RESEARCH REGARDING THE RENEWAL AND MODERNIZATION OF AGRI-FOOD PRODUCTS

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Abstract: *The renewal of the assortment structure of the products offered on the market focused on increasing their sensorial value, thus resulting food products that presented very high levels of attractiveness and an energetic or hygienic-sanitary value very well adapted to the wishes and preferences of consumers. The promotion of technologies for concentration and refining of food products has led to a decrease in the water content of products and to an increase in the weight of nutritional elements per 100 grams of product.*

Keywords: *agri-food products, modern, consumption*

INTRODUCTION

In recent years, the problem of agri-food products has become increasingly acute and received from a qualitative point of view some new features and dimensions, so that from a problem that had a local or even national character, becoming over time a global problem, encompassing in one way or another, all levels of contemporary society [2,5,9].

The concept of product life cycle results from an effort to interpret the commercial history of a large number of agri-food products, a history along which can be identified phases with distinct characteristics and functions. It should not be understood as a rigid mathematical modeling of the commercial evolution of a product, but rather as an orientation and principle schematization of the possible evolutions on the market in terms of sales, profitability, competitiveness and costs [1,3,10].

In the mechanism of economic life, consumption in general and the one of agri-food products occupies a central position, being in close connection with the production of goods and the provision of services, exercising an active role on them, so that any economic activity, or even non-economic, it is completed by consuming its results [7,12,15]. Otherwise, it can be talked about carrying out an inefficient activity, consuming large material, financial, technical, human resources, or unnecessary expenses that have no correspondent in meeting the needs of their beneficiaries [11,13].

MATERIALS AND METHODS

In order to prepare this scientific work, we have undertaken studies analyzing several works in the field of consumption of agri-food products, wanting to determine some characteristics of the renewal but also of the modernism of agri-food products.

RESEARCH RESULTS

Products like bread and sugar, for example, seem to have a linear evolution and a practically unlimited life time. It has been found that the commercial life of a product follows a cycle similar to the life cycle from biology and can be satisfactorily characterized by an "S" type growth and maturity curve. In principle, this curve can be described by a function of the form:

$Y=a/1+be^{ct}$,

where:

Y – the volume of sales (demand);

t – time expressed in months or years;

a,b,c – parameters dependent by product and market.

Ideally, throughout the commercial history of a product, at least four distinct phases can be identified: market introduction or launch, growth and maturity, and decline. Sometimes, before the launch phase, the research and development phase is considered distinct. In marketing, the concept of product life cycle serves as a basis for developing strategies appropriate to each phase of evolution of sales volume, investment volume and current expenses, profits, prices, etc.

The introduction or launch of the product on the market is the initial phase in which the product is still little known, and it is necessary to increase its notoriety [6]. It is often necessary to adapt its characteristics to better respond to consumer requirements. Theoretically, the first phase of the life cycle is the riskiest phase, in which investments reach important levels and the results are uncertain.

As consumers gain new knowledge about the product and become convinced that it can meet their needs, they will adopt it. Consequently, there will be a rapid increase in sales and the entry into a new phase, the one of growth or development.

After most consumers have adopted the product, the rate of sales growth begins to slow down, which marks the beginning of the maturity phase. As a rule, this phase is the longest one, most products being found in this stage of the life cycle. The product becomes popular, the degree of novelty with which it entered the market has gradually decreased, due to other new competitive products of the same kind that make it a strong competition.

At the moment when the tendency to reduce sales starts, after they have previously reached the maximum level, the decline phase begins. The decrease in the volume of sales has multiple causes: technical progress, which allows obtaining better performing products, changing tastes, claims and demands of consumers, determining their reorientation towards other products, increasing competition and diminishing or limiting some consumption needs.

In the decline phase, advertising has a secondary role, and the main role is taken over by sales promotion through price reductions, gifts, advertising contests, etc.

Not all products follow this "classic" shape of the life cycle curve, some products are launched and quickly exit the market, others stay in the maturity phase for a very long time, some enter the decline phase and are returned to the growth phase through - a sustained promotion campaign. The duration and life cycle of products is influenced by two categories of factors:

- general factors (technical-scientific progress and increase in consumer incomes);
- specific factors (nature of the product, degree of novelty).

There are few agricultural products that are actually in decline. Many such products require heavy relaunches to erase the time stamp which makes it confusing obsolescence of the product with the life cycle. From ancient times it is known that man has constantly sought to improve the sensory properties of food, structuring food consumption according to them.

Starting from these considerations, it can be said that several generations of food products have taken shape over time. Thus, the first generation of food products appeared with the creation of the first tools, which offered the possibility to primitive man to carry out various simple processing of products, such as: crushing, breaking, peeling or cutting. The next generation of food products appeared with the same primitive man's discovery of fire. With its help, agricultural products underwent a transformation, both in terms of sensory properties, as well as physical, chemical, microbiological and hygienic. The appearance of the third generation of food products is associated with the period of great geographical discoveries and the development of trade. They favored the circulation of agricultural products and commercial information on food preparation. In the course of commercial exchanges, new agricultural products appeared, known and exploited only at the regional level, such as: tomatoes, corn, rice. The fourth generation of products appeared as a result of the improvement of technologies for the transformation of agricultural products, followed

by their processing and development at an industrial level. The essential functions of the transformation of agricultural products into food products are (figure 1):

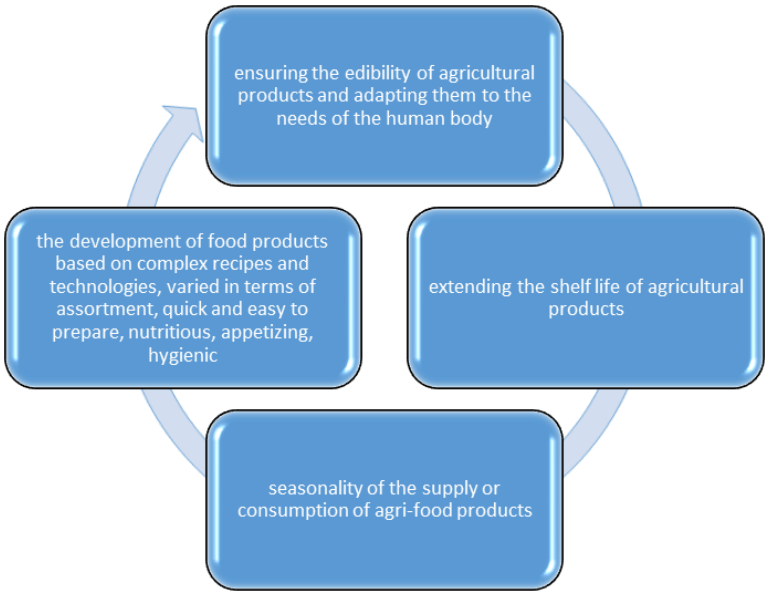

Figure 1. The essential functions of the transformation of agricultural products into food products

For a long time, if it can be talk about the renewal of the assortment structure of the products that can be found on the market, focused on the modification, meaning the increase of their sensory value, in this case it results in food products that present high levels of attractiveness and superior energy value as well as hygienic-sanitary value well adapted to consumer preferences. And this last generation of food products proved imperfect. Technological processing at the industrial level of agro-food raw materials produces both desired and unwanted effects. This technological processing was oriented in the direction of obtaining products with sensory characteristics as attractive as possible for the consumer, corresponding to the hygienic-sanitary norms in force and whose properties show the necessary establishment from a commercial point of view.

Refining and concentration technologies of food products led to a decrease in water content but also to an increase in the weight of nutrients that are reported per 100 grams of product. The main desired effects of technological processing are [4]:

• passivation or destruction of the native enzymatic equipment of microorganisms that, in one way or another, contaminate the raw materials;

• ensuring the stability of the food product so that it does not degrade beyond an allowed limit in a certain period of time;

• easing the digestibility of the product and improving the coefficients of digestive use of nutrients;

• the inactivity of various toxic and anti-nutritive substances (anti-nutritive, anti-proteinogenic, anti-vitamin and anti-mineralizing factors);

• formation of special sensory characteristics: color, taste, aroma, texture)

• ensuring the hygienic-sanitary properties necessary for human consumption.

The development of new agri-food products is determined by the following factors: technical-scientific progress, changes in consumer preferences, competition between enterprises, as well as the limited nature of traditional resources of agricultural raw materials.

Technical-scientific progress contributes to the emergence of new agri-food products, through (figure 2):

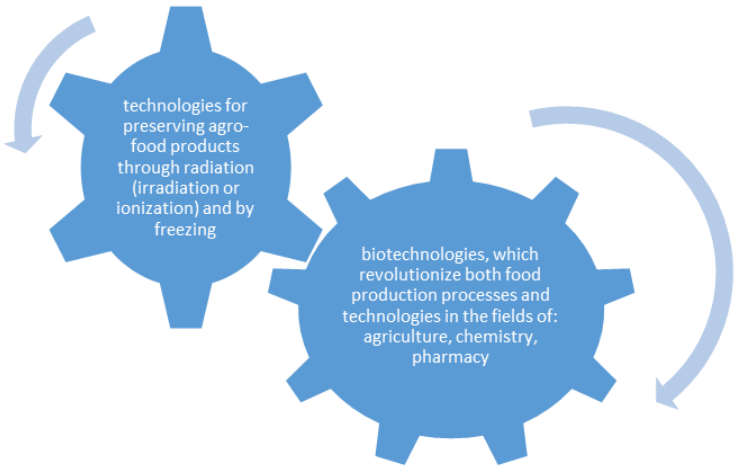

Figure 2. The contribution of technical-scientific progress to the emergence of new agri-food products

Regarding the changes that have appeared in consumer preferences, with the help of marketing research, the following points must be identified [8]:

• the consumer's attitude towards the products of the agro-food enterprise;

• the reasons for the purchase and the final destination of the purchased products;

• the quality preferences of consumers in relation to the characteristics of certain products: taste, color, aroma, packaging, etc.;

• the occasion on which the consumer purchases the food product: on special occasions, daily or periodically.

Any changes in these four variables constitute as many opportunities for the company to create a new product. The development registered on the agri-food market of soy preparations was due to the discovery of a market niche, whose demand for soy is repeated, periodically, during religious post.

The competition between companies is determined by the expenses related to the research activity and the launch of new products on the market. Each participant at this competition seeks to launch new products, to diversify the product range, as long as, through prices, the company does not win new customers. Thus, from the desire to conquer as many customers as possible, the company will try to capitalize on any differentiation of its product from that of its competitors.

Unconventional raw materials are grouped into two categories:

- non-conventional raw materials of vegetable origin, they include: protein derivatives obtained from legumes, meat substitutes, milk substitutes, protein derivatives from cereals, etc.;

- non-conventional raw materials of animal origin, they are represented by protein derivate obtained from secondary products from the meat industry and protein derivate obtained from fish.

CONCLUSIONS

The appearance and development of new agri-food products are influenced by several factors, among which: first of all, due to technical and scientific progress, as well as the appearance of some changes in terms of consumer preferences, an important role played by the competition between enterprises, but also the limited character of the traditional resources of agricultural raw materials.

From a quantitative point of view, vegetable agricultural production is restricted by the limited character of agricultural land and, in turn, becomes a limiting factor for livestock

agricultural production. It can be mentioned the use of unconventional resources: whey, buttermilk, blood, bran, cereal germs, synthetic resources, etc. Genetically modified organisms are also a solution to this limited character. Also a solution to this limited character is also the genetically modified organisms.

Consumption represents both the triggering and stimulating element of production, as well as its regulation element, representing what generates both the determinations from a quantitative point of view, as well as the meaning and intensity of the rhythms in which it unfolds and resumes cyclically.

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