which most important are:

- new quality implementation and control systems, where the focus is on the traceability of the food products;
- the innovation in the food industry, process within which the most important evolutions are the involvement of research in order to obtain the food products and the development of new ones and the use of new preservation, packaging and marking methods;
• the development of new agricultural production systems, like the intelligent agriculture, the biological one and the use of biotechnologies;
• the renewal of the food product offer through the appearance on the market of some new categories of products;
• the development of the products already on the market as a consequence of the new exigencies of the demand, among which there are the functional food products, the diet products, the products based on genetically modified organisms, traditional products with the name of the region and, last but not least, the biological products.

3. TRENDS REGARDING THE METHODS OF PRESERVING THE FOOD

In the last few years, great progresses have been made in the study of the fundamental behaviour of the food products, in their packaging and handling. The preservation procedures of the food must be constantly improved, in order to increase the quality of the products, to reduce the nutritive losses, to increase the safety and the efficiency of the industrial equipment used for preserving and packaging. Experts have found out that the traditional preservation, refrigeration and freezing methods are not sufficient for maintaining the colour, the flavour, the texture, the enzymes status, the proteins, the carbohydrates and the vitamin content of the food products.

That is why alternative methods have been developed, also called unconventional methods, in order to reduce the effects caused by time and temperature on the food products. Among the unconventional preservation methods of the food products we mention (Gogu, 2004):
• treatments with ionizing electromagnetic radiations (radiations, X-rays) and non-ionizing (microwaves and radio waves, UV radiation);
• the ultraviolet;
• the high pressure processing;
• oscillating magnetic fields;
• packaging in the modified atmosphere;
• the combination of these methods with the conventional preservation methods.

The appearance of the new technologies made it possible to understand better the food complexity, leading to the appearance and the development of the new preservation and packaging the food products. The permanent preoccupation is to offer as fresh products as possible on the market, new products or less processed products in order to be in the trends and wishes of the consumers. Also, the producers must pay attention to the safety they offer the consumers with their products.

Thus, besides the traditional methods of preservation - thermic, salting, drying treatments - new methods of production and packaging have been designed to extend the period of preservation of the product and of the freshness of the perishable products: the processing under very high hydrostatic pressure, the use of the electrical fields, the
ohmic heating, the processing with the pulsating light of high intensity, processing with radio waves, thermo-sonic processing.

The packaging in modified atmosphere, the use of the inert gases, the reaction gases and the vacuum boxes allow the control of the micro-organisms, the maintenance of the colour and of the freshness of the product. In the future, this type of packaging shall develop even more. The packaging material may have active functions as well besides the one of protection, for oxygen, moist and light. For example, the packaging may act as an absorbent and eliminator of oxygen. This active packaging reduces the degradation produced by the oxidation chemical reactions and the development of aerobes microbes. In this way, the products can be preserved for a longer period of time. For the future, the acceptance of the new technologies shall depend very much on the manner of informing the public and its education.

4. TRENDS REGARDING THE FOOD PRODUCT PACKAGING METHODS

The active adaptation of the packaging to the food product properties which must be protected by it, is one of the main tendencies that characterise the new food product packaging methods. It aims at the products characterised by respiration like the fresh fruit and vegetables, the use of the hermetic packaging could lead to their alteration through the tenuity of the oxygen resulting the same effect as when the fruit and vegetables are not protected and the respiration takes place too rapidly.

In order to avoid this kind of effects, a series of adapted packaging methods have been already put in practice, like:
- the use of permeable packaging with CO₂;
- the inclusion within the packaging of some substances which absorb the oxygen, thus the preservation period of the pastry and meat products is being extended;
- the use of the absorbents for humidity;
- the use of the packaging signalling the ethanol (which can protect the wheat bread against the action of the moulds), the allyl isothiocyanate (AITC), component of the mustard with a bacteriostatic effect, or the sulphides (for the protection of the grapes against the moulds).

Another tendency in the field of packaging is the passing to the use of the "intelligent" packaging, able to offer information on the status of the product inside them. An "intelligent" bar code for the product packaging can inform the consumer and the traders if the refrigerated products are in a fresh status or not. The label with the special bar code uses an almost invisible ink, but which turns into the red colour, when the food is contaminated, thus preventing the scanning at the cashier's desk.

Another preoccupation of the manufacturers related to the packaging used is related to the search for some biodegradable materials, which could solve the problem of the waste generated by these. The cheapest and the easiest to use of the biodegradable materials are the paper and the cellophane, which have the cellulose as basis. The
polyethylene may be replaced by the biodegradable plastic materials based on polyactic acid (PLA), manufactured from fermented carbohydrates. This type of material, as well as others of vegetable origin like flax, hemp and coir, may replace the plastic foils used in agriculture. The problem that occurs in the use of these materials is related to their costs, being much higher than those of the conventional plastic materials.

5. TRENDS REGARDING THE PRODUCTION AND THE OFFER OF FOOD PRODUCTS

The processing of food products has constituted a permanent preoccupation of the experts in the field, fact proved by the new technologies and methods of obtaining them discovered lately. We cannot talk about the processing of the food products without mentioning the manner of obtaining the food raw material, and we have to see the mutations that have taken place in agriculture.

The "rational" agriculture or the integral agriculture has been imposed as a compromise between the conventional agriculture and the biological one, in the effort of taking over their advantages and of reducing the disadvantages. In the "rational" agriculture there are solutions which seek to combine the advantages of the intensive agricultural production with the ones of the biological agriculture and which focus on obtaining the best production returns under the conditions of the environment protection.

The use of the biotechnologies is another major tendency which aims at the improvement of the food product properties, but also at their economic efficiency. The starting idea is that not only the plants are cultivated or the animals grown, but also their genetic potential. Although the term is not new, and the improvement efforts of this potential are probably as old as the agriculture itself, the tendency consists of the tools of this improvement, that is the control of the plants and animals reproduction, the identification of the "interesting" genes or the cloning of the embryos and the genetic manipulations.

The biological agriculture and the biological (ecological) products are one of the important tendencies that characterise the agricultural and food production of the European Union at the present moment and it is well known due to its intense promotion of which it has benefited and it still does. The reasons of this promotion are without a doubt related to the perception that the community consumers have on this type of production which seems to answer to a great extent to their new expectations. The biological agriculture is a production system that needs to follow the two basic requirements, to aim at protecting the culture environment and to limit to a minimum the content of residues of the final product. We may consider that the biological agriculture is an integrated approach of the entire life cycle of the product that focuses on the nutritional and organoleptic properties of the product, starting from the production and ending with the labelling.

The functional food products - called medicinal food products as well, the functional food products are different from the ones in the other food groups, firstly
through their nature, being products resulted from specific industrial processing, which have usually the role of offering the functional features that are attributed.

As a principle, they are based on the relations, already known, among the some nutrients and the evolution of some diseases:

- the effect of the unsaturated fat acids of reducing the risk of cardiovascular diseases,
- the effect of the calcium on osteoporosis,
- the effect of the food fibres on the digestive process and others.

Starting from these prerequisites, the so-called "food products with specific effects on health" have been perfected. Together with these, the terms like "nutraceutical", "dietary supplement" ("alicament") or "food farmaproducts" have entered the vocabulary specific to the food field. These products do not have curative virtues. They cannot be prescribed by doctors, and do not have an associated manner of administration. Of course, they do not need the certification for trading from the pharmaceutical certification institutions.

**The diet products** - These are the products presented as "light", "shape", "slimming", "fitness" or "0%" products, very much requested by the consumers that keep certain food diets. According to Codex Alimentarius, a food product is considered light if it has a content reduced with at least 25% from a certain nutritional component, compared to the product it derives from. The respective component can be sugar, fat, salt etc. It is important to notice the fact that these products cannot be considered as being diet products (at least not all of them).

The problem results from the fact that the diet products are the ones that answer the nutritional needs of the persons with specific health problems. The "light" products are addressed to all the consumers who have the freedom to choose the quantity and the manner of consumption of these products. From the point of view of the industrial processors, the "light" products are the ones that contain less fats with a negative effect (saturated fat acids), do not contain sugar (especially succharose) and other components of similar carbohydrate nature whose taste is sweet and all the processed food products can be included.

**The products that contain the genetic modified organisms** - are the products that have been obtained from raw materials, in variable proportions, generally reduced, coming from one or more genetically modified plants. There are no products that are obtained exclusively from these types of plants as there are no products obtained from genetically modified animals, because the latter do not exist.

**The traditional food products with the origin/geographical indication** - the tool which proves the origin of the product from a region and the use of the traditional method of production, it is the brand "Controlled origin denomination" (DOC). The conceptual basis, "origin denomination", is defined as being the "name of the region or a determined place that serves for the designation of some agricultural merchandise originating from this place and whose characteristics are owed essentially and
exclusively to the geographical environment through which the natural and the human factors are understood”.

The regional feature is provided by the raw material which in turn is marked DOC and fulfils the conditions stipulated by the specific tender books. In opposition with the initial situation, the traditional food products with the regional denomination are the result of the use of the production technologies, from the raw material up to the final product, as well as some special complex conditions.

**The biological (ecological) food products** - are products that come from the biological agriculture which defines them. That is why from the point of view of quality, they are characterised by the techniques used for their production: the neutralisation of the pesticides, the use of natural methods of fighting against the pests, the use of extensive cultures, the neutralisation of the fertilisers etc. Nevertheless, the main feature of these products is the neutralisation of the synthesis chemical substances. Lately, the prohibition of the ionisation radiation usage, of the genetically modified organisms and of the derivatives is taken into consideration.

6. OTHER TENDENCIES IN THE FOOD PRODUCT TRADING

**The reduction of the availability term** - the use of a biological agriculture, the reduction of the food additives introduction, the desire for healthier food products, are only a few of the factors that request the reduction of the availability term for the food products. Although it would be believed that the tendency would be, on the contrary, to increase this term, the safety of the consumers and the faith in the product existing on the market determine the producers to grant shorter availability terms for the products offered. The tendency of the consumers to purchase and consume fresh and natural products determines the producers to trade the food products in conformity with their wishes.

**The importance granted to the list of ingredients** - another obvious tendency is the fact that more and more consumers are not attracted to the ingredients they cannot pronounce and prefer not to find flavours or artificial colourants or preservatives on the packaging labels. The consumers check the price only as well. They should read the labels, and if they do not know some of the ingredients, they should leave the product on the shelf, they should research and then they should decide whether to buy it or not. The detailed knowledge of all the ingredients and their evaluation by the buyers has become a sine qua non requirement in the purchase of food products.

**The products low in salt are also sought** - The American Medical Association has request the food producers to reduce the quantity of salt used in their products. (Samoilă, R., 2008) The recommendation of the experts is for people to consume only 5 grams of salt per day, meaning the tip of the knife. There are other food products already containing salt, like milk, yoghurt or margarine. That is why the avoidance of added salt in food is recommended.
The use of the alternative sweeteners - the natural sweeteners like sweet dock shall replace the artificial ones in more and more food products or juices. In general, those who want to lose weight use the artificial sweeteners which produce the opposite effect to that intended. It is about those people who consume saccharine, aspartame or acesulfame-k. It is preferred to consume a small quantity of sugar or honey than to use the sweeteners that are toxic for the body.

The purchase of smaller quantities of food products - the more and more accentuated economic crisis lately, the lack of financial resources of the population have determined the consumers to rethink the quantities of purchased food products. Thus, the larger quantities of food products, like kilos, are transformed into smaller quantities, under a kilo, which determines the producers to portion the products traded on the market in smaller units. Also the producers shall have to supply the traders with reduced quantities of food products, at a reduced interval of time (daily). The orders of the traders for the producers are reduced, strictly specifying the quantities and the delivery terms.

The choice for local product consumption - the economic crisis, the appeal made by the authorities in order to purchase local products, to which the increased faith in these products have determined consumers to prefer the food products obtained from the internal production. Thus, the population has at its disposal a variety of fresh products, of good quality, which, due to the fact that do not pass through the many links of the distribution chain, are consumed more rapidly, the circulation speed increasing a lot. Through the consumption of the local food products, the internal production is stimulated, granting a greater attention to the quality and to the maintenance of the quality features on the technical and economic circuit which is shortened.

All of those trends and its influence factors are exposing in figure 1.

7. CONCLUSIONS

Quality has become in recent times, special meanings, consumer health and safety becoming an increasingly important factor in assessing the characteristics of the products purchased. The changes in consumer behaviour have triggered some important changes both in the assortment structure, production, supply on the market, and food marketing. We invaded a lot of foods that have chemicals in their composition, synthetic, that can greatly affect the long-term health of consumers.

Concerns for a healthy diet and practice have led to the discovery of new methods of organic food production, modern methods of packaging in order to maintain the quality characteristics over a long period of time. Also focus on those biological products, which present no risk in consumption, and because they possess properties that could prevent the onset of certain diseases. The economic crisis also led to a new vision of food consumption, resulting in promoting the consumption of local products with high quality features against imported products. All these changes in production,
marketing and consumption of food leave its mark on the quality of life and health of consumers.

**Trends in agriculture**
- Rational agriculture (integrated)
- The use of biotechnology
- Organic agriculture

**Tends in food production**
- Functional foods
- Diet foods
- Foods containing genetically modified organisms
- Traditional products with designation of origin or geographical indication
- Bio foods

**Trends in food consumption**
- The extent of self-consumption
- The way of food consumption
- Consumer Health Concern
- The importance given sensorial characteristics
- The importance given of physical – chemical characteristics
- The importance given to nutrition and the energy (calories)

**Mutations in food marketing**
- Validity variability depending on the actual conditions of storage
- The importance attached list of ingredients
- Foods low in salt, sugar and fat (diet products)
- Sale of food in small quantities (portioned)
- Marketing of mainly local products

*Source: Sperdea, N., 2010, p. 41*

**Figure 1. Trends regarding the level of the processing, assortment structure and the quality of the food products**
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