

THE METHODOLOGY OF DESIGNING THE NEW PRODUCTS WITH THE FUNCTIONAL PURPOSE

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Abstract: The methodology of designing the new products with the functional purpose has been offered. The developed complex of measures on working out of the enriched food products with the improved consumers' properties will allow to quicken the creation and promotion of the food products with the functional purpose. It also creates preconditions of controlling of the developed products demand on the customers' side, that is their consumption will lead to improvement of the condition of a person's nutrition and health, the consumer's satisfaction and raising of life quality.

Key words: a consumer, consumers' properties, model, methodology functional product.

The development of the new production forms the most important part of the growth strategy for food industry enterprises. In the conditions of high competition and quick market changeableness, it's not enough for producers to put out a new product, which meets normative requirements and to advertise it properly. It's necessary to provide your product with maximum consumers' qualities, that will encourage the consumer to acquire this product.

For a producer the new product – is the product which is different from the already produced ones by its main functions, characteristics and aesthetic performance; for consumers the product becomes new only after they recognize its “novelty” after comparison with the “old” product and products – competitors. The development of the product is in fact finding a compromise between these two points of view [1, 2].

One of the most important tasks on improvement of the nutrition structure of population is increase of production of consumer goods with the increased food and biological value. Modern nutrition should not only satisfy the physiological demands of a person's organism for energy, nourishing and biologically active substances, but also fulfil the prophylactic functions and, of course, be absolutely safe.

Solution of the given problems is possible at the expense of development of production of the new generation food products – functional products which meet the requirements and realities and needs of our time. The producers are encouraged in creation such products, enriched by vitamins, mineral substances, food fibers, useful bacteria and offer additives, by the growing army of healthy nutrition fans.

So, we can say, that one of the main principles of the food industry modern development is working out, taking into account the consumers' wishes, the new food products with the functional purpose which favour the improvement and preservation of the populations health.

We have developed the model of forming of the consumers' properties of the new food product with the functional purpose [2] which stipulates the complex approach to the development of the new competitive product. On the one hand the given

model stipulates the complex of measures on forming the culture of consuming products with the purpose of teaching the consumer to be an expert in the questions of nutrition and healthy way of life. According to the given model, the consumers, by the level of knowledge, can be conditionally divided into 3 levels (figure 1) [2]. The consumer with a low level of knowledge, in the first instance, is oriented towards the information about price, when buying a product; he is also guided by the financial side of the question, that is, when buying, first of all such criteria of the goods, as price, amount and their correlation are taken into account. When the consumer's level of knowledge about proper nutrition and a healthy way of life, is raised, he is already oriented towards the products, which besides the price, are characterized by safety and quality. The consumer with a high level of knowledge pays his attention to the products of health nutrition, ecologically safe products, that is he is guided, first of all, by such criteria, as utility, quality, being natural, safe and finally he is interested in price, amount and their correlation. The result of the scientific and popular and educational work among population is education of the consumer in the questions of nutrition, healthy way of life, possibility to formulate his demands competently and finally to influence making decisions about the new goods buying, forming of the consumer's preferences and consumers' demand and this, in its turn, will encourage producers to create a competitive healthy product, which meets the consumer's requirements.

On the other hand the given model stipulates the complex of measures which are necessary for the producer to fulfill (figure 2) concerning the development of the new product which meets the requirements and wishes of the potential consumers.

The development of the new product with the functional purpose should be started ***with investigation of prevalence and depth of shortage of food and biologically active substances***. At this stage it is necessary to analyse factual nutrition of population, reveal its shortages and the reasons of arising of a number of the alimentary – depended diseases, to carry out the investigation with the purpose of determination of indispensable nutritious substances (vitamins, macro–and microelements and others), the shortage of which is especially deep in the specific region and covers the most part of the population. It's necessary to take into account the influence of the environment factors, which are characteristic for this specific region. The obtained results are the bases for choice of the nutritious and biologically active substances, which are additionally introduced into the product composition, as well as their amount.

Creation of the high–quality demanded product is impossible without carrying out

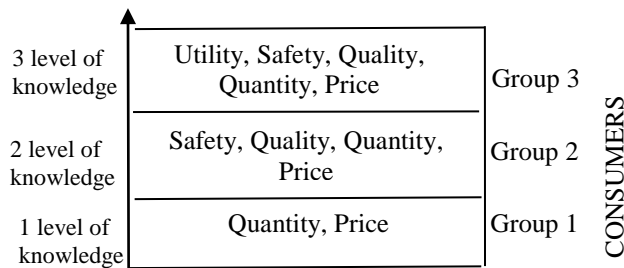


Figure 1 Model for the development of consumer preferences depending on the knowledge they've received

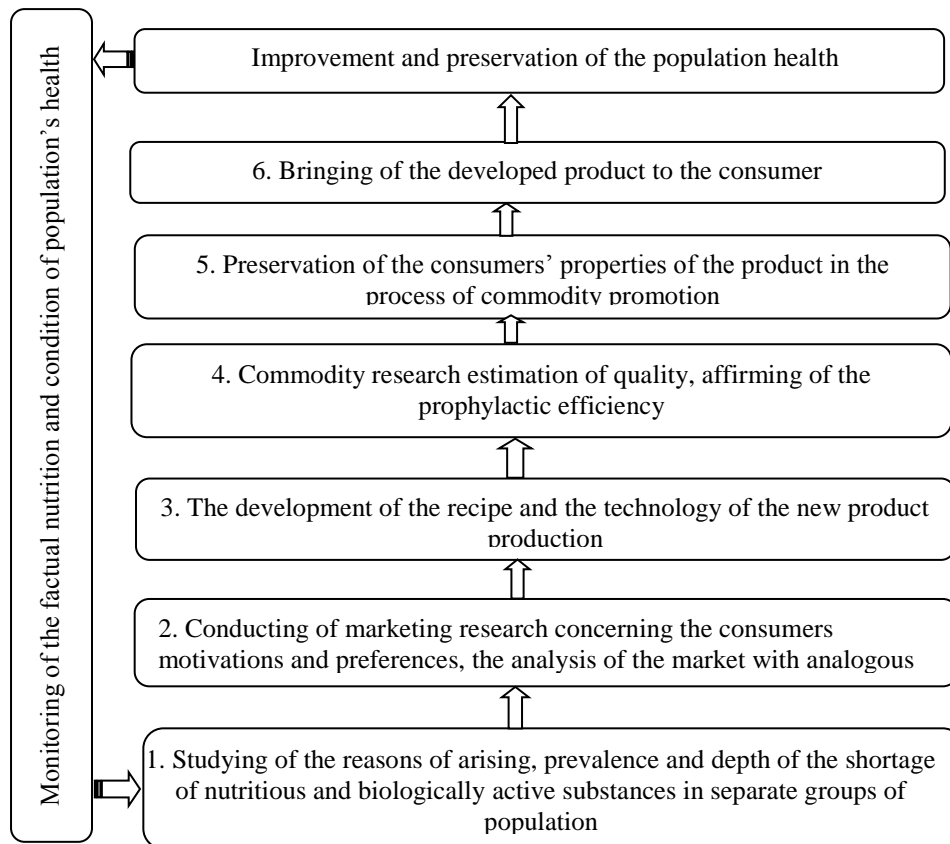


Figure 2 – The complex of measures on development of the new product with a functional purpose

marketing research among the consumers, both existing and potential, which consists of investigation of the economic, social, geographic, demography and other characteristics of the customers, and revealing their motivations and demands when buying goods. So, the second stage of the development of the product contains *carrying out marketing investigations of the customers' motivations and preferences, analysis of the market with analogous goods*. In the marketing investigations the consumers' preferences are determined as well as possible amount of the new product consumption, main and additional sources of entering of the indispensable nutritious substances which influence the choice of the amount of the enriching additive introduction. On the basis of the revealed consumers' preferences, the technical task for industry is formed, that is the consumers' conception of the product is formed.

The consumers' preferences, in their turn, one should consider through the "prism" of the consumers' properties, because they, particularly, determine if the product is able to meet the consumers' demands in a qualitative way [3]. In connection with it, the knowledge about the consumers' properties of the goods – properties, revealing when consuming the goods, which consumers take into account at the moment of making a

purchase, paying attention to the price, appearance, trade mark, brand and other characteristics of the goods, comes to the foreground. Being informed about preferences of the consumers serves the instrument, which helps the person, who works out the product, create the production which is in great demand, helps the producer to produce such product and helps the trade organizations to carry out the policy connected with a range of goods properly.

At the same time the producer fulfils the analysis of the market with the existing analogues of goods, raw material, materials and determines the possibilities of the enterprise concerning the production of the developed goods on it, with the purpose of working out the demands for the production, meeting the requirements of which will contribute to its realization.

Carrying out of the given measures is directed, as a result, to developing such a product, which will be competent on the market, that is according to its consumers' properties and economic indices will satisfy the definite contingent of the consumers, not being inferior and even exceeding the production of the analogous purpose, produced by the enterprises – competitors.

We can say, that if the developer is directed towards the demands of the market, then the significant contribution into the product development is made by consumers, who become, in fact, its developers.

The third stage (*the development of the recipe and the technology of the new product production*) is the most important in the process of creating of the functional food products, because at this stage exactly the indices of the quality and consumers' properties (including the prophylactic ones) of the new product are formed. These indices mostly determine its competence and demand of the consumers.

At this stage the technical and technological image of the new product with its assortment, quantitative and qualitative characteristics is developed. The designing stage of the developed product suggests the formation of its cost characteristic, which in total forms its consumers' value. Setting of this stage aims at achieving the maximum accordance of the quality and suggested consumers' demands [4].

During designing of the new recipes and technologies, the developers should take into account the compulsory maintenance of the requirements of the normative documents concerning safety and quality of the production as well as requirements relating to the terms of storing, transporting, realization, consumption, food value and calorie content, balancing of its components. One should take into account the possibility of appearing of the phenomenon of synergism or antagonism between the components of the main raw material and enriching additive as well as possibilities of interaction of the components of the finished production and the elements of packing and so on. Besides that, it's necessary to take into account technological possibilities of the production, the peculiarities of the raw material delivery as well as delivery of the components, materials; the possibilities of application of the existing equipment, its readjustment and completeness [4]. When introducing the new food products into the market, it's necessary to pay attention to the cost of the introduced goods, because the consumer isn't ready to accept the significant difference in price with the traditional food products [5]. So, the questions of guaranteeing safety and quality of the new production as well as the economic aspects of the production and price formation are intercommunicated, as finally they influence the success of the new production on the market.

We can say that the development of the new successful product is a science – capacious process and formulating of the new ideas and conceptions requires deep knowledge of both the potential consumers and the very product.

The given stage provides the development and approval of the technical documents on the product, getting the permission of the appropriate competent organizations for producing of the product with a functional purpose. Putting of the experimental industrial batch of the new product on the market should complete the stage. Carrying out of the complex commodity research estimation of the product quality, which allows to take further steps (introducing into the production) is also done at this stage.

The result of the work must be production of the competitive goods, which should not only meet the requirements of the consumers but should also be realized at the accessible price, and the producer should be provided with covering of expenses, profit and increase of volume of sales.

The fourth stage stipulates *carrying out of the commodity research estimation of the quality and studying of the prophylactic efficiency of the new product*. The complex commodity research includes studying of the consumers' properties of the developed product. First of all, these are properties, marked in the appropriate normative, documents – social, functional, ergonomical, ecological properties, the properties of reliability, (preservation), consumption safety. It's necessary to note that for the functional products it's not enough to have a high quality and to be safe for the consumer. Such products must, no doubt, have useful properties, stated by the developer, which, depending on the functional purpose of the product, can be prophylactic or of the special purpose and so on. In connection with the fact, that the developed product is introduced as the product with a functional purpose it is necessary to study prophylactic efficiency of the new product with the help of medical and biological investigations, that is to determine correspondence of the content of food and biologically active substances to the physiological needs of a person. The prophylactic efficiency study of the new product should be carried out together with the specialists in the field of medicine in the experiment with animals and/or during the clinical investigations.

It's important not only to develop and produce the product with the improved consumers' properties, but also *to preserve these properties at the stage of commodity promotion*. In this case the developer should pay special attention to the use of high – quality packing material, observance of conditions and demands concerning transporting, storage and realization of goods.

As it is already known, the estimation of the product quality by the consumers is developed, firstly, by its organoleptic properties, functional abilities and advantage in comparison with the production of the competitors. However, the package design also has an importance for creating the product image, that is colour, shape, material, putting down the marking have a great influence on the final decision of the customer. The developer should pay special attention to the package material, the ways of putting down the information on the package as well as drawings and so on. In many cases the parameters of safety and quality of the production, the terms of storage and the price depend on the construction, package material, the composition of paints [4].

The importance of the sixth stage, particularly *bringing of the developed product to the consumer* is difficult to overestimate, because all the previous stages have no sense without it. It is explained by the fact that the developer (producer) of the food production

should not only develop the product with the improved consumers' properties, but also develop and put into practice all necessary measures on effective bringing the new product to the consumer. Promotion of the products with the functional purpose to the market has its own distinctions – in this case we can say not only about increasing and expanding of the market or encouraging of the majority of people to buy the new goods, but about preserving every citizen's health, regardless of education, age, social status and so on.

The developed model stipulates considering the system, chosen by us – the functional product in dynamics, that's why the logical completion of the model is *the monitoring of the actual nutrition and the condition of the population's health*. It allows to estimate the efficiency of the system operation; when we get the positive result – to make changes means to reduce the level of the enriching additive introduction, if the level of the deficiency of indispensable nutritious substances didn't change, then it's necessary to increase the dose of the enriching additive introduction or to widen the range of the functional products.

Making a decision about buying of the goods, created, taking into account all the measures, offered concerning this model, the consumer acquires the food product with the improved consumers' properties. As a result, the person's organism is made healthy and he is satisfied with the acquired product. Finally all sides win: the developer succeeds in introducing his ideas into production, the producer realizes his goods and gains profit and the most important thing is that the consumer gains not only the goods, but very useful and healthy product.

So, the enriched food products, in our opinion, can make a real contribution into the solution of the problem of population's ration correction, not offering the ways of treatment, but eliminating the very reason of arising of alimentary – dependent diseases (the deficiency of nutritious and biologically active substances). The algorithm of the development of the enriched food products with the improved consumers' properties, offered by us, will allow to quicken creation and commodity promotion of the functional food products. It also creates preconditions of controlling the demand of the developed products on the side of the consumers, that is their consumption will lead to improvement of the condition of a person's nutrition and health, the consumer's satisfaction, increase of life quality.

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